

Introducing SiriKit "Hey Siri, say hello to apps" Session 217

Robby Walker SiriKit Engineering Brandon Newendorp SiriKit Engineering Corey Peterson SiriKit Design

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#WWDC16



SiriKit







SiriKit Extensions





Agenda

SiriKit Extensions Design





••••• ?

That's me!

9:41 AM

"Who is Siri"

tap to edit

🕇 100% 🗔



••••• ?

You auto-complete me.

9:41 AM

🕇 100% 🗔

"Give me a pick up line" tap to edit



••••• ?

"Add the Bash to my calendar from 7 to 10 PM on Thursday" tap to edit

OK, I can create your meeting. Note that you already have an appointment about 'Writing unit tests' at 8 PM. Shall I schedule it anyway?



9:41 AM

100%

Calendar

Thursday, June 16, 2016

Yes



UnicornChat



JnicornChat

UnicornChat

To whom?

To whom?

"Celestra"

To whom?

What do you want to say to Celestra?

"Celestra"

To whom?

What do you want to say to Celestra?

"Celestra"

"Let's add more sparkle transitions"

"Send a message to Celestra on UnicornChat"

"Send a message to Celestra on UnicornChat" What do you want to say to Celestra?

"Let's add more sparkle transitions"

"UnicornChat Celestra let's add more sparkle transitions"

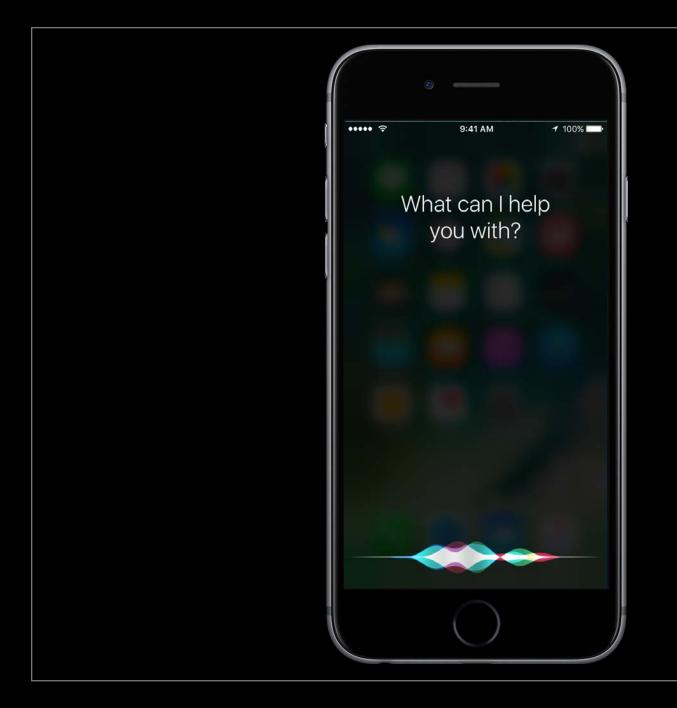
"独角兽快信发信息给麒麟说我们再加点闪亮的过渡效果吧"

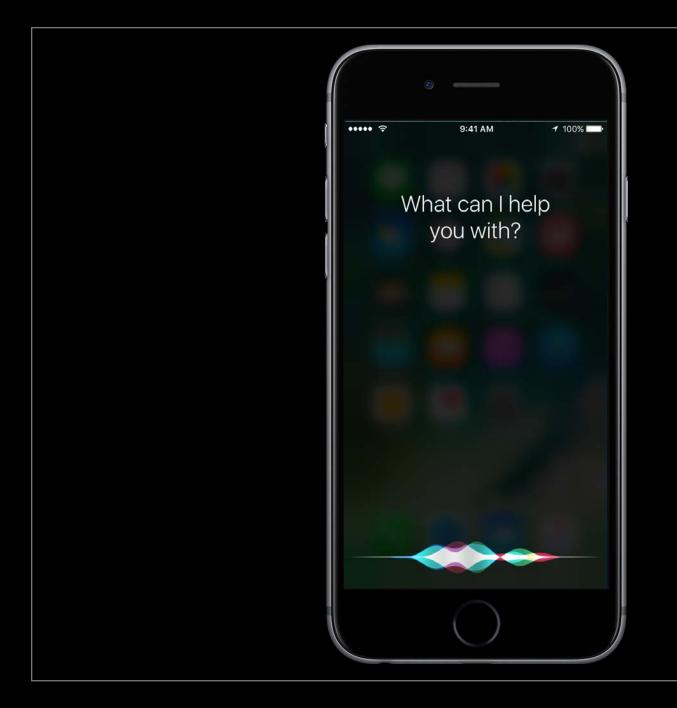
"Hey Siri, can you please do me a favor and launch the UnicornChat app to send a text with the message let's add more sparkle transitions"

To whom?

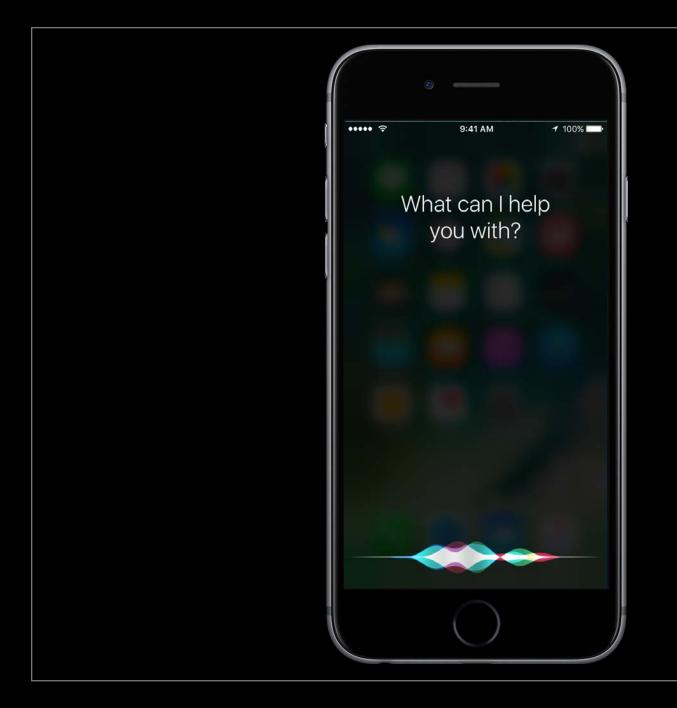
"Hey Siri, can you please do me a favor and launch the UnicornChat app to send a text with the message let's add more sparkle transitions"

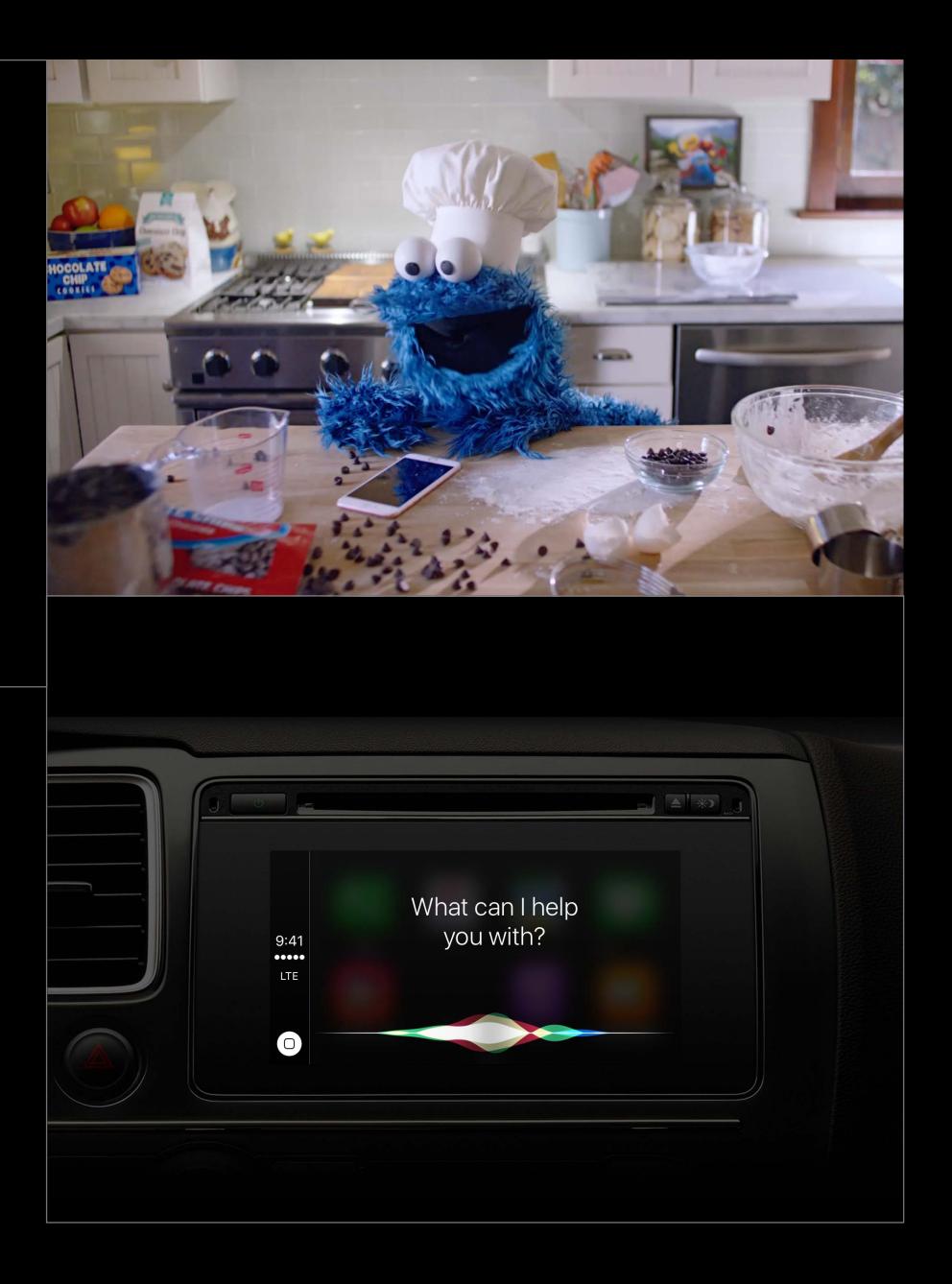
"My very best friend Celestra"





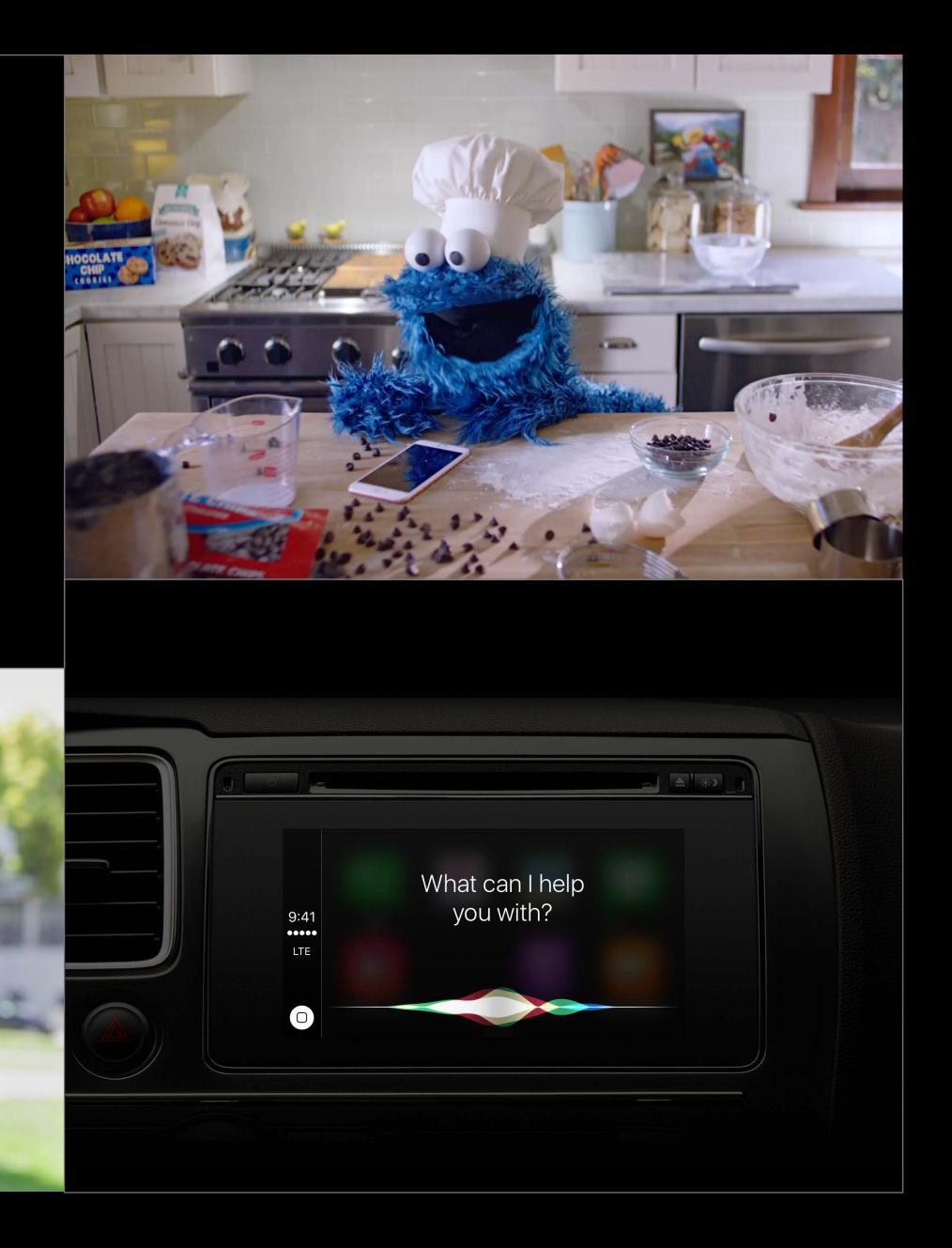












Quality

Quality Consistency

Quality Consistency Easy to adopt

Quality Consistency Easy to adopt





Speech Intent

Speech ••••• Intent

Action

• • • • • • •

Speech ····· Intent

• • • • • • •

Action ••••• Response

Speech Intent

Action ••••• Response

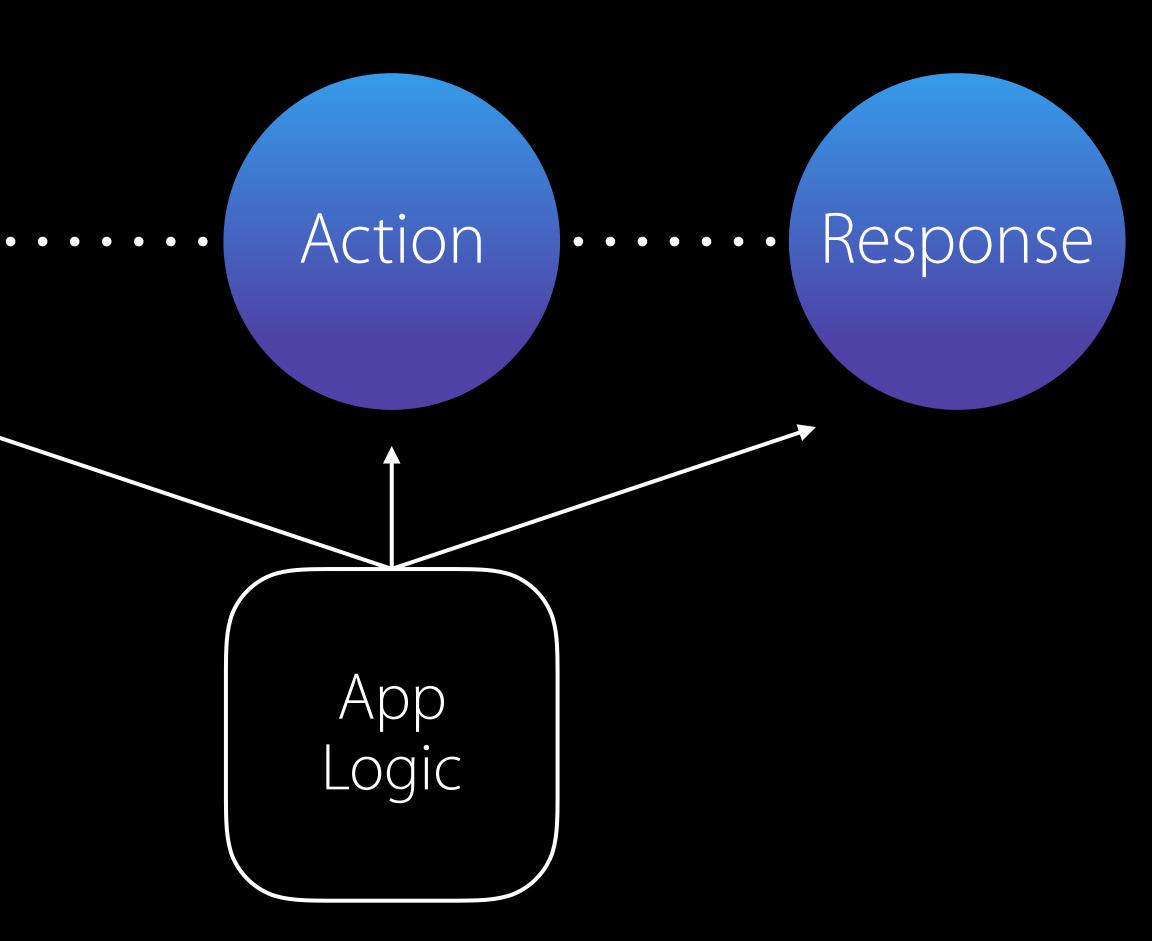
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Speech Intent

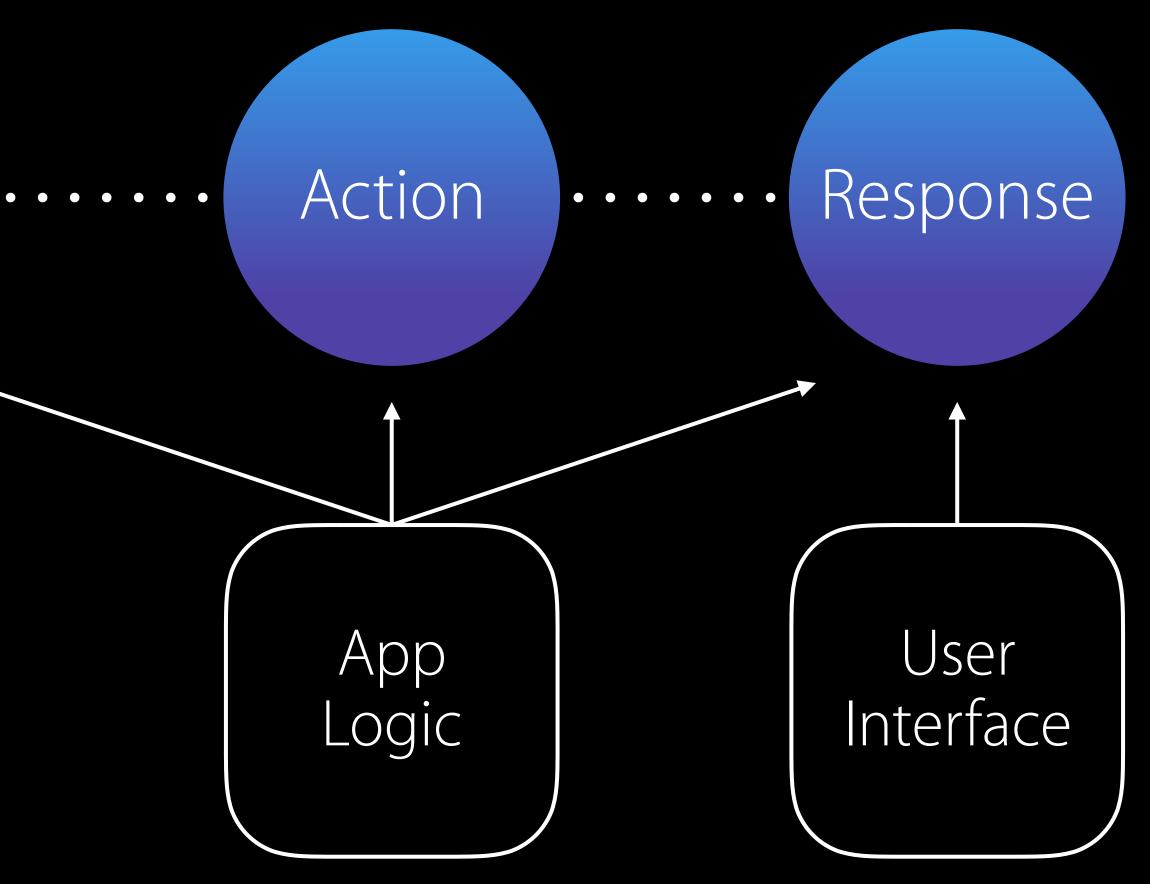
Action ••••• Response

• • • • • • •

Speech Intent



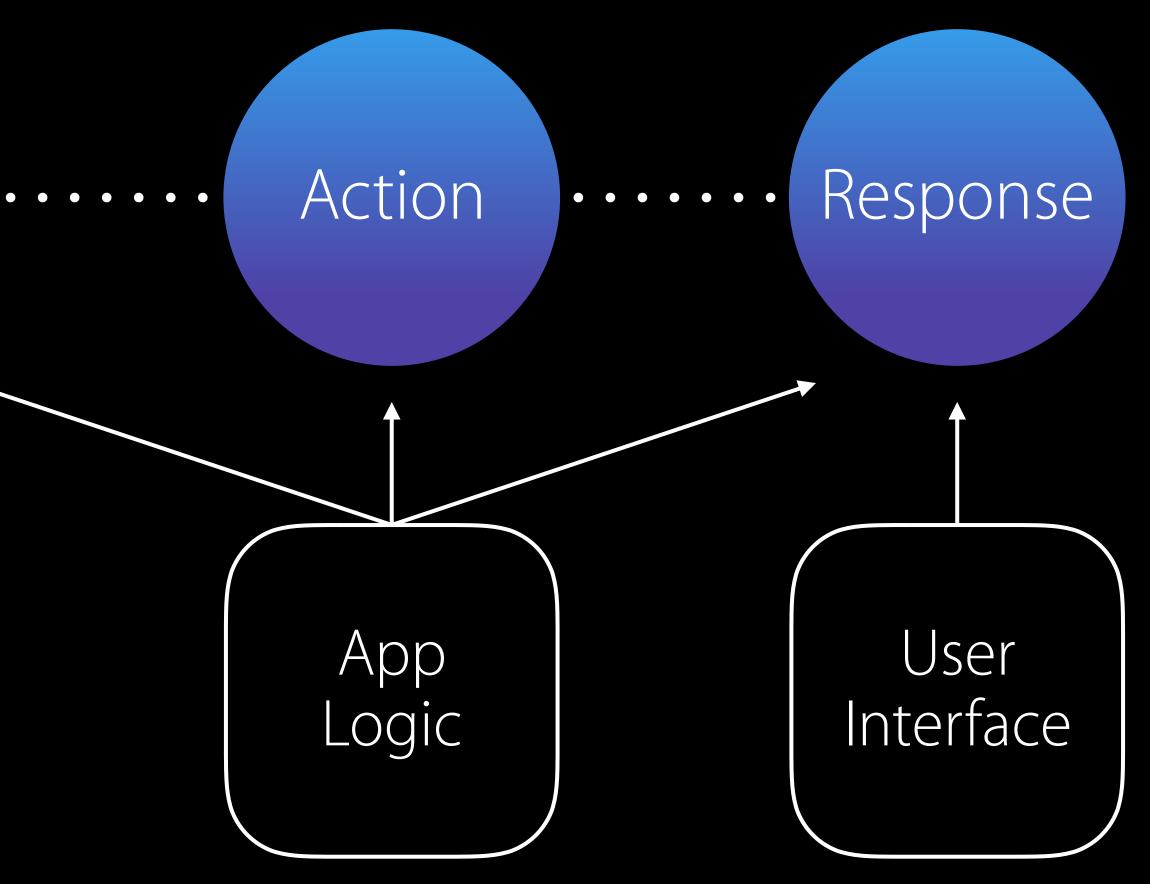
Speech Intent

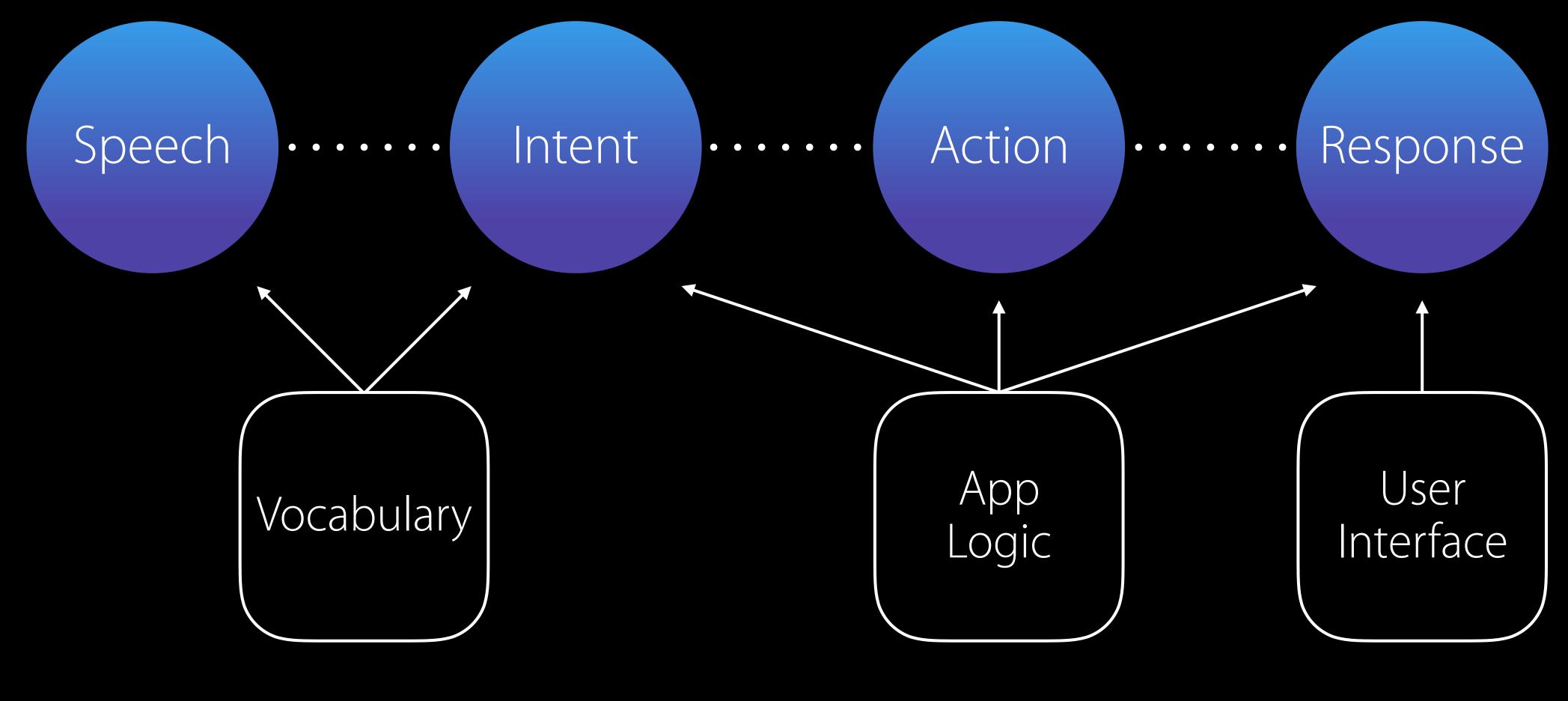


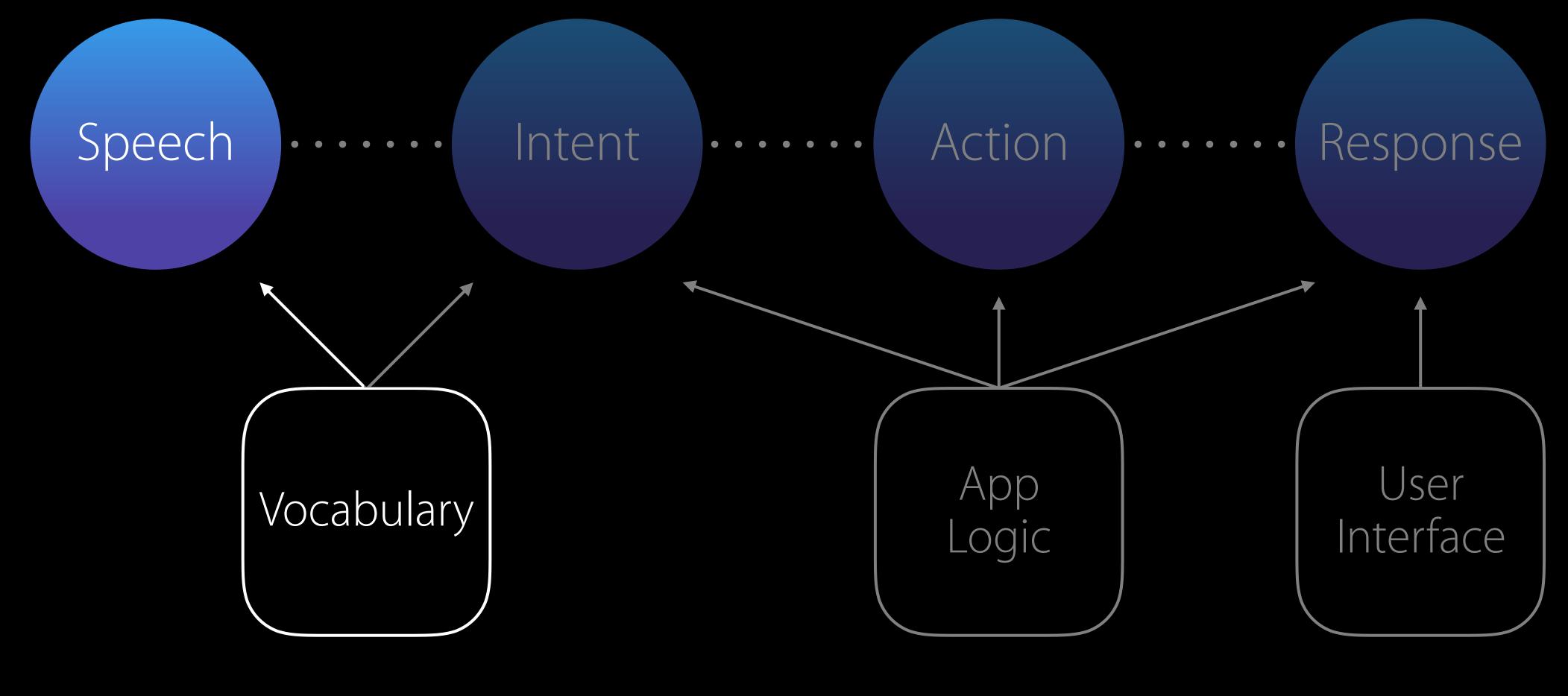
"Hey Siri, send a UnicornChat message to Celestra" What do you want to say to Celestra?

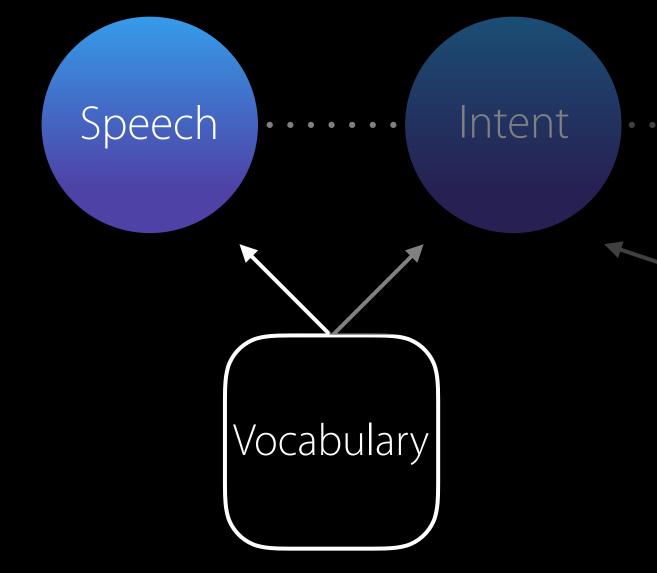
"Let's add more sparkle transitions"

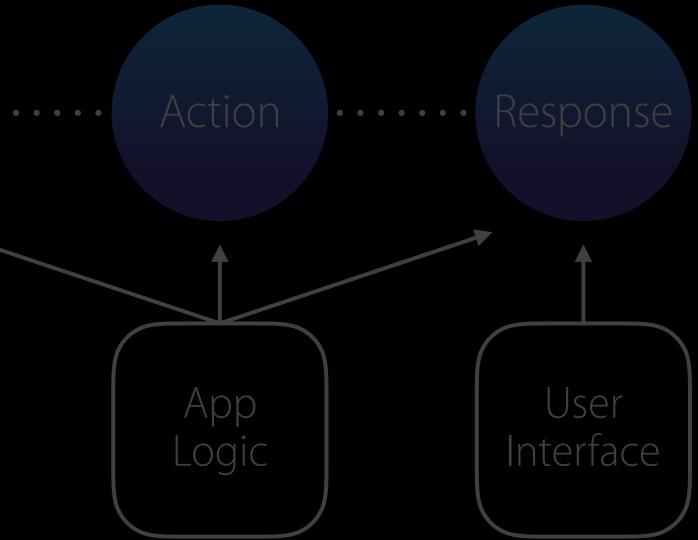
Speech Intent

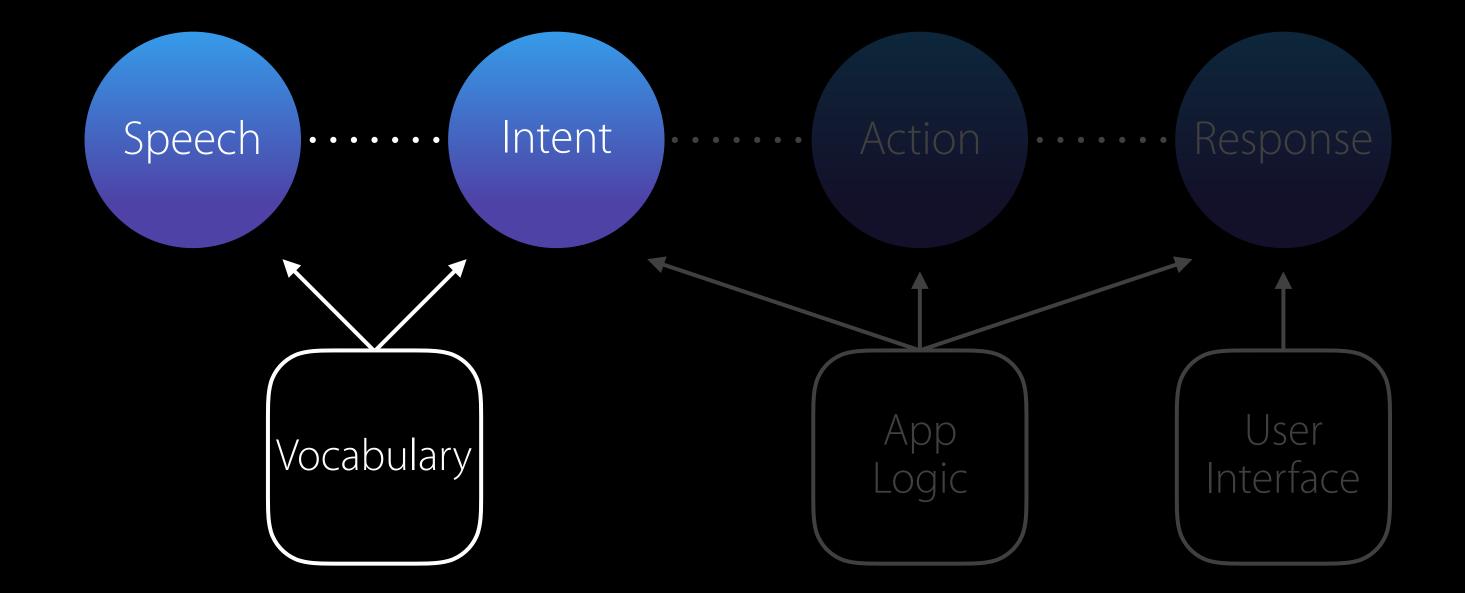


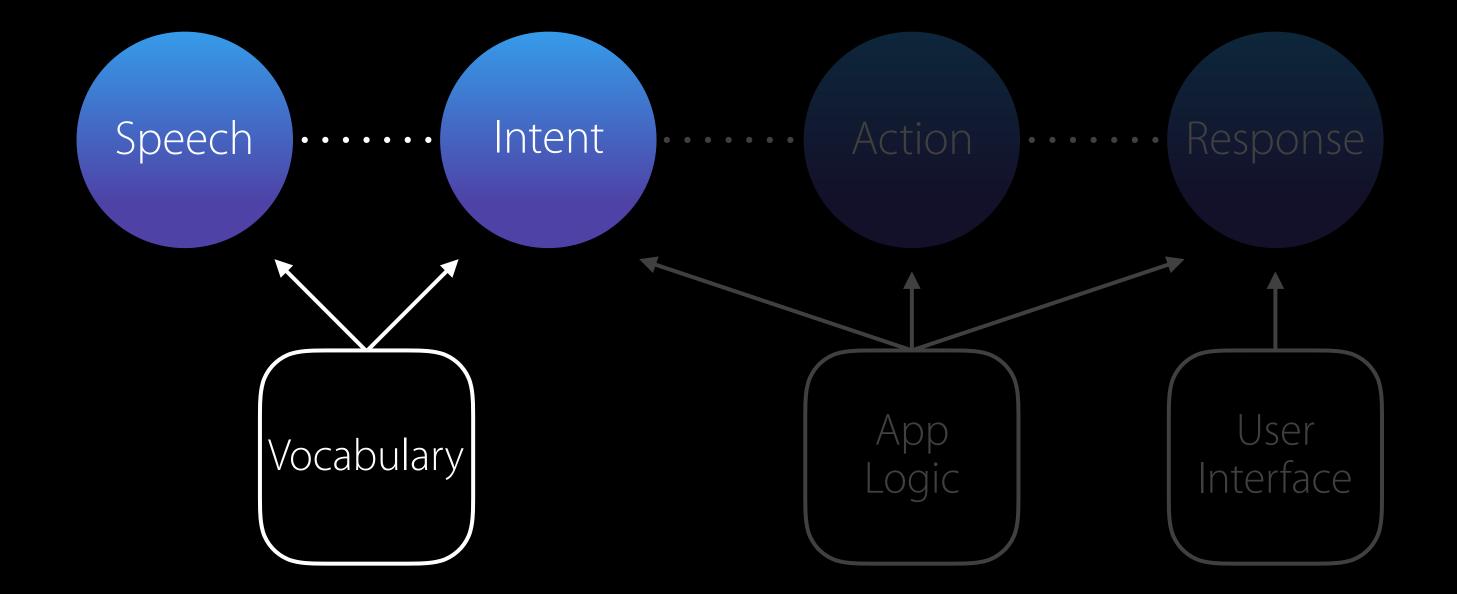






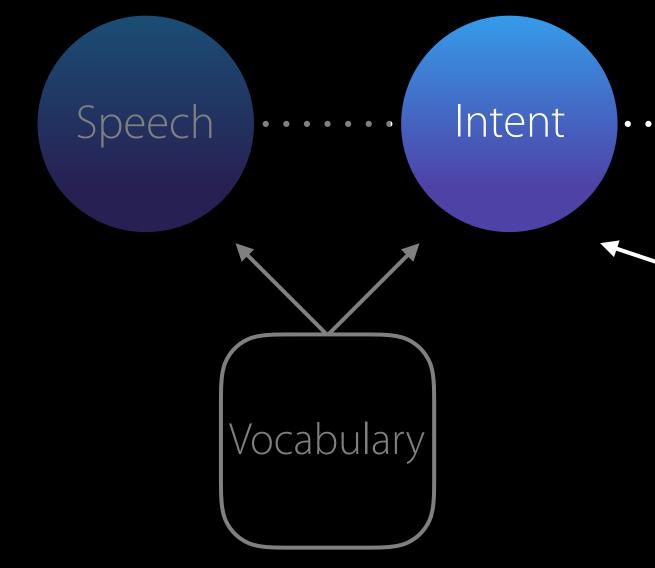




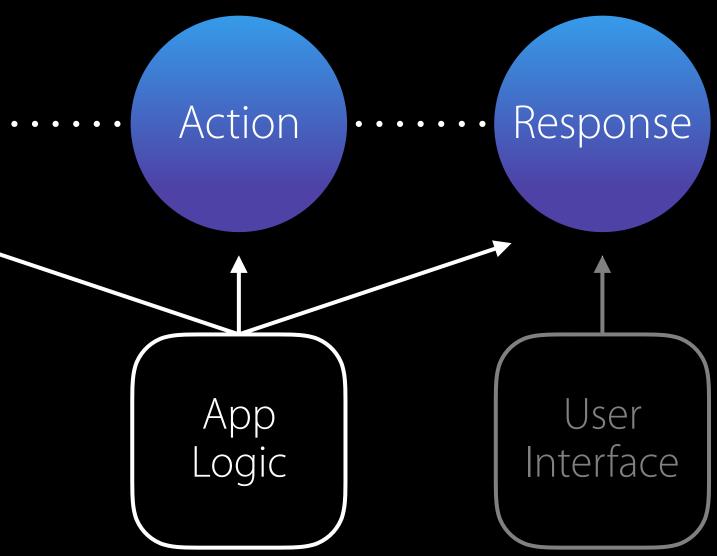


"Hey Siri, send a UnicornChat message to Celestra" What do you want to say to Celestra? Recipient

"Let's add more sparkle transitions" Content

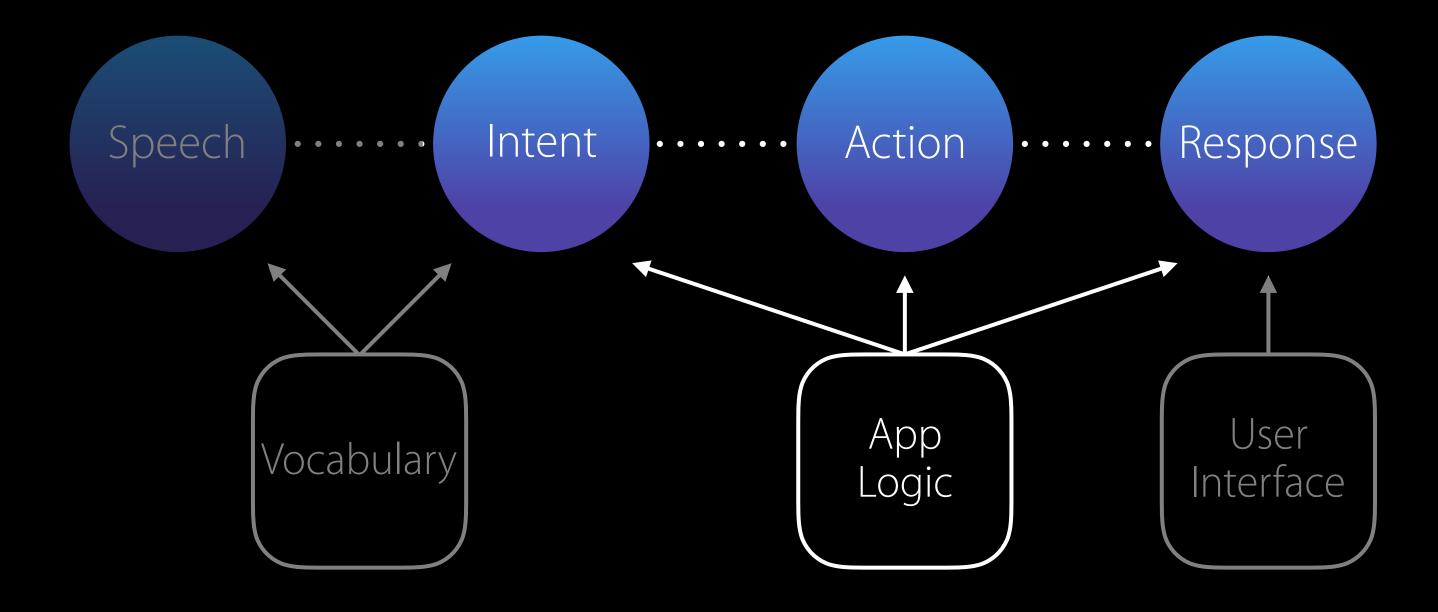


What do you want to say to Celestra?

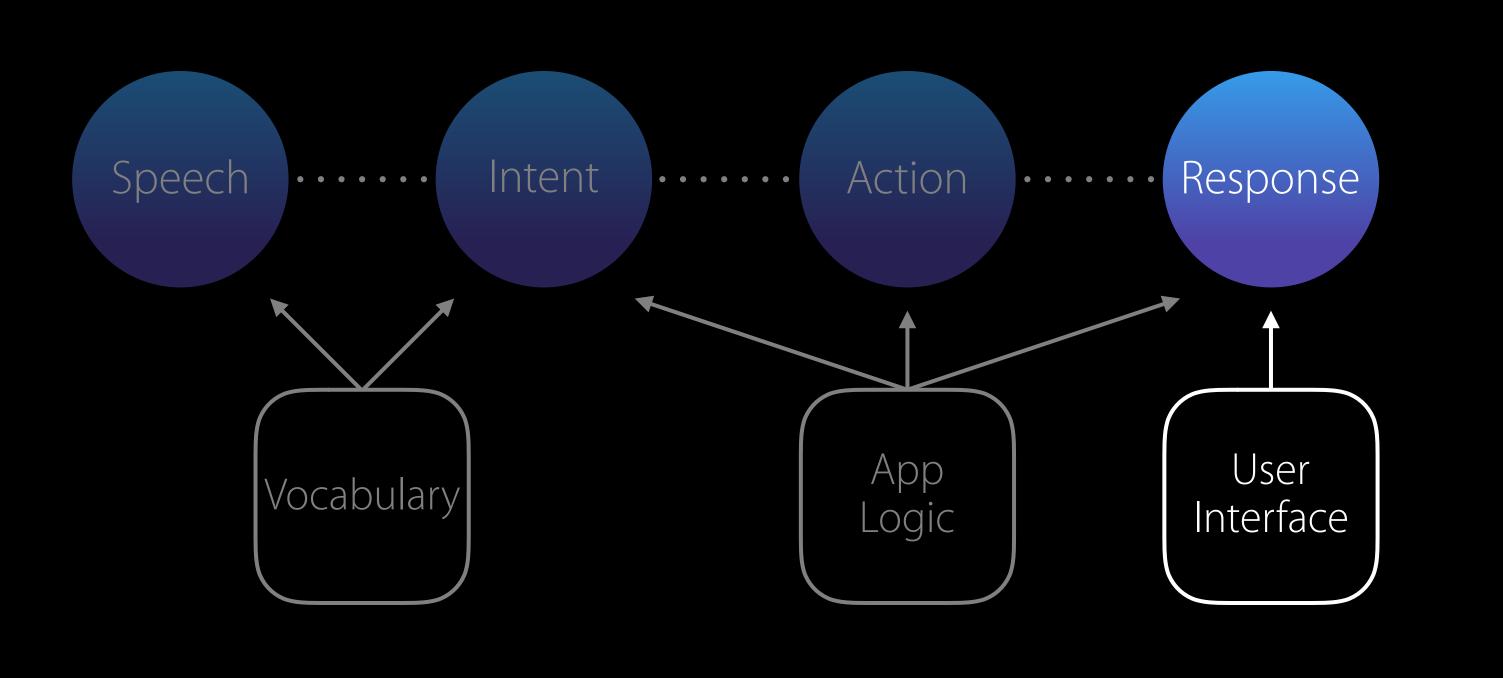


"Hey Siri, send a UnicornChat message to Celestra" Recipient

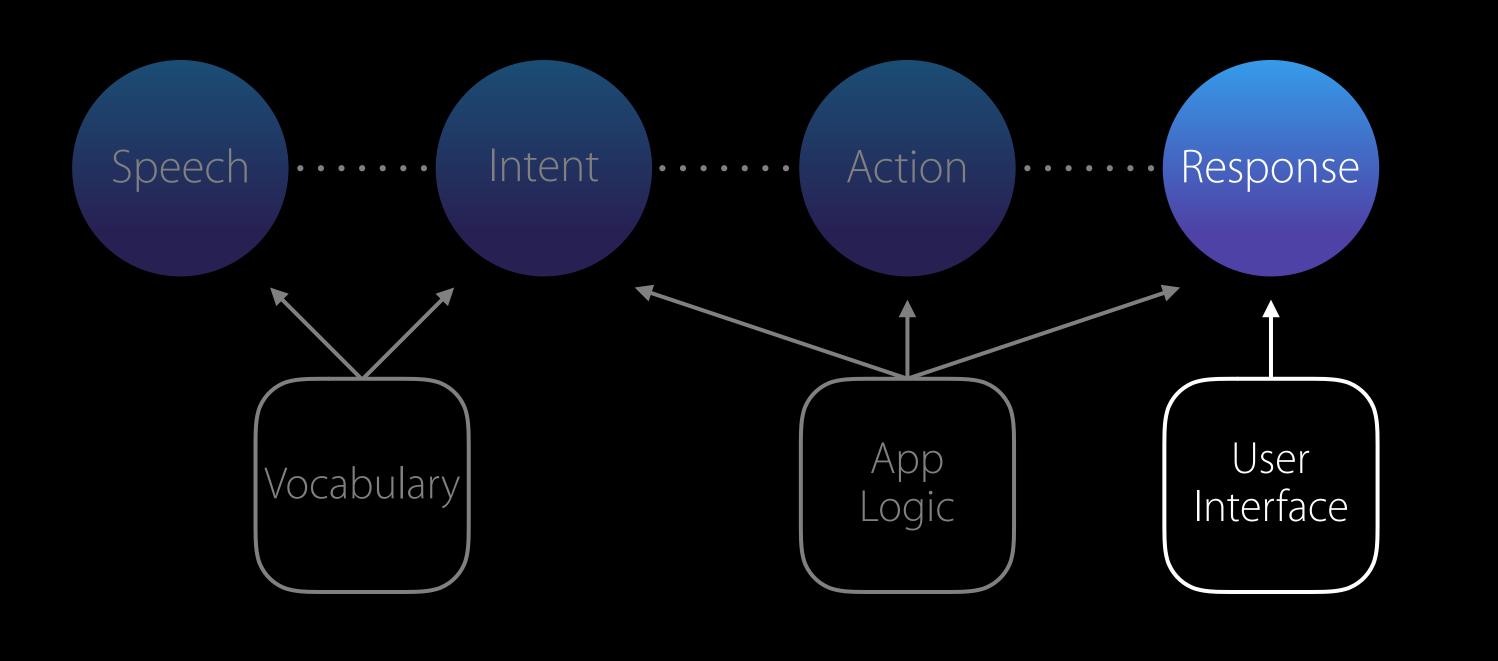
> "Let's add more sparkle transitions" Content



Domain: Messages Intent: sendMessage Recipient: Celestra Content: Let's add more sparkle transitions









SiriKit





Simple





Simple Powerful



Brandon Newendorp SiriKit Engineering

Siri works in **domains**

Siri works in **domains**

Messaging, VolP calling, Payments, Workouts, Ride booking, Photo search

Siri works in **domains**

Messaging, VolP calling, Payments, Workouts, Ride booking, Photo search

Group of known actions, or **intents**

"Hey Siri, send Buttercup 85 bucks on UnicornPay for rainbow polish"

"Hey Siri, send Buttercup 85 bucks on UnicornPay for rainbow polish"

Domain: Payments

"Hey Siri, send Buttercup 85 bucks on UnicornPay for rainbow polish"

Domain: Payments

Intent: sendPayment

"Hey Siri, send Buttercup 85 bucks on UnicornPay for rainbow polish"

Domain: Payments

Intent: sendPayment

App: UnicornPay

"Hey Siri, send Buttercup 85 bucks on UnicornPay for rainbow polish"

Domain: Payments

Intent: sendPayment

App: UnicornPay Payee: Buttercup

"Hey Siri, send Buttercup 85 bucks on UnicornPay for rainbow polish"

Domain: Payments

Intent: sendPayment

App: UnicornPay Payee: Buttercup Amount: 85

"Hey Siri, send Buttercup 85 bucks on UnicornPay for rainbow polish"

Domain: Payments

Intent: sendPayment

App: UnicornPay Payee: Buttercup Amount: 85 Currency: USD

"Hey Siri, send Buttercup 85 bucks on UnicornPay for rainbow polish"

Domain: Payments

Intent: sendPayment

App: UnicornPay Payee: Buttercup Amount: 85 Currency: USD Note: Rainbow polish

Common language

Common language Intents describe actions

Common language Intents describe actions IntentResponses describe results

Speaking Siri's Language Intent

Speaking Siri's Language Intent

Action to be performed

Action to be performed Zero-to-many parameters

Speaking Siri's Language

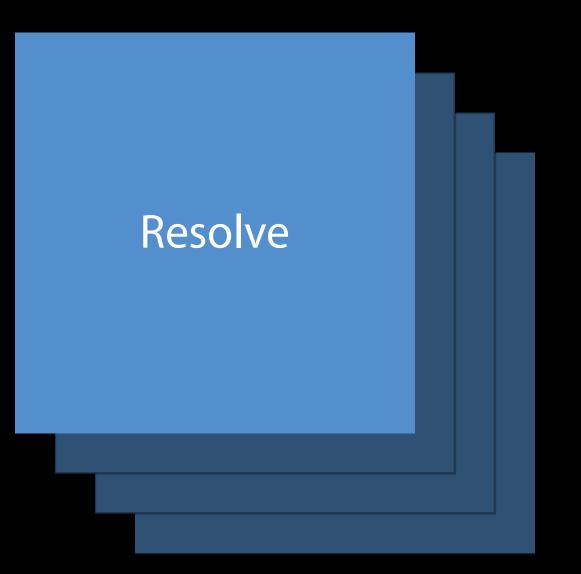
Action to be performed Zero-to-many parameters Classified into a domain

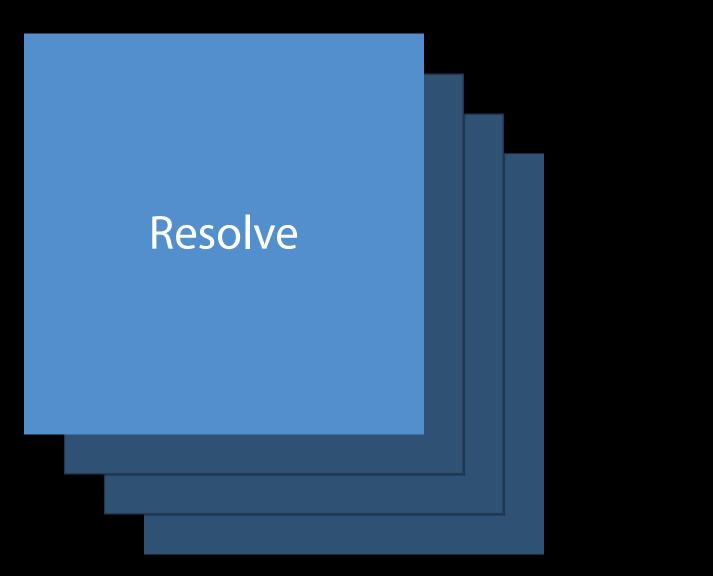
Result of handling an intent

Result of handling an intent Response code

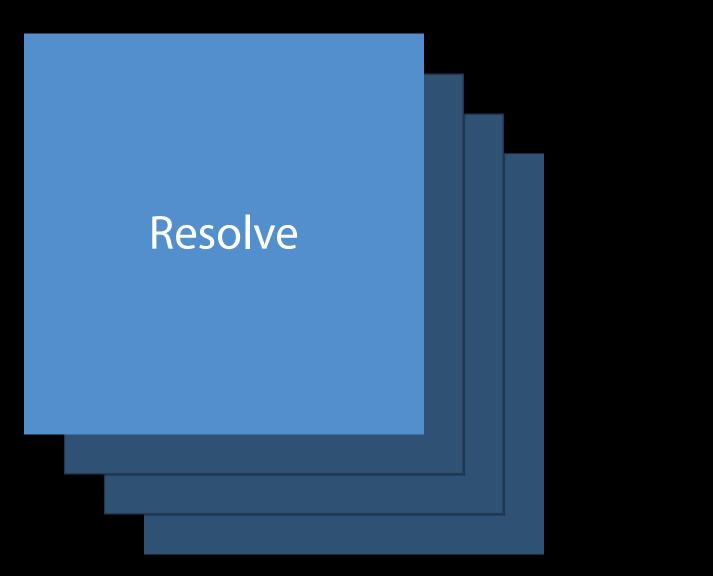
Result of handling an intent Response code NSUserActivity

Resolve





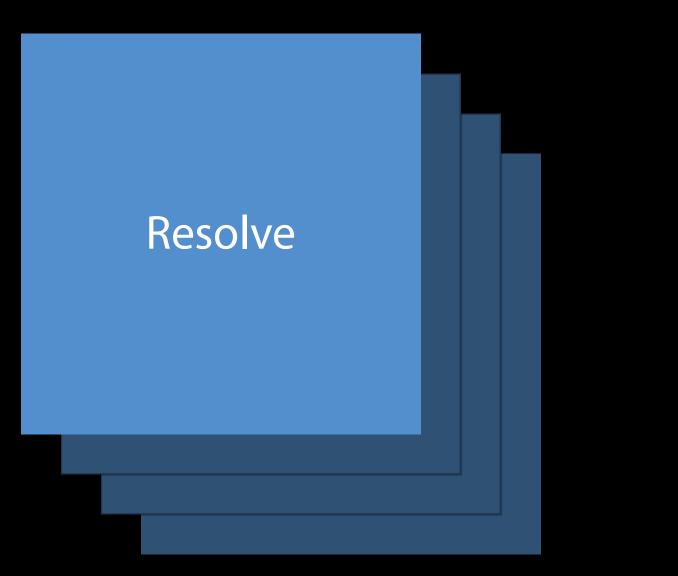
Confirm



Confirm

nπrm

Handle



Confirm

Handle

Help Siri understand the values the user provided

Help Siri understand the values the user provided Opportunity to influence Siri's behavior

Help Siri understand the values the user provided Opportunity to influence Siri's behavior Provide resolution response

"Hey Siri, send Buttercup 85 bucks on UnicornPay for rainbow polish"

Domain: Payments

Intent: sendPayment

App: UnicornPay **Payee: Buttercup** Amount: 85 Currency: USD Note: Rainbow polish

success(with:)

Your app matched the user's request to a specific person

confirmationRequired(with:) Your app would like the user to confirm the resolved person



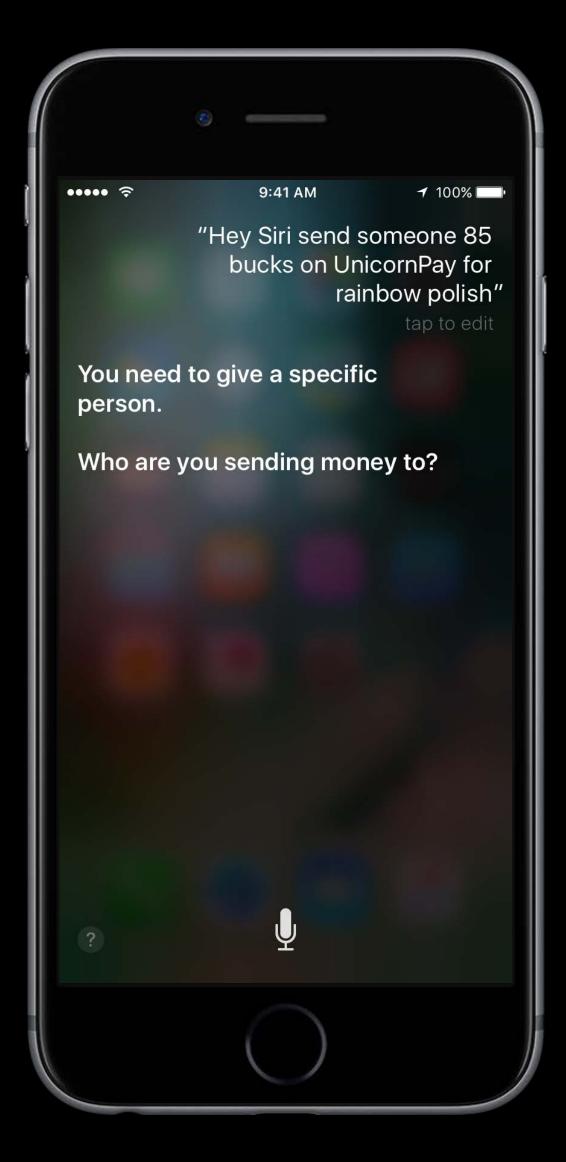
disambiguation(with:)

Your app needs the user to select from a list of people



needsMoreDetails(for:)

Your app had insufficient information to resolve the person, and would like Siri to ask the user to be more specific



needsValue

Your app requires a value be specified, but no value was provided



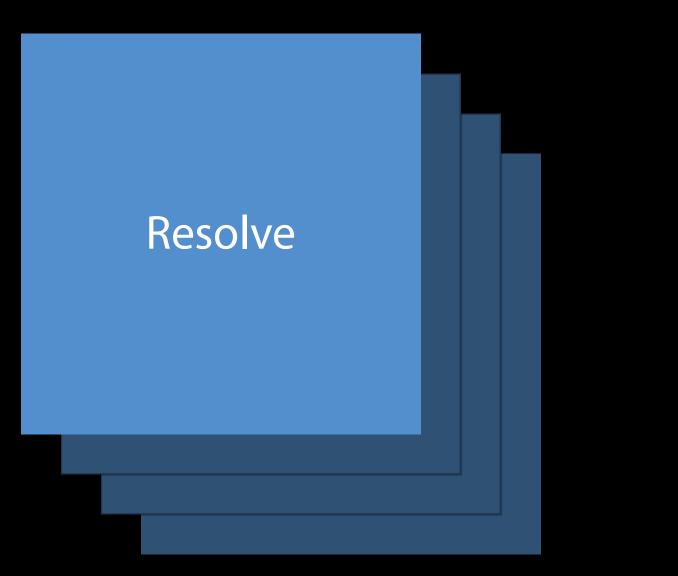
unsupportedWithReason

Your app can't use the specified value



notRequired

Your app doesn't require a value for this parameter



Confirm

Handle



Confirm

Handle

Tell Siri the expected result of an intent

	<u> </u>						
••••• ?	9	:41 AM	7 100% 📖				
	"Send Buttercup 85 bucks on UnicornPay for rainbow polish" tap to edit						
Here's your UnicornPay payment for \$85.00. Do you want to send it?							
	ORNPAY						
	Send Money						
	Buttercup						
\$85.00							
Note		Ra	inbow polish				
C	ancel	C	Confirm				
?		Ŷ					
	(\bigcirc					

Tell Siri the expected result of an intent Check required state

	<u> </u>						
••••• ?	9	:41 AM	7 100% 📖				
	"Send Buttercup 85 bucks on UnicornPay for rainbow polish" tap to edit						
Here's your UnicornPay payment for \$85.00. Do you want to send it?							
	ORNPAY						
	Send Money						
	Buttercup						
\$85.00							
Note		Ra	inbow polish				
C	ancel	C	Confirm				
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Tell Siri the expected result of an intent Check required state Provide an intent response

	<u> </u>						
••••• ?	9	:41 AM	7 100% 📖				
	"Send Buttercup 85 bucks on UnicornPay for rainbow polish" tap to edit						
Here's your UnicornPay payment for \$85.00. Do you want to send it?							
	ORNPAY						
	Send Money						
	Buttercup						
\$85.00							
Note		Ra	inbow polish				
C	ancel	C	Confirm				
?		Ŷ					
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Tell Siri the expected result of an intent Check required state Provide an intent response Siri prompts for confirmation as necessary

	۰					
••••• ?	"Send Bu		→ 100% → 85 bucks on nbow polish"			
tap to edit Here's your UnicornPay payment for \$85.00. Do you want to send it?						
UNICORNPAY						
Send Money						
Buttercup						
\$85.00						
Note		Rai	nbow polish			
C	Cancel	C	onfirm			
?						
	(\bigcirc				

"Hey Siri, send Buttercup 85 bucks on UnicornPay for rainbow polish"

"Hey Siri, send Buttercup 85 bucks on UnicornPay for rainbow polish"



"Hey Siri, send Buttercup 85 bucks on UnicornPay for rainbow polish"

Service available? 🐼 Signed in? 🐼

"Hey Siri, send Buttercup 85 bucks on UnicornPay for rainbow polish"

Service available? Signed in? Sufficient balance?

"Hey Siri, send Buttercup 85 bucks on UnicornPay for rainbow polish"

Service available? Signed in? Sufficient balance?

IntentResponse

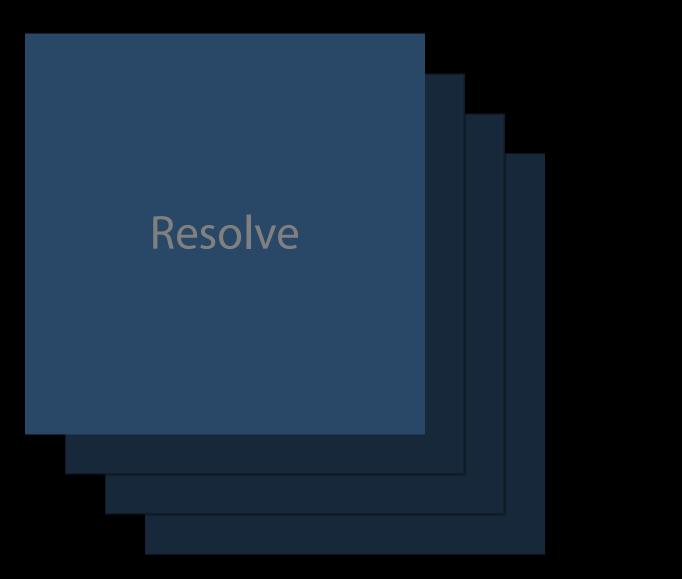
ResultCode: Success Payee: Buttercup Amount: 85 Currency: USD Note: Rainbow polish



Confirm

Handle

Lifecycle of an Intent



Confirm

Handle

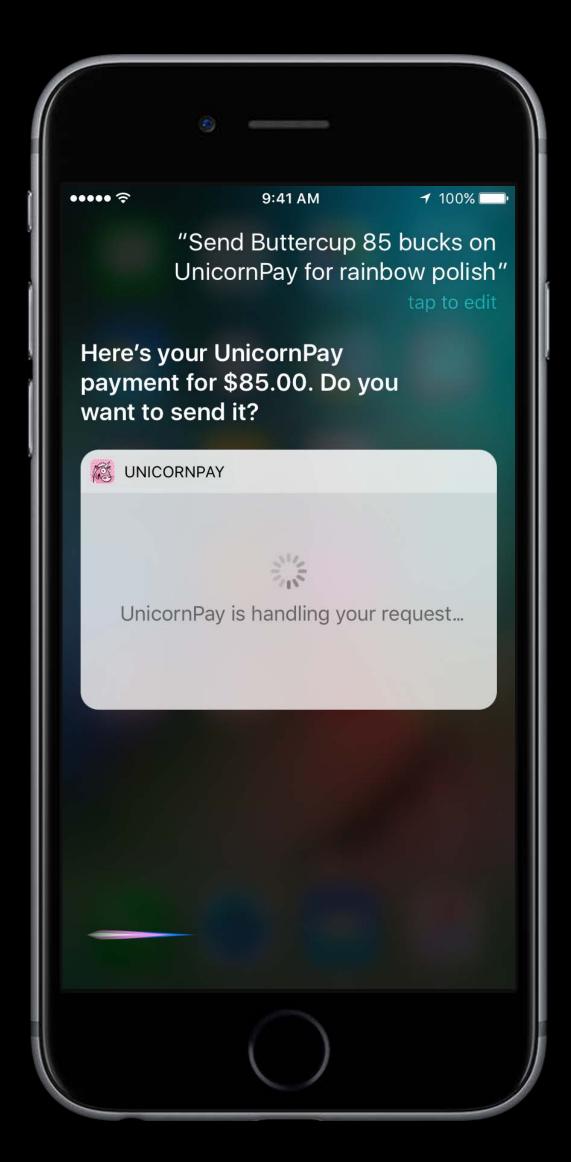
Perform the requested action

Perform the requested action Provide as much information about the result as possible

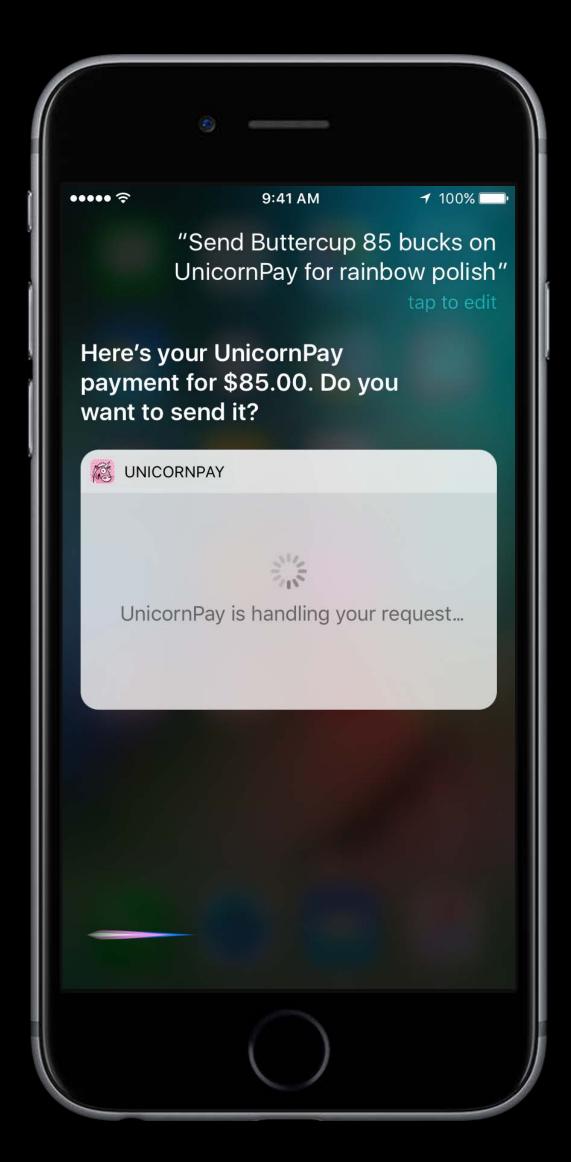


Network calls can take time

Network calls can take time Siri shows waiting UI



Network calls can take time Siri shows waiting UI Provide response within a few seconds



Network calls can take time Siri shows waiting UI Provide response within a few seconds Otherwise use **InProgress** response code

	3			
•••• ?	9:41 AM	1 100% 💭		
	"Send Buttercup UnicornPay for rai			
Here's your UnicornPay payment for \$85.00. Do you want to send it?				
🐹 UNIC	ORNPAY			
	Sur.	1.1.1		
Unic	ornPay is handling you	ur request		
-				
	\bigcirc			

Lifecycle of an Intent

"Hey Siri, send Buttercup 85 bucks on UnicornPay for rainbow polish"

Lifecycle of an Intent

"Hey Siri, send Buttercup 85 bucks on UnicornPay for rainbow polish"

IntentResponse

ResultCode: Success Payee: Buttercup Amount: 85 Currency: USD Note: Rainbow polish

Adding SiriKit to Your App

Two new extension points

Two new extension points

Intents extension

Two new extension points

- Intents extension
- Intents UI extension

Two new extension points

- Intents extension ullet
- Intents UI extension

Provide words and phrases to aid recognition

Two new extension points

- Intents extension ullet
- Intents UI extension

Provide words and phrases to aid recognition

App vocabulary

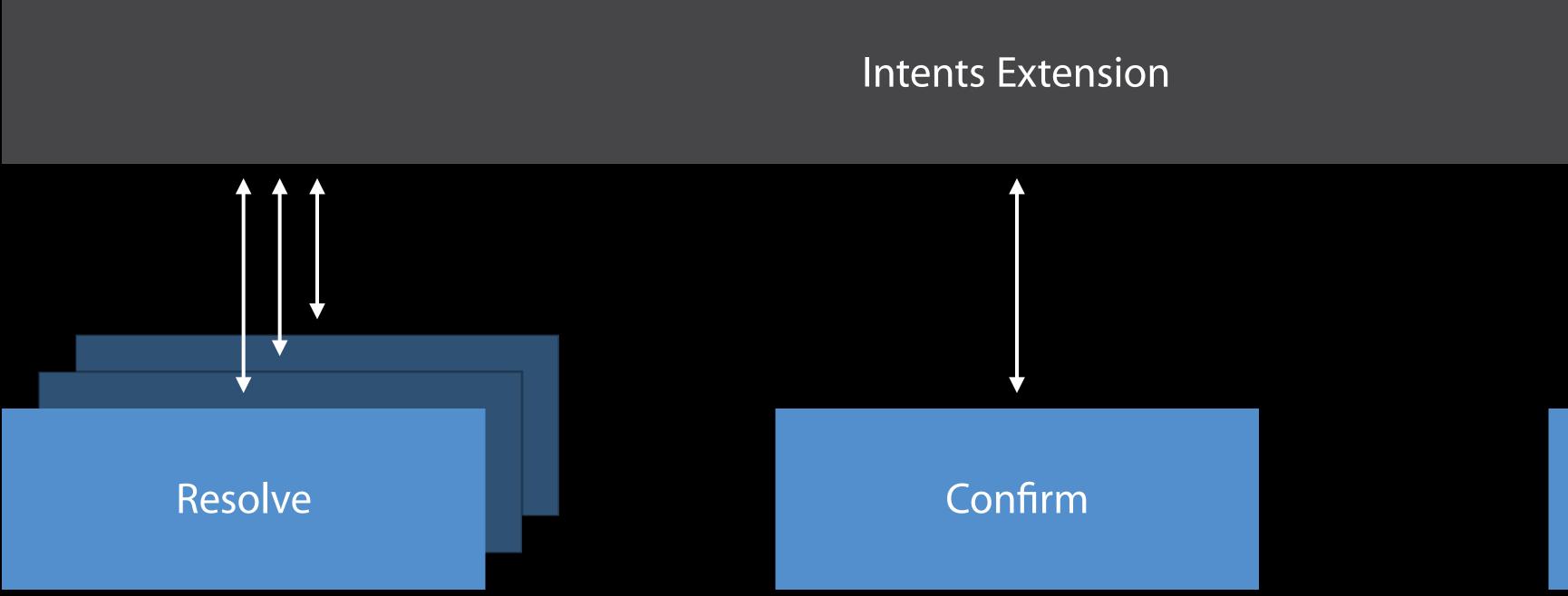
Two new extension points

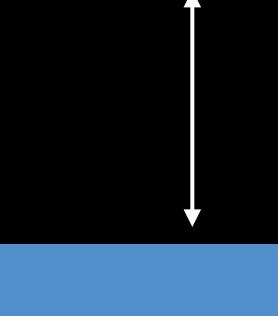
- Intents extension \bullet
- Intents UI extension

Provide words and phrases to aid recognition

- App vocabulary
- User vocabulary

Intents Extension





Handle

Basis of SiriKit

Basis of SiriKit Supports one or more intents

Basis of SiriKit Supports one or more intents Runs in the background while Siri is active

Basis of SiriKit Supports one or more intents Runs in the background while Siri is active Implements resolve, confirm, and handle methods

Adding Sirikit Security

Adding SiriKit Security

Restrict while locked

Adding SiriKit Security

Restrict while locked Local Authentication framework

Keychain and Authentication with Touch ID

WWDC 2014

Adding SiriKit Security

Restrict while locked Local Authentication framework Apple Pay support

What's New with Wallet and Apple Pay

Keychain and Authentication with Touch I

Mission	Tuesday 3:00PM
	WWDC 2014



Intents Extension

Intents Extension



Intents Extension

Intents UI Extension

Intents Extension

Intents UI Extension

Bring your app's interface into Siri



Bring your app's interface into Siri Provide a UIViewController



Bring your app's interface into Siri Provide a UIViewController Optional



Bring your app's interface into Siri Provide a UIViewController Optional Available for certain intents





Show additional information



Show additional information Update status



Show additional information Update status Displayed alongside Siri content



Show additional information Update status Displayed alongside Siri content Can replace select Siri interface elements



Show additional information Update status Displayed alongside Siri content Can replace select Siri interface elements Not interactive



Intents Extension

Intents UI Extension

Intents Extension

Intents UI Extension

Intents Extension

Intents UI Extension

Арр

Intents Extension

Intents UI Extension

Арр

Adding Sirikit Vocabulary

Adding Sirikit Vocabulary

Many apps have unique ways of describing things

Adding SiriKit Vocabulary

Many apps have unique ways of describing things Siri needs your assistance to understand words and phrases unique to your app

Adding Sirikit Vocabulary

Many apps have unique ways of describing things Siri needs your assistance to understand words and phrases unique to your app Some phrases are part of your app

Adding Sirikit Vocabulary

Many apps have unique ways of describing things Siri needs your assistance to understand words and phrases unique to your app Some phrases are part of your app Other phrases are unique to the user of your app

Words and phrases that are part of your app

Words and phrases that are part of your app Known to all users of your app

Words and phrases that are part of your app Known to all users of your app Defined in a plist

Words and phrases that are part of your app Known to all users of your app Defined in a plist Localized

Vocabulary plist

Vocabulary plist

Example Uses for App

Start a workout with UnicornFit

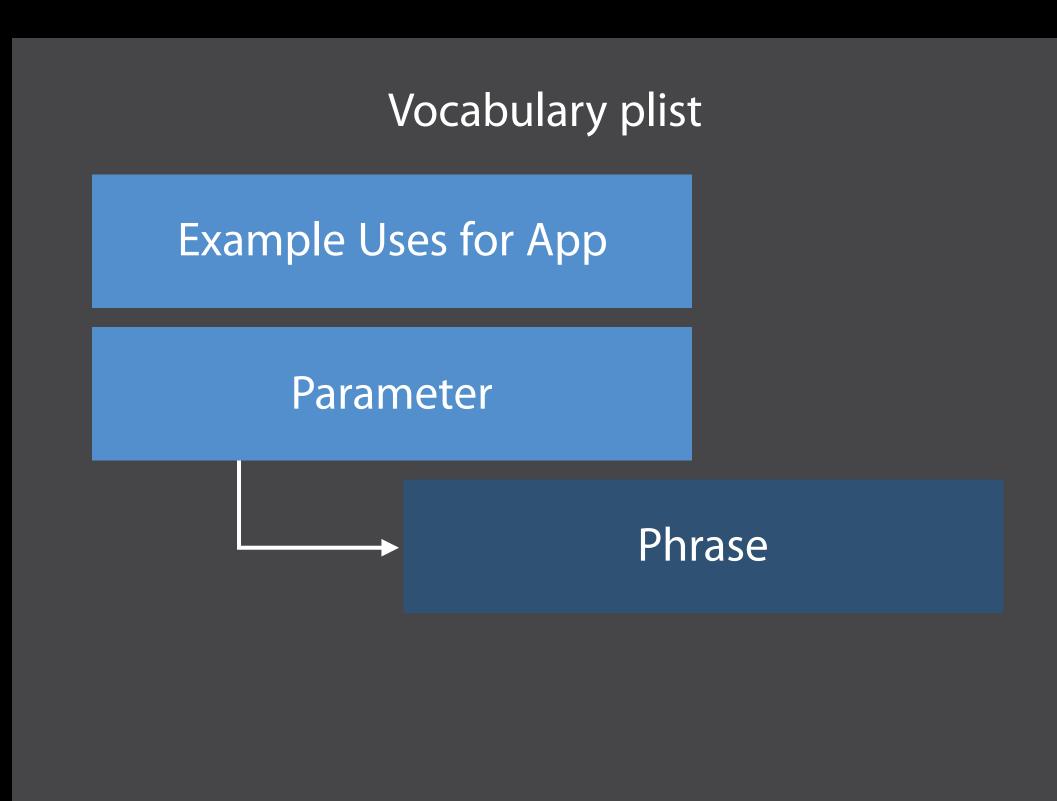
Vocabulary plist

Example Uses for App

Parameter

Start a workout with UnicornFit

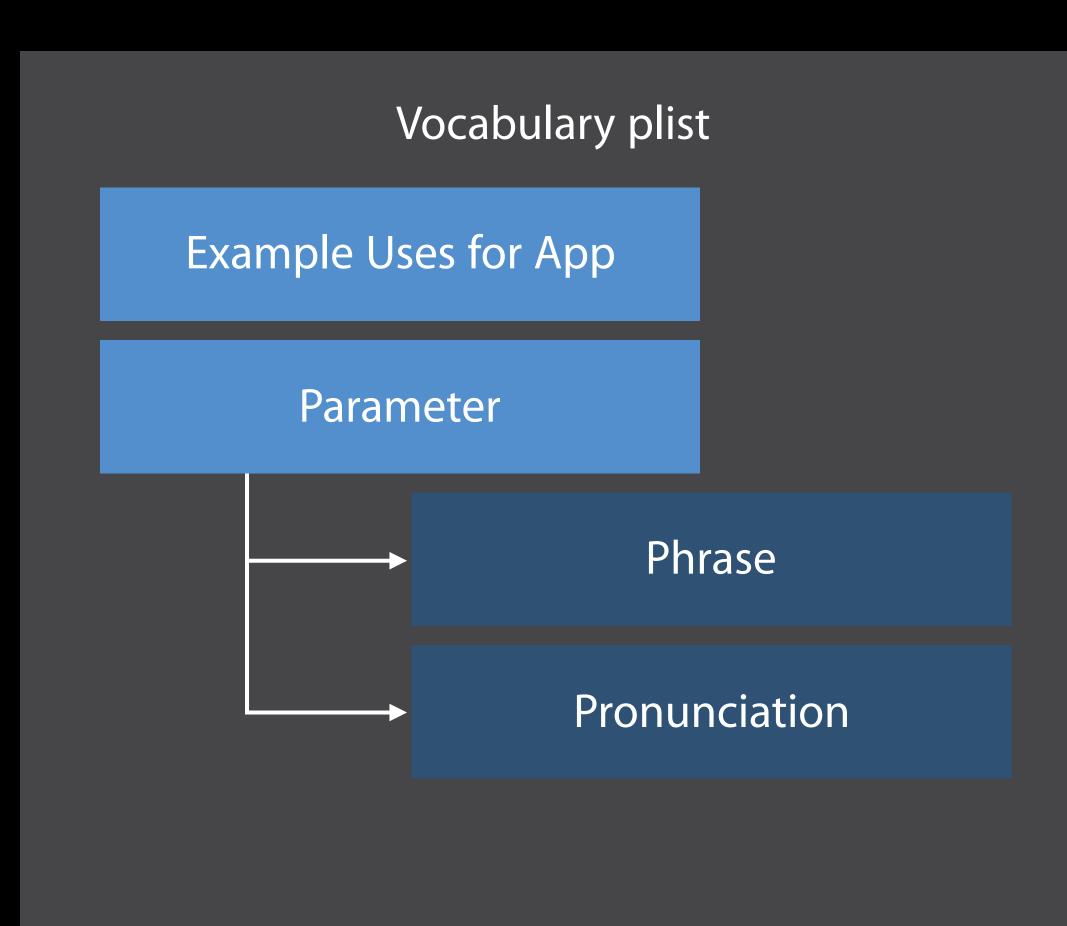
workoutName



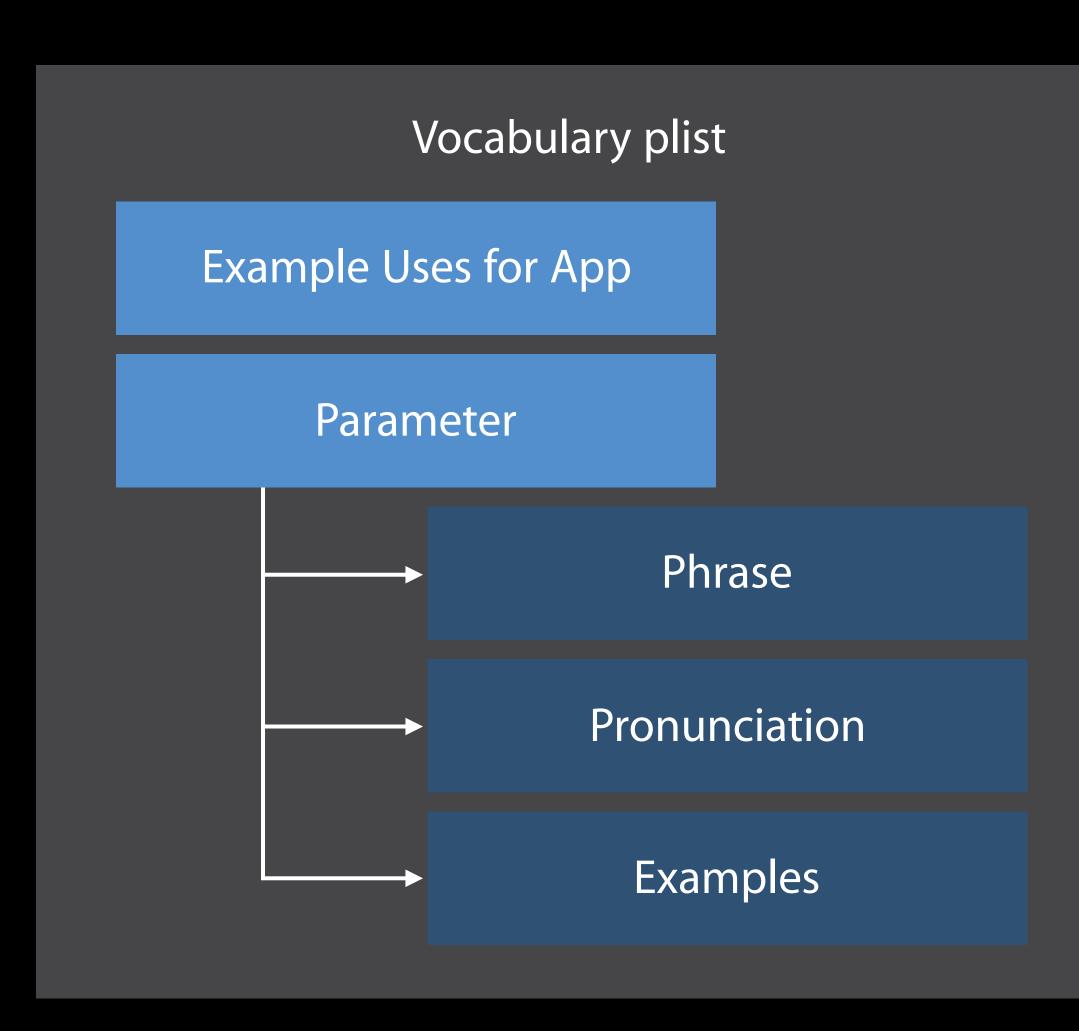
Start a workout with UnicornFit

workoutName

Colorlicious



Start a workout with UnicornFit workoutName Colorlicious colorlishus



Start a workout with UnicornFit

workoutName

Colorlicious

colorlishus

Do a Colorlicious in UnicornFit

Terminology that's specific to an individual user

Terminology that's specific to an individual user Provided by your app

Terminology that's specific to an individual user Provided by your app **OrderedSet** of terms





Other Contacts

Recent Contacts

Other Contacts

Recent Contacts

Other Contacts

Favorites

Recent Contacts



Other Contacts

Contacts, workout names, photo albums, photo keywords

Contacts, workout names, photo albums, photo keywords

• iOS address book is already available to Siri

Contacts, workout names, photo albums, photo keywords

• iOS address book is already available to Siri Only provide necessary values

Contacts, workout names, photo albums, photo keywords

• iOS address book is already available to Siri Only provide necessary values Send data on changes

Contacts, workout names, photo albums, photo keywords

 iOS address book is already available to Siri Only provide necessary values Send data on changes Delete promptly

Contacts, workout names, photo albums, photo keywords

- iOS address book is already available to Siri Only provide necessary values
- Send data on changes
- Delete promptly

Remove all vocabulary when needed

Request authorization

Request authorization

Would You Like to Use "UnicornPay" with Siri?

Some of your UnicornPay data will be sent to Apple to process your requests.

This will allow you to send money to unicorns using Siri.

Don't Allow

OK

Request authorization Explain what data goes to Siri

Would You Like to Use "UnicornPay" with Siri?

Some of your UnicornPay data will be sent to Apple to process your requests.

This will allow you to send money to unicorns using Siri.

Don't Allow

OK

Request authorization Explain what data goes to Siri Request permission from your app

Would You Like to Use "UnicornPay" with Siri?

Some of your UnicornPay data will be sent to Apple to process your requests.

This will allow you to send money to unicorns using Siri.

Don't Allow

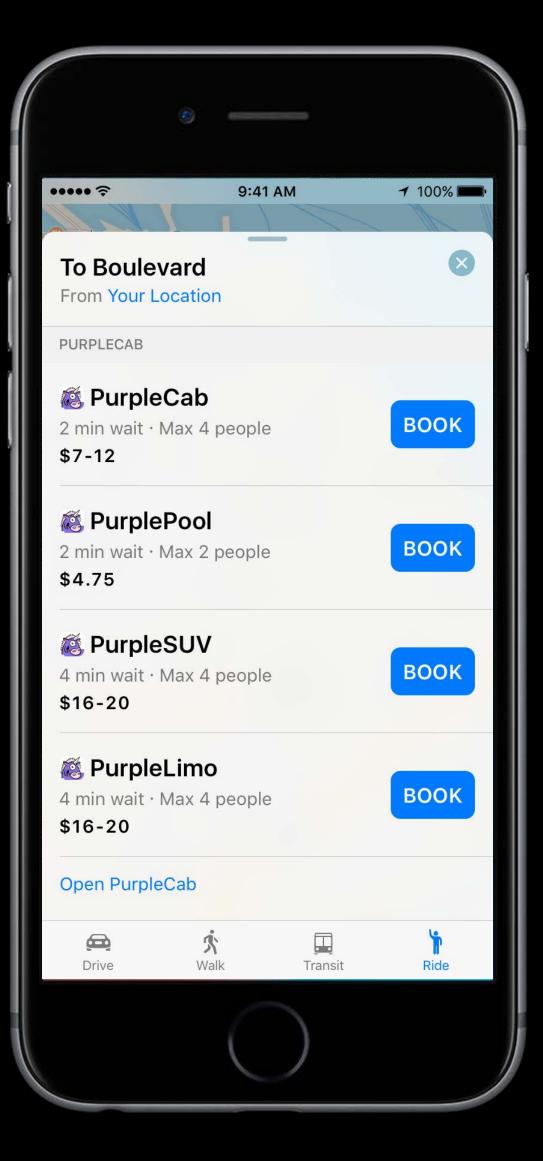
OK

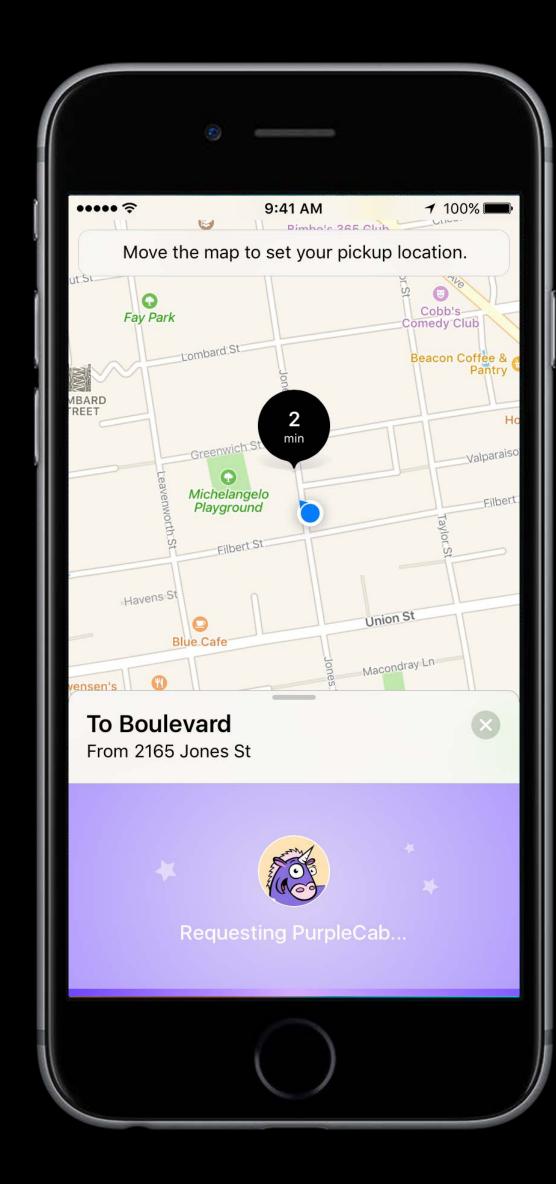
Siri is an integral part of iOS

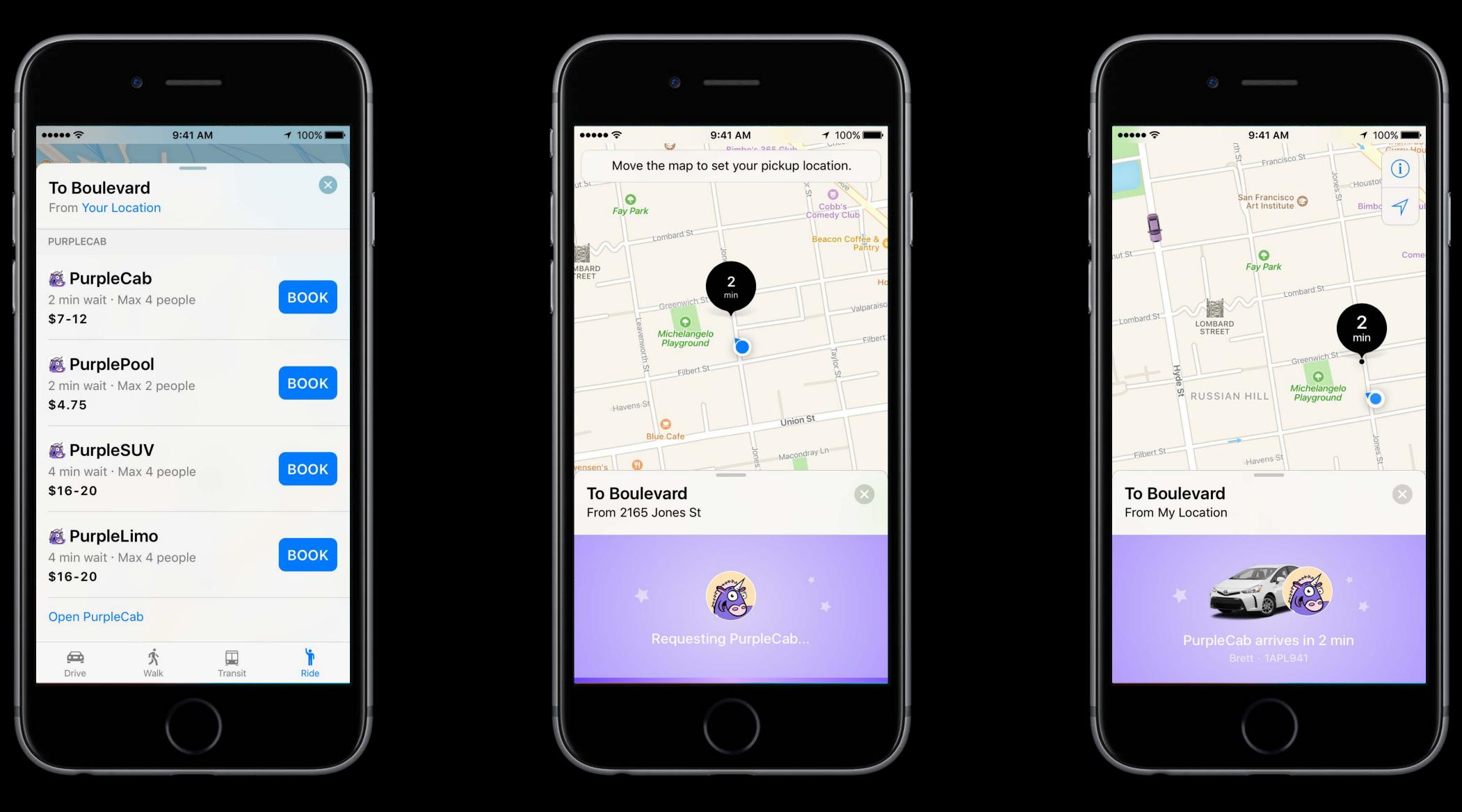
Siri is an integral part of iOS Intents.framework

Siri is an integral part of iOS
Intents.framework
Contacts integration

Siri is an integral part of iOS
Intents.framework
Contacts integration
CallKit







For Free!

User must say the name of your app

User must say the name of your app Bundle display name

User must say the name of your app Bundle display name Can be used in many parts of speech

User must say the name of your app Bundle display name Can be used in many parts of speech Verbing the app name

- User must say the name of your app Bundle display name Can be used in many parts of speech Verbing the app name
- "UnicornChat Celestra order five rainbow rolls please"

Call Lucky Moontrotter using UnicornChat

Get me a bicorn ride on UnicornRide to the forest

I need a UnicornRide to get me home

UnicornChat Celestra order five rainbow rolls please

Start a 15-minute trot with UnicornFit

Using UnicornChat tell Pinky Nose that I'm running late

End my UniDuel in UnicornFit

UnicornPay 18 dollars to Sparkle Sparkly

Ask CJ to UnicornPay me 25 dollars to cover dinner at Noon's Grill

Designing a Great Siri Experience

Corey Peterson SiriKit Design

How Siri helps you

How Siri helps you Design guidelines

How Siri helps you Design guidelines Polish the design

User Interface



Context through conversation

Context through conversation Information in the user's head

Context through conversation Information in the user's head Shaped by questions and responses

Context through conversation Information in the user's head Shaped by questions and responses

Important to think about how Siri asks and responds

"Send it"

"Send it"

"NO"

"Send it"

"NO"

"Cancel"

"Send it"

- "NO"
- "Cancel"
- "Read it to me again"

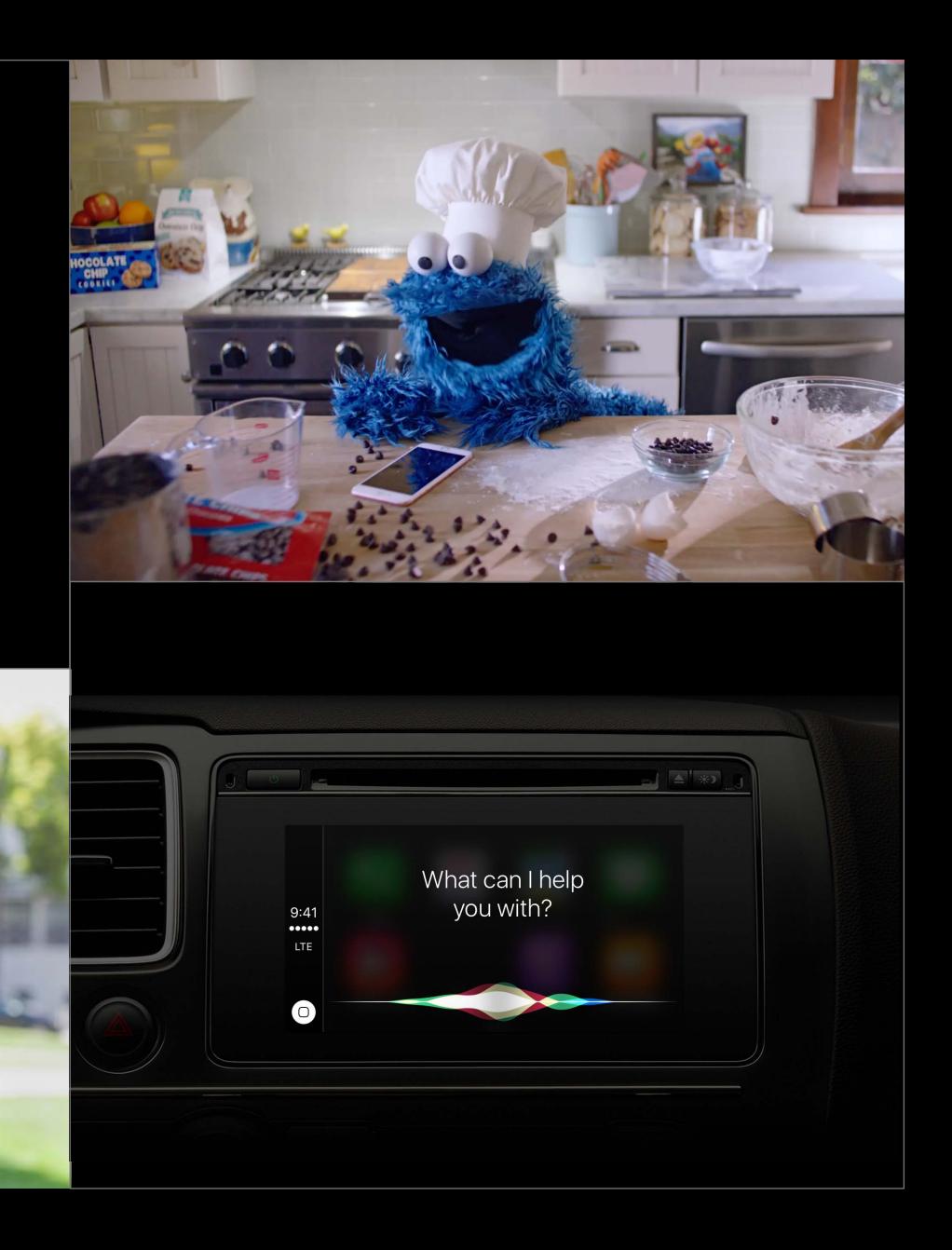
"Send it"

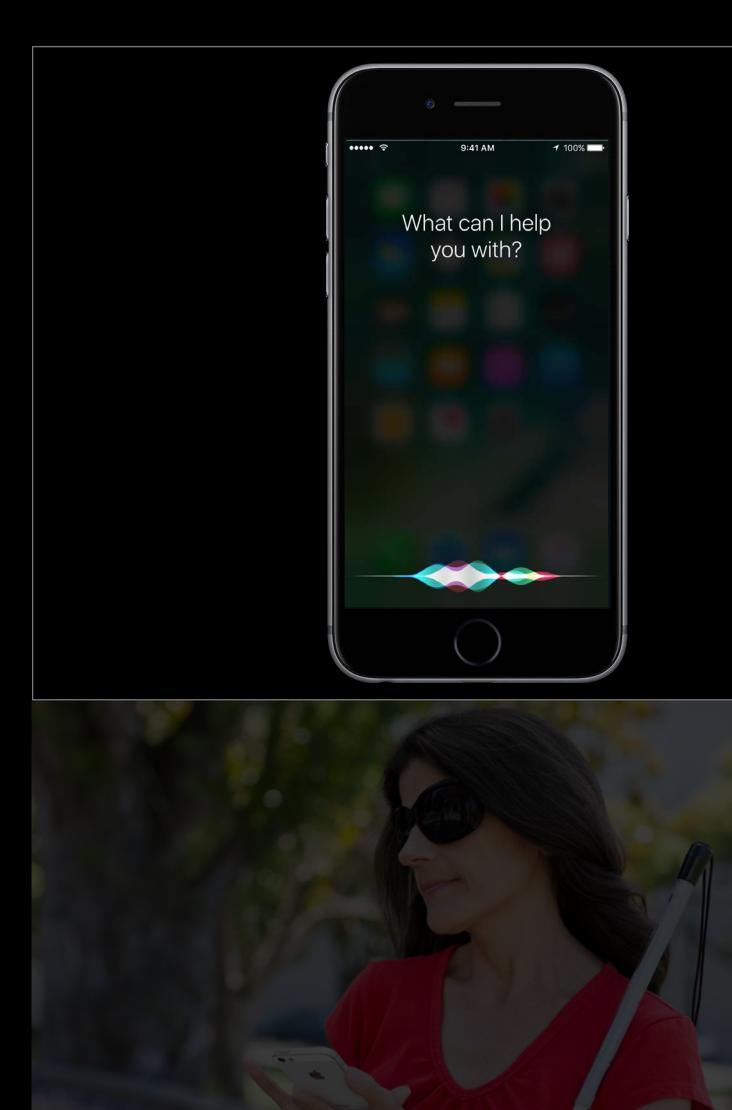
- "NO"
- "Cancel"
- "Read it to me again"
 - "Change it"

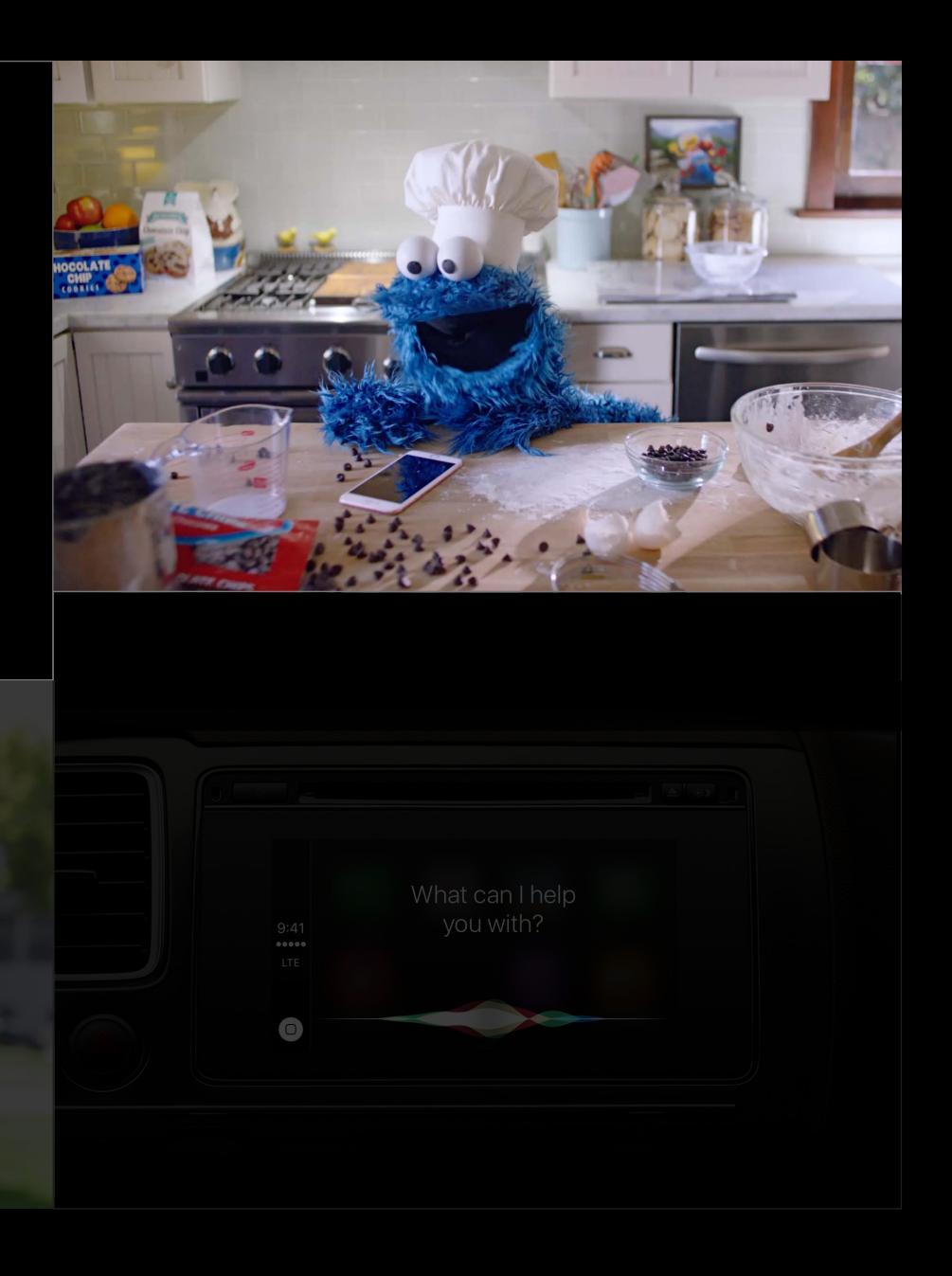
"Yes" "Yes please" "Send" "Send it" "OK" "Yes thank you" "Do i anks""Don't do it""Not yet""No""I'm not ready""Nope""Nah" rd the message" "Cancel it" "Cancel" "Cancel the message" "Dise it" "What does it say" "Read it to me again" "Read it back to me" "t" "Send it to Eric instead" "Change it" "Edit the message" "Change

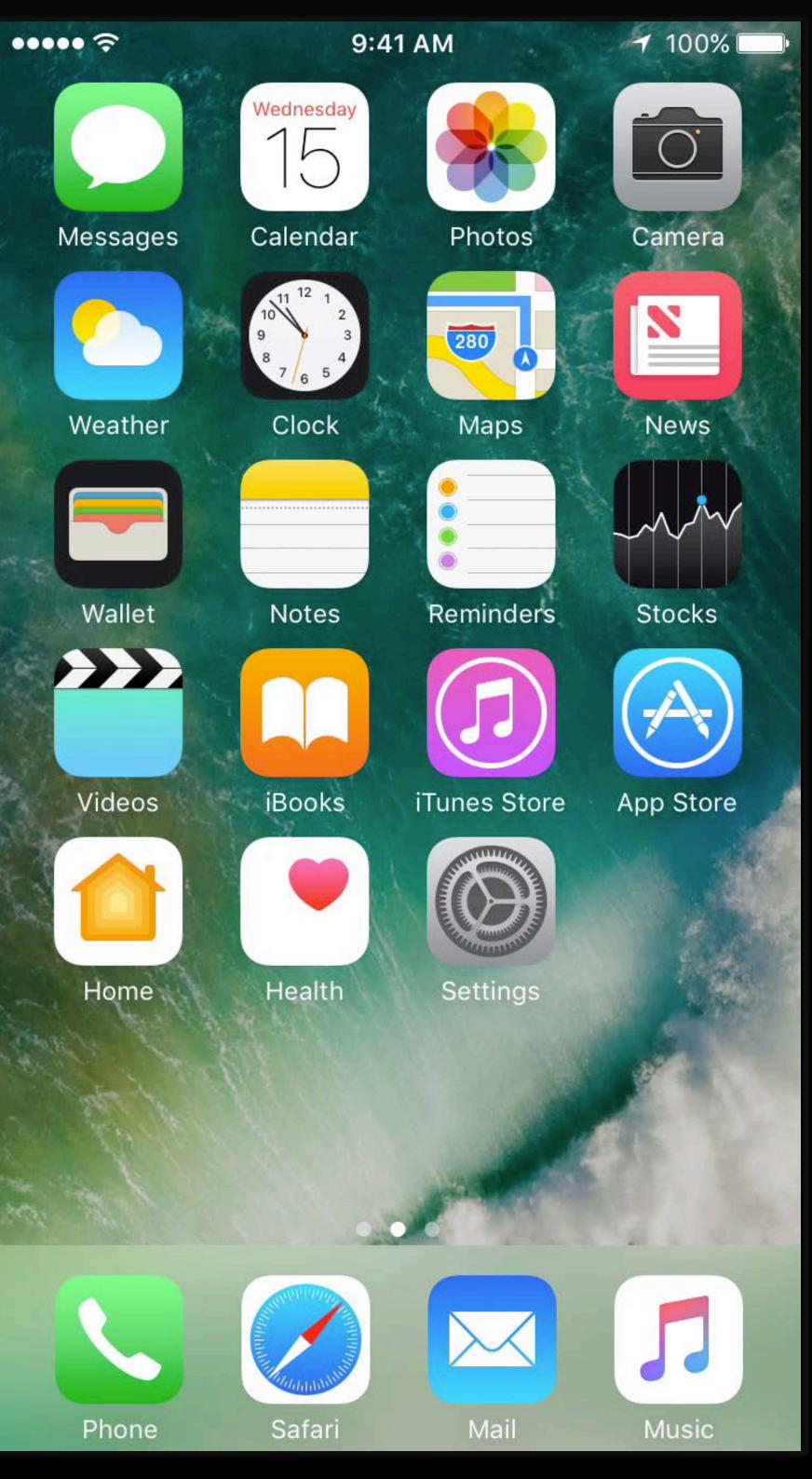


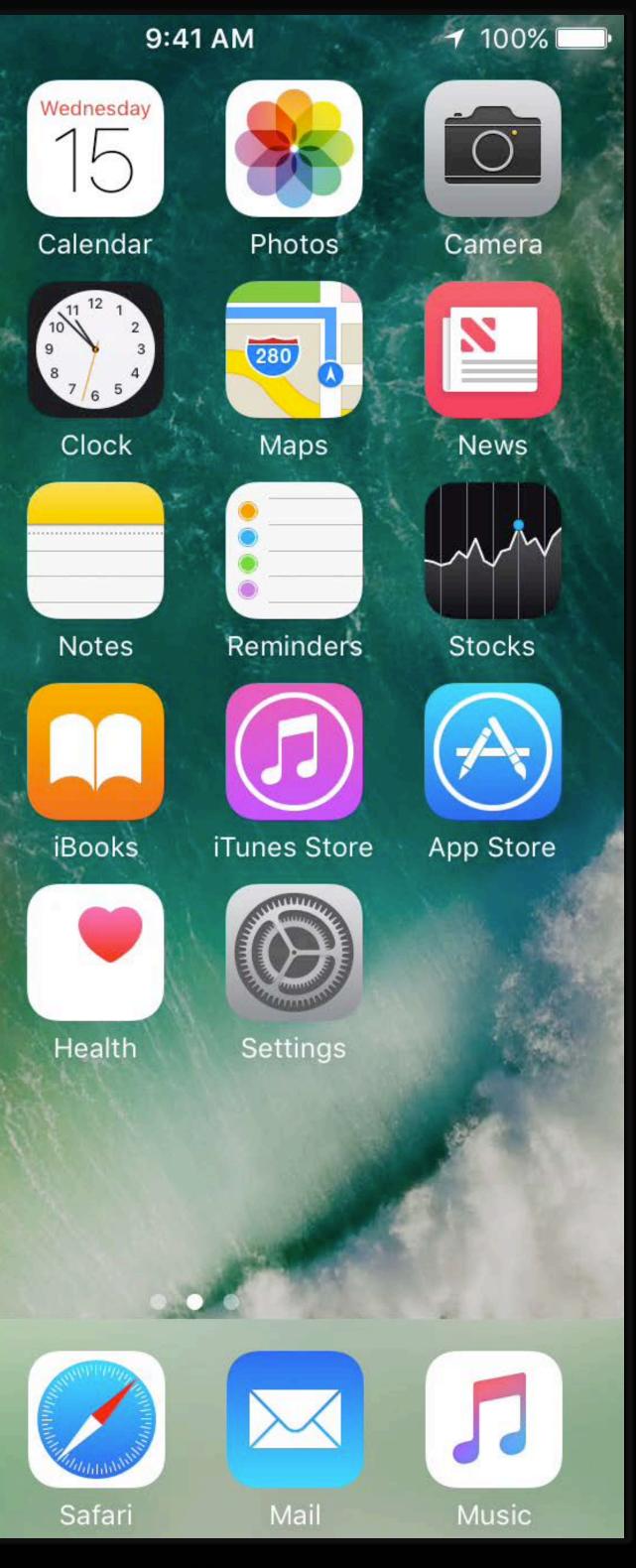


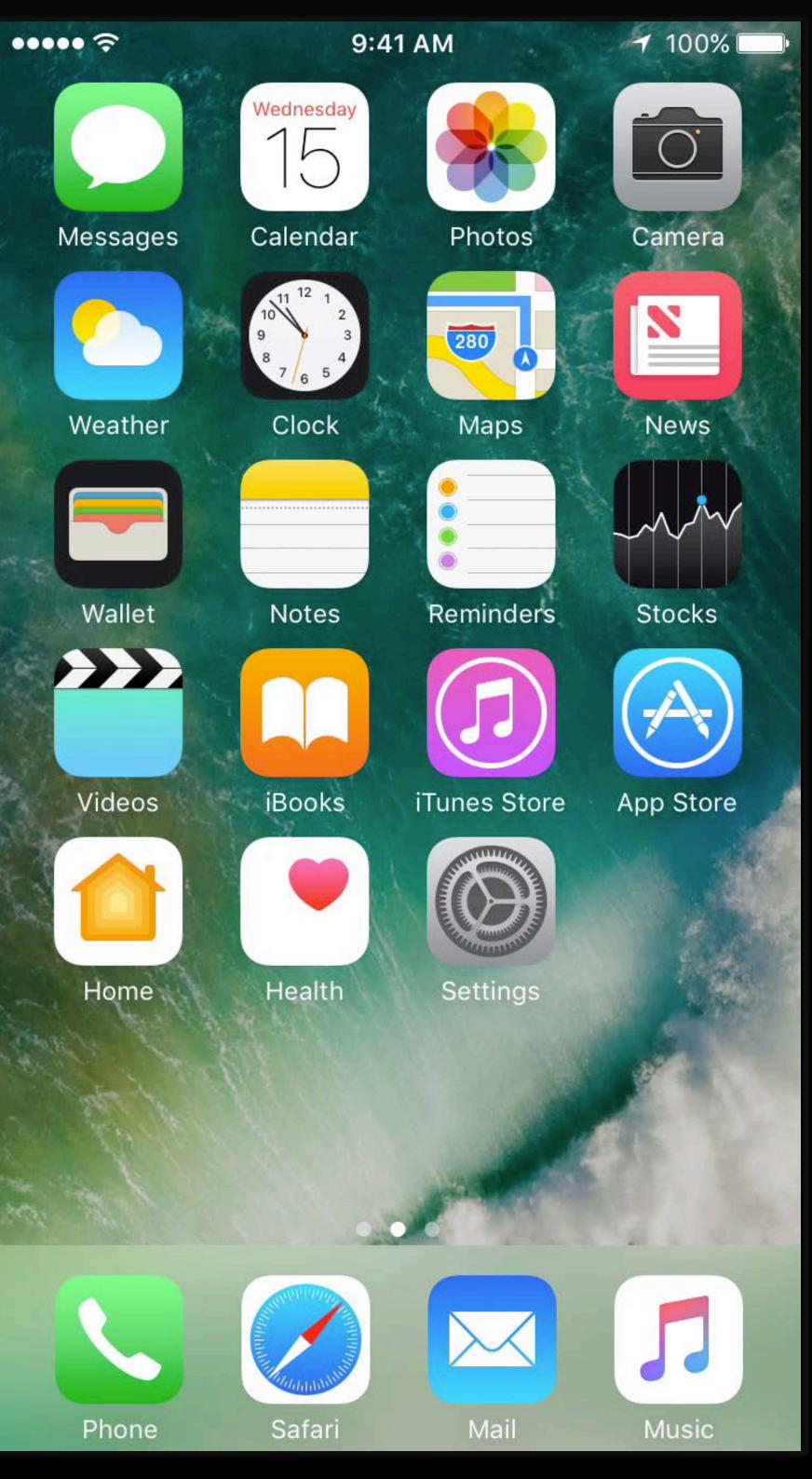


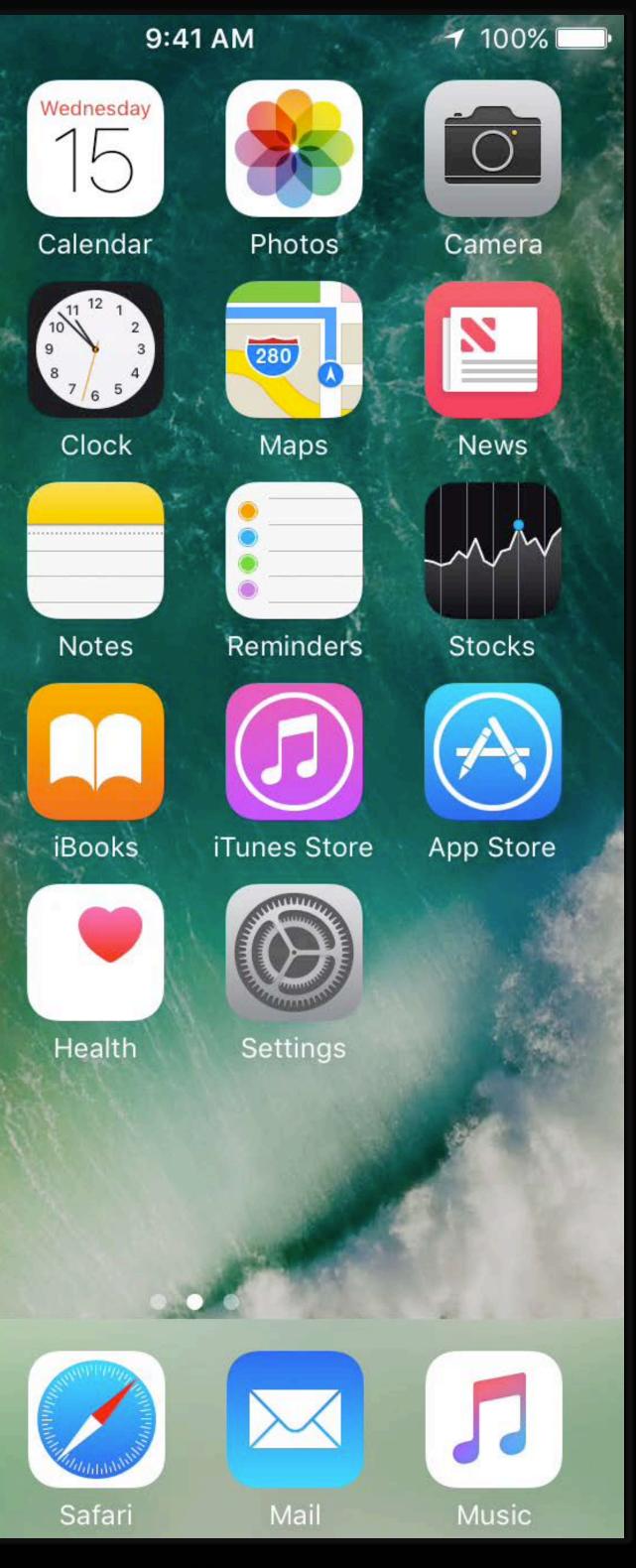


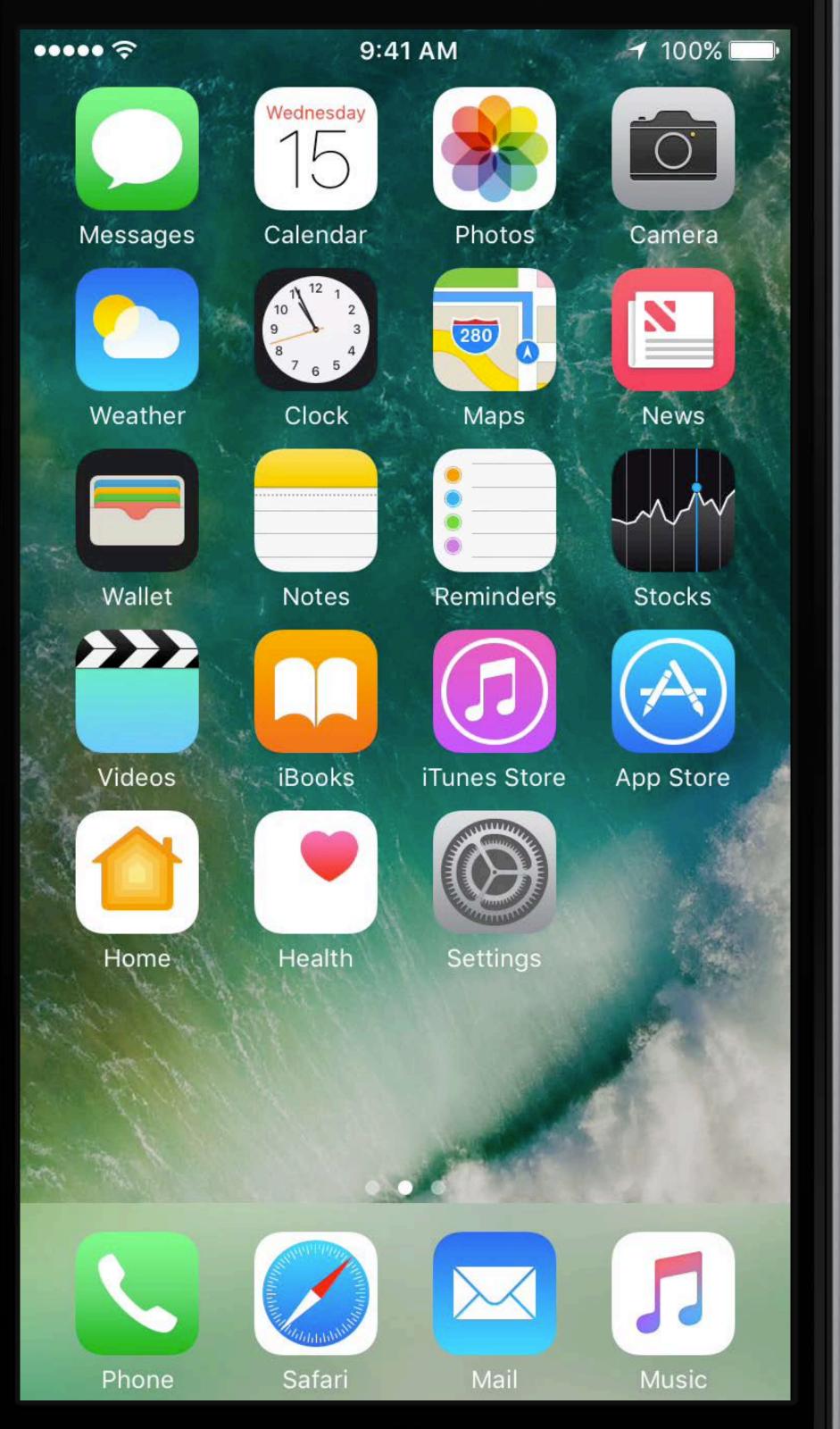


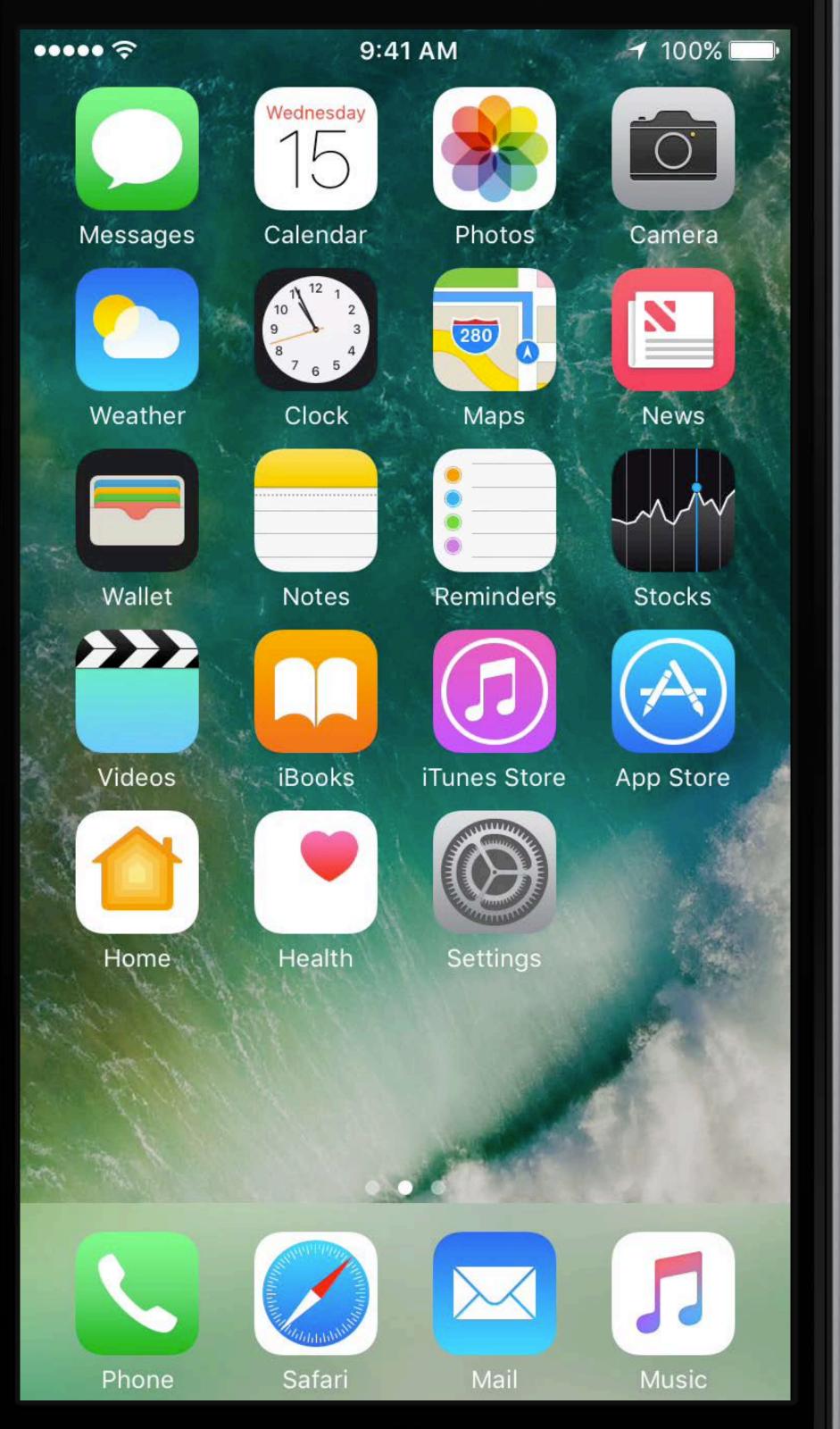


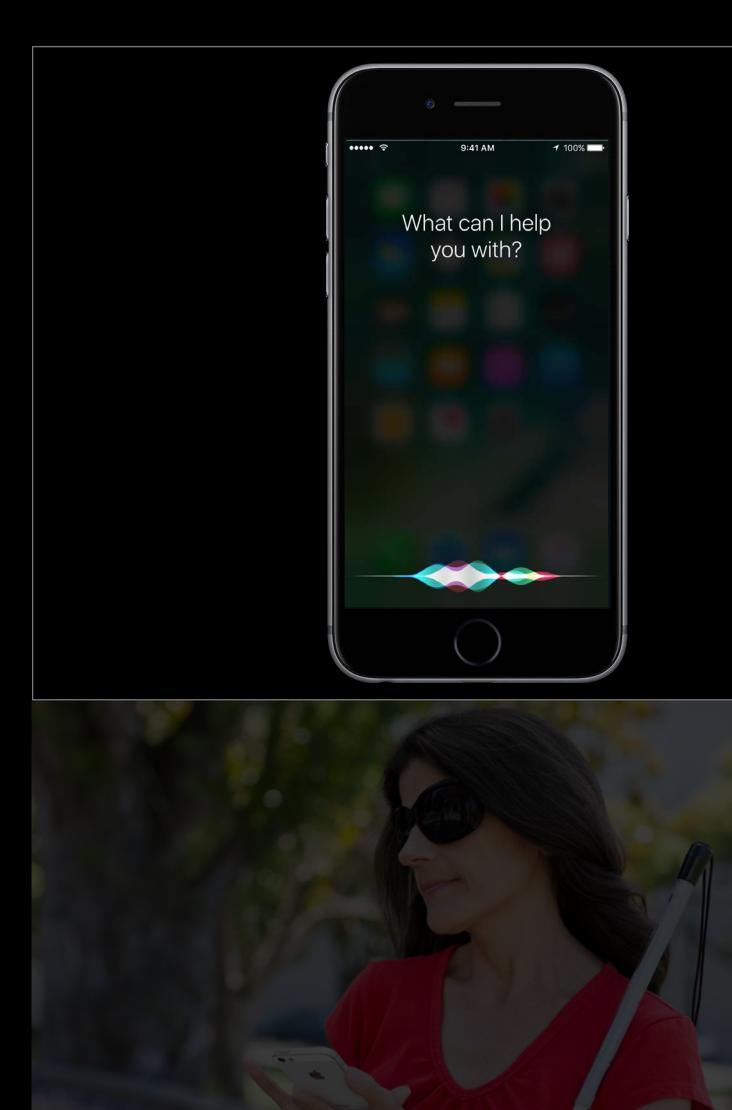


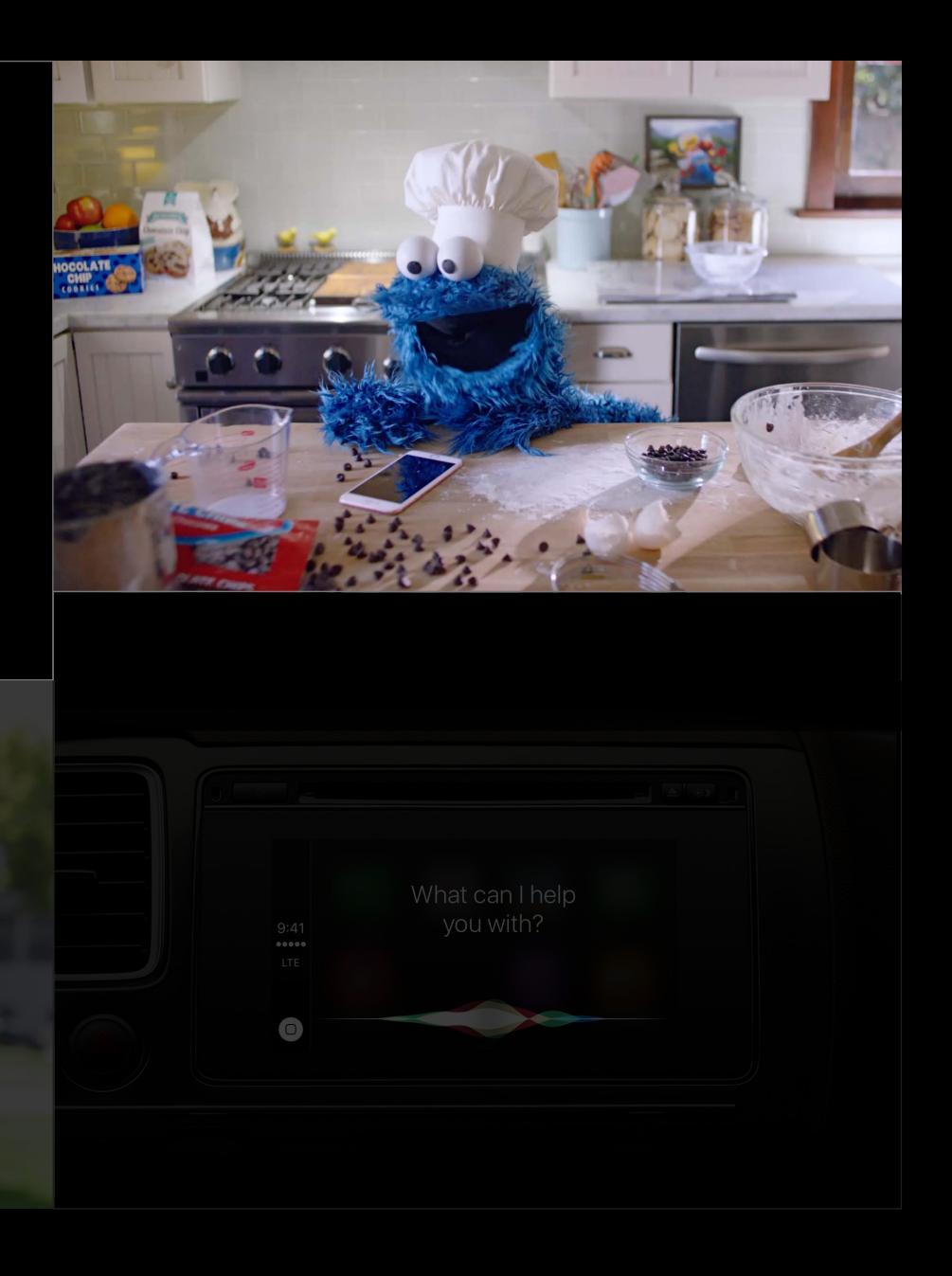


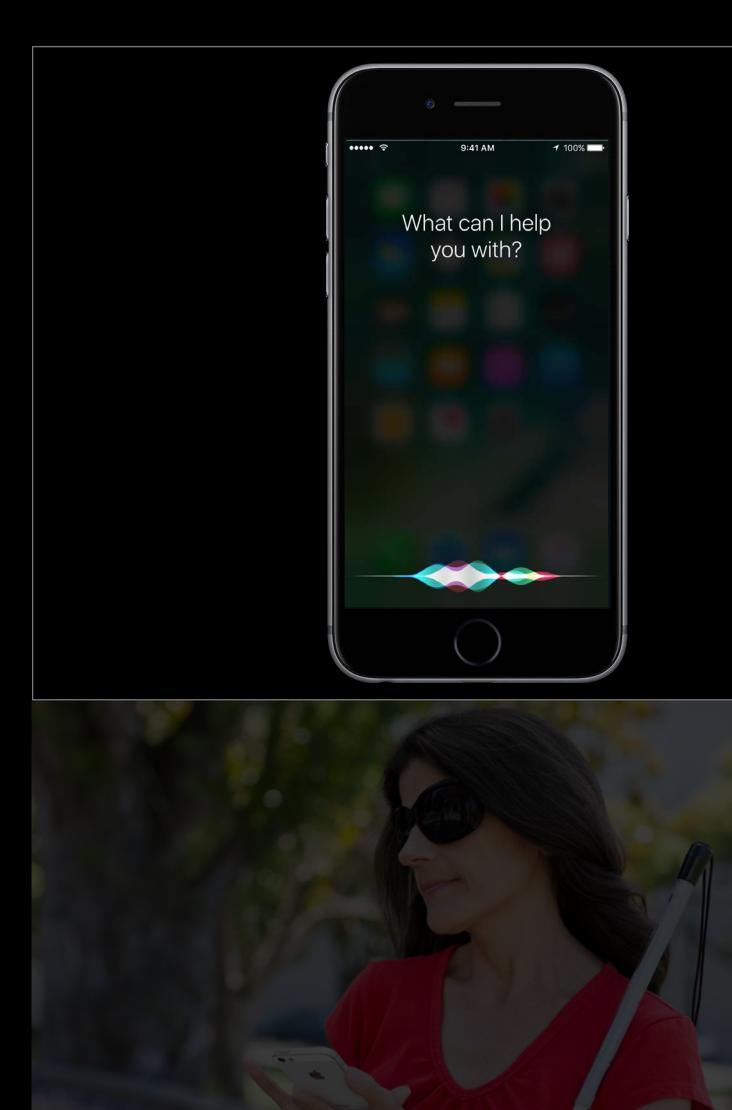


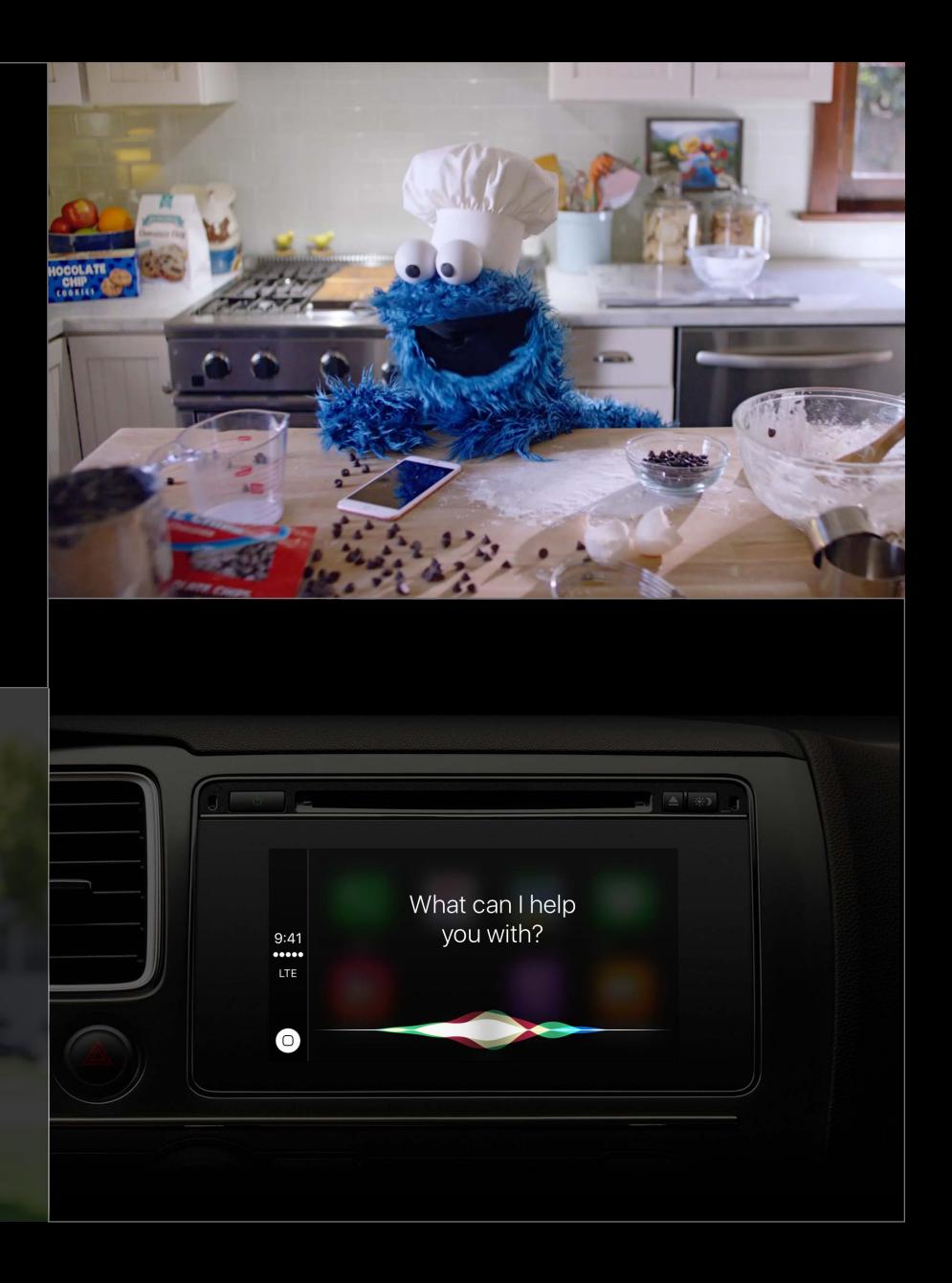




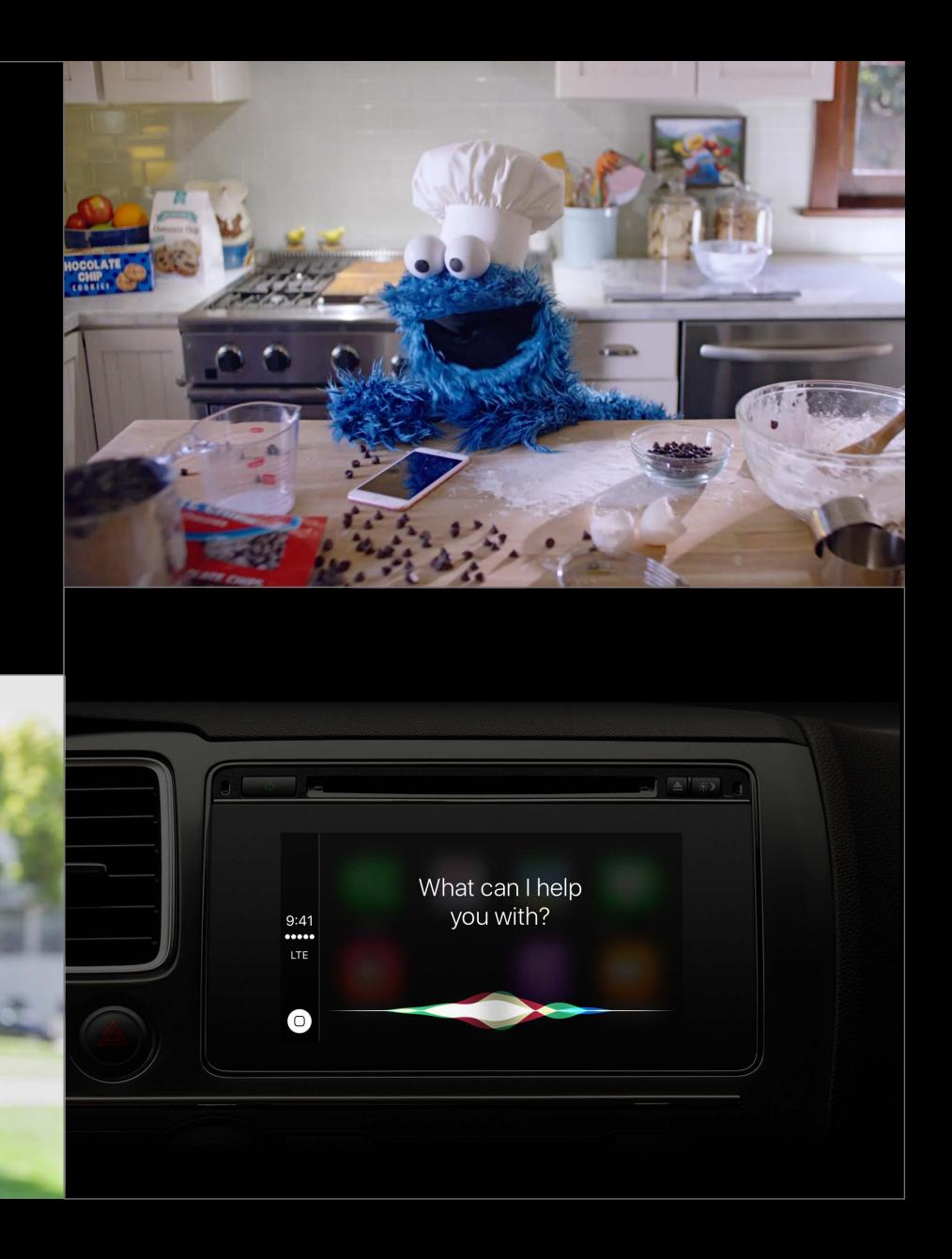












Test with many different requests

Test with many different requests Test in different situations

Test with many different requests Test in different situations Provide info to Siri

Design Guidelines

Prepare

Prepare Be a good listener

Prepare Be a good listener Ask questions

Prepare Be a good listener Ask questions Respond to the request

Design Guidelines Prepare

Design Guidelines Prepare

Users aren't exactly like you

Design Guidelines Prepare

Users aren't exactly like you Ask real people—"What would you say to Siri?"



"Get a ride"



"Get a ride" "Get me to SFO with UnicornRides"



"Get a ride"

"Get me to SFO with UnicornRides"

"Ask UnicornRides to get me a Pegasus for 6 people from 300 Post Street to Bill Graham Auditorium"

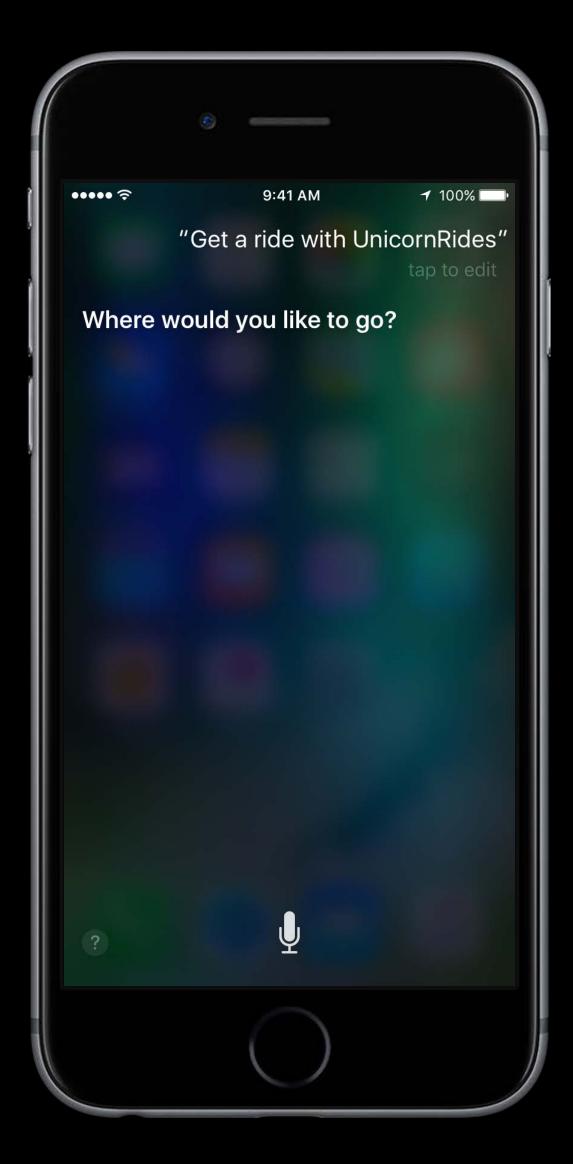


Use the original request

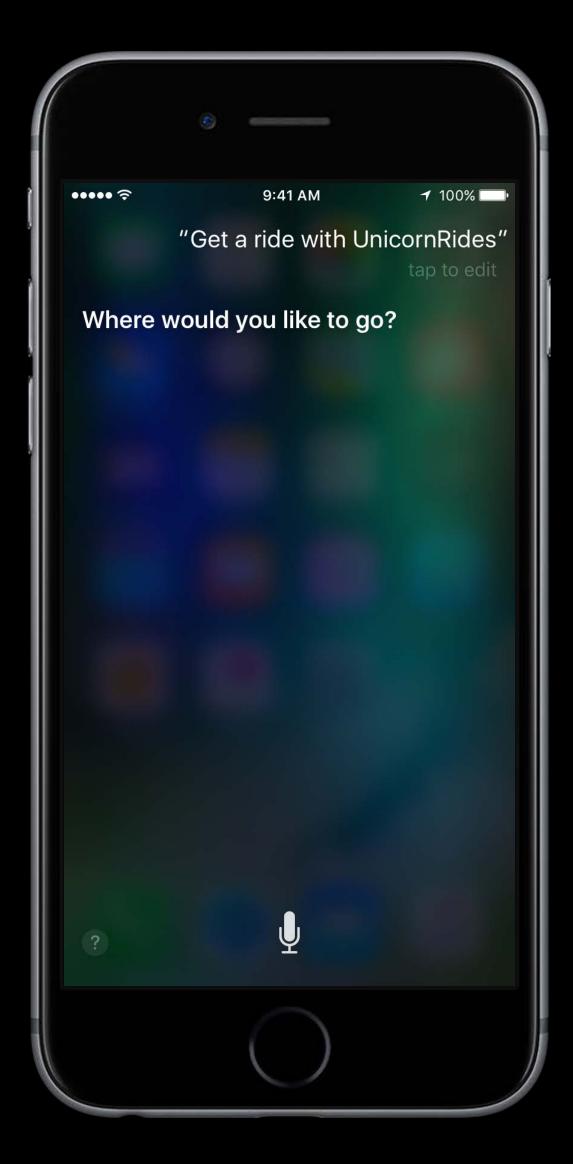
Use the original request Pick good defaults

Use the original request Pick good defaults Make educated guesses

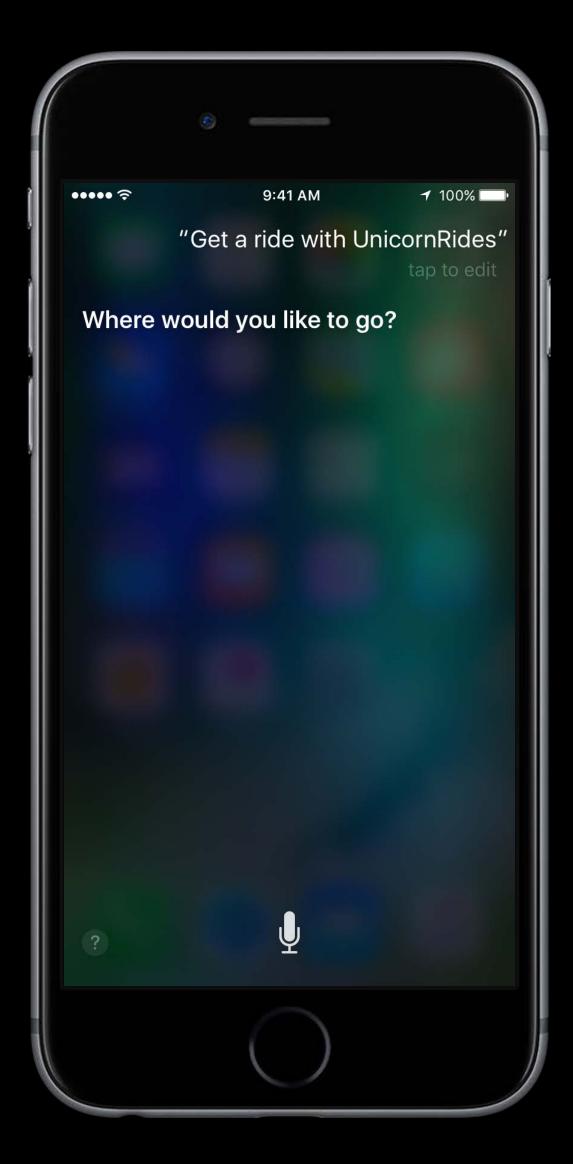
Use the original request Pick good defaults Make educated guesses Avoid bad surprises



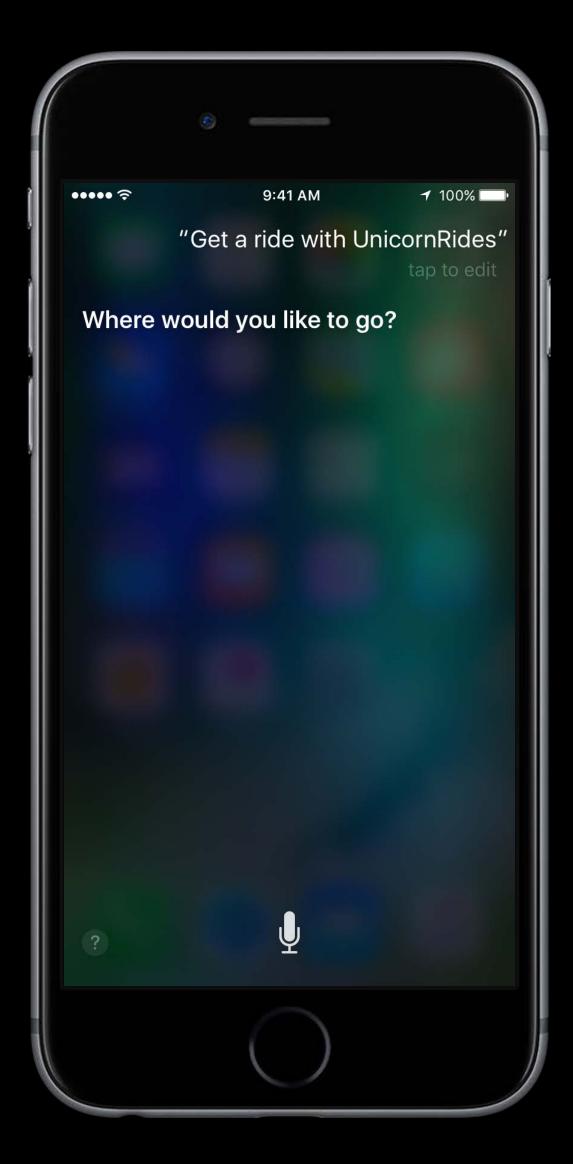
Keep it simple!



Keep it simple! Only ask for things that are necessary



Keep it simple! Only ask for things that are necessary Handle errors





Presenting a single option



Presenting a single option Check with the user:



Presenting a single option Check with the user:

If you made an educated guess



Presenting a single option Check with the user:

- If you made an educated guess
- If there is a big impact





Presenting multiple options



Presenting multiple options

Small number of possibilities



Presenting multiple options

- Small number of possibilities
- Filtered list from the user's request



Presenting multiple options

- Small number of possibilities
- Filtered list from the user's request

Siri can read the list



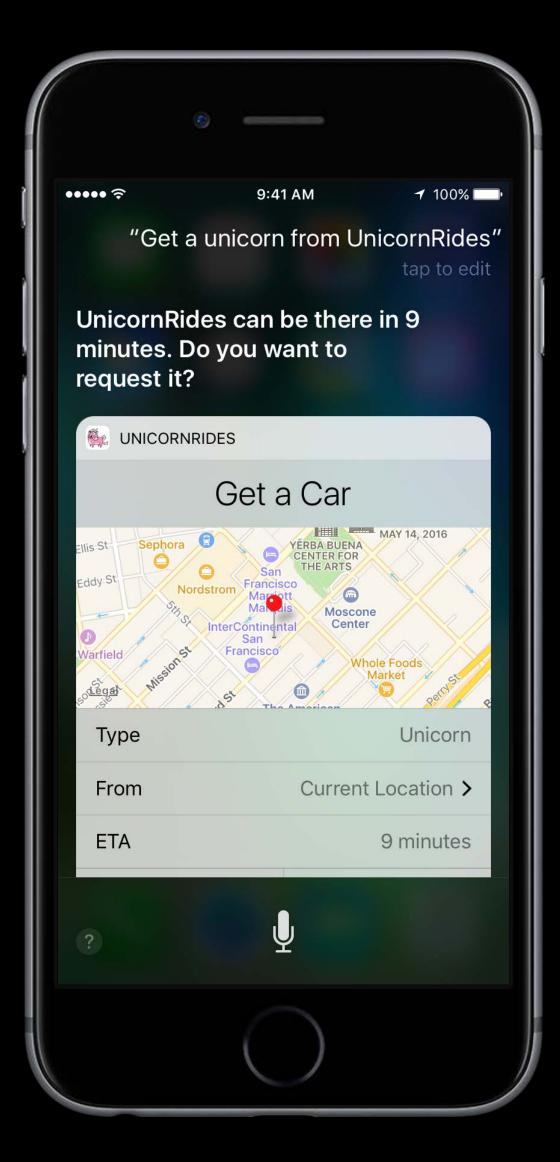
Siri checks with your extension

Siri checks with your extension

Send info to Siri to present

Siri checks with your extension

Send info to Siri to present
 Siri checks with the user



Matches the request

Matches the request Works everywhere (CarPlay, "Hey Siri")

Matches the request Works everywhere (CarPlay, "Hey Siri") Siri provides visual UI





Bring the feel of your app into Siri



Bring the feel of your app into Siri Limit what you show



Bring the feel of your app into Siri Limit what you show Design for multiple device sizes



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Here's your UnicornChat message:		
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To: Celestra		
Let's	add more spai	kle transitions
Can	cel	Send
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Use API to hide redundant info



Respond to the Request Custom UI (optional)

Use API to hide redundant info Represent everything visually



Respond to the Request Custom UI (optional)

Use API to hide redundant info Represent everything visually Still send all info to Siri



Respond to the Request In your app

Respond to the Request In your app

App provides follow up actions

Respond to the Request In your app

App provides follow up actions Don't surprise the user

Polish the Design







Include your app name



Include your app name Keep your examples short



Include your app name Keep your examples short Provide multiple examples for each intent



Include your app name Keep your examples short Provide multiple examples for each intent

Prioritize intents and examples



Include your app name Keep your examples short Provide multiple examples for each intent

- Prioritize intents and examples
- Localized examples



Include your app name Keep your examples short Provide multiple examples for each intent

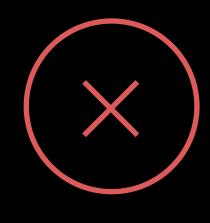
- Prioritize intents and examples
- Localized examples

Make sure they work



Guide Examples Avoid

"Hey Siri, get a ride with UnicornRides" "Would you please tell me where is my UnicornRide?"



Guide Examples Good

"Get a ride with UnicornRides" "Where is my UnicornRide?"





Experiment



Experiment Try it with real people



Experiment Try it with real people Try it in different situations



Experiment Try it with real people Try it in different situations Does it feel right?



SiriKit

SiriKit Extensions, Intents, Vocabulary

- SiriKit
- Extensions, Intents, Vocabulary
- Design the conversation

More Information

https://developer.apple.com/wwdc16/217

Related Sessions

What's New with Wallet and Apple Pay

Engineering Privacy for Your Users

Enhancing VoIP Apps with CallKit

Mission	Tuesday 3:00PM
Pacific Heights	Wednesday 4:00PM
Mission	Thursday 5:00PM

Related Sessions

Extending Your Apps with SiriKit

Nob Hill

Thursday 1:40PM



SiriKit Lab

SiriKit Lab

Frameworks Lab C	Thursday 3:00PM
Frameworks Lab B	Friday 9:00AM

