App Frameworks

#WWDC16

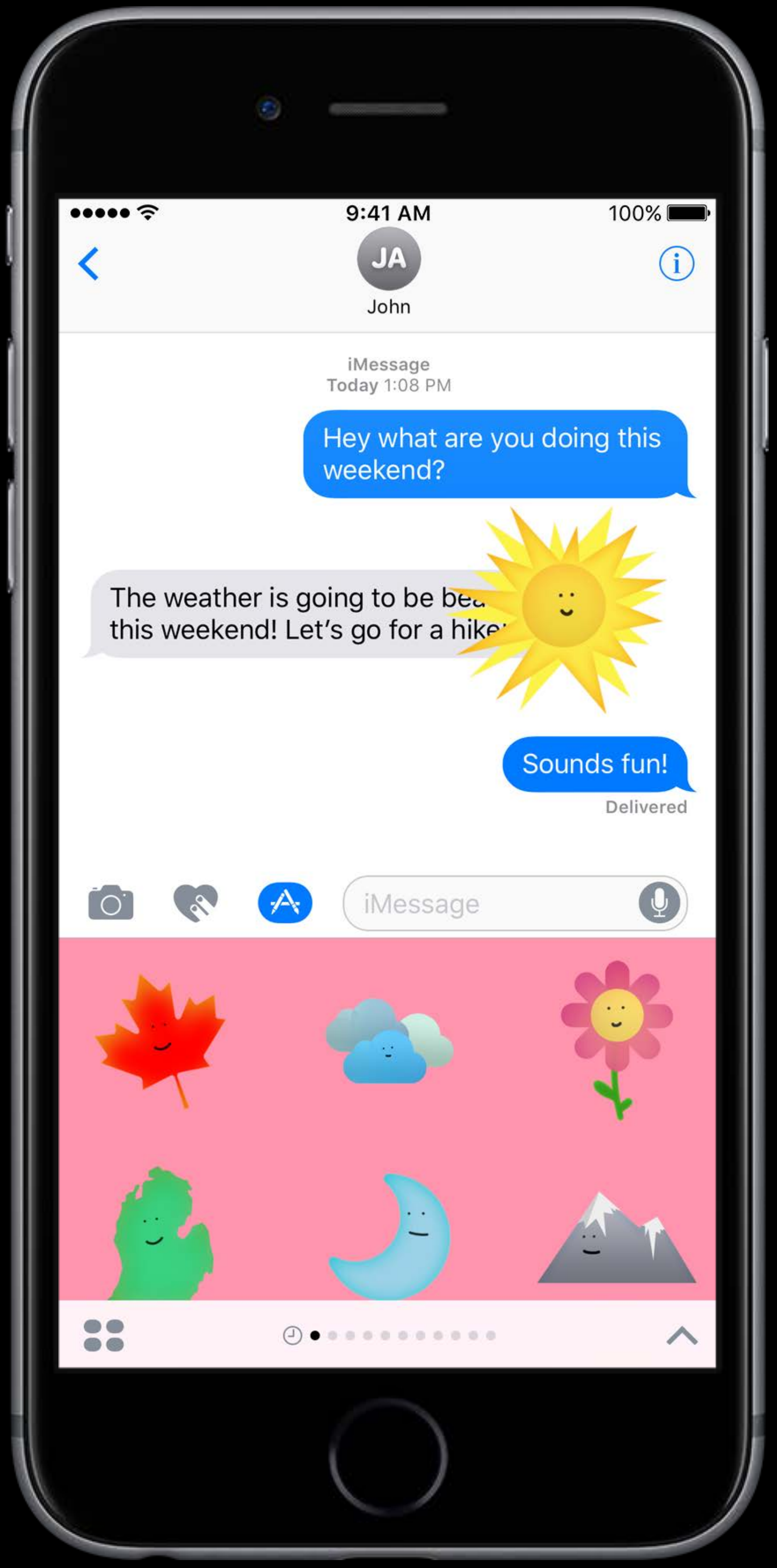
iMessage Apps and Stickers, Part 2

Interactive Messages

Session 224

Alex Carter Messages Engineer
Stephen Lottermoser Messages Engineer

Recap—iMessage Apps, Part 1



Hey what are you doing this weekend?

The weather is going to be bea this weekend! Let's go for a hike

Sounds fun!

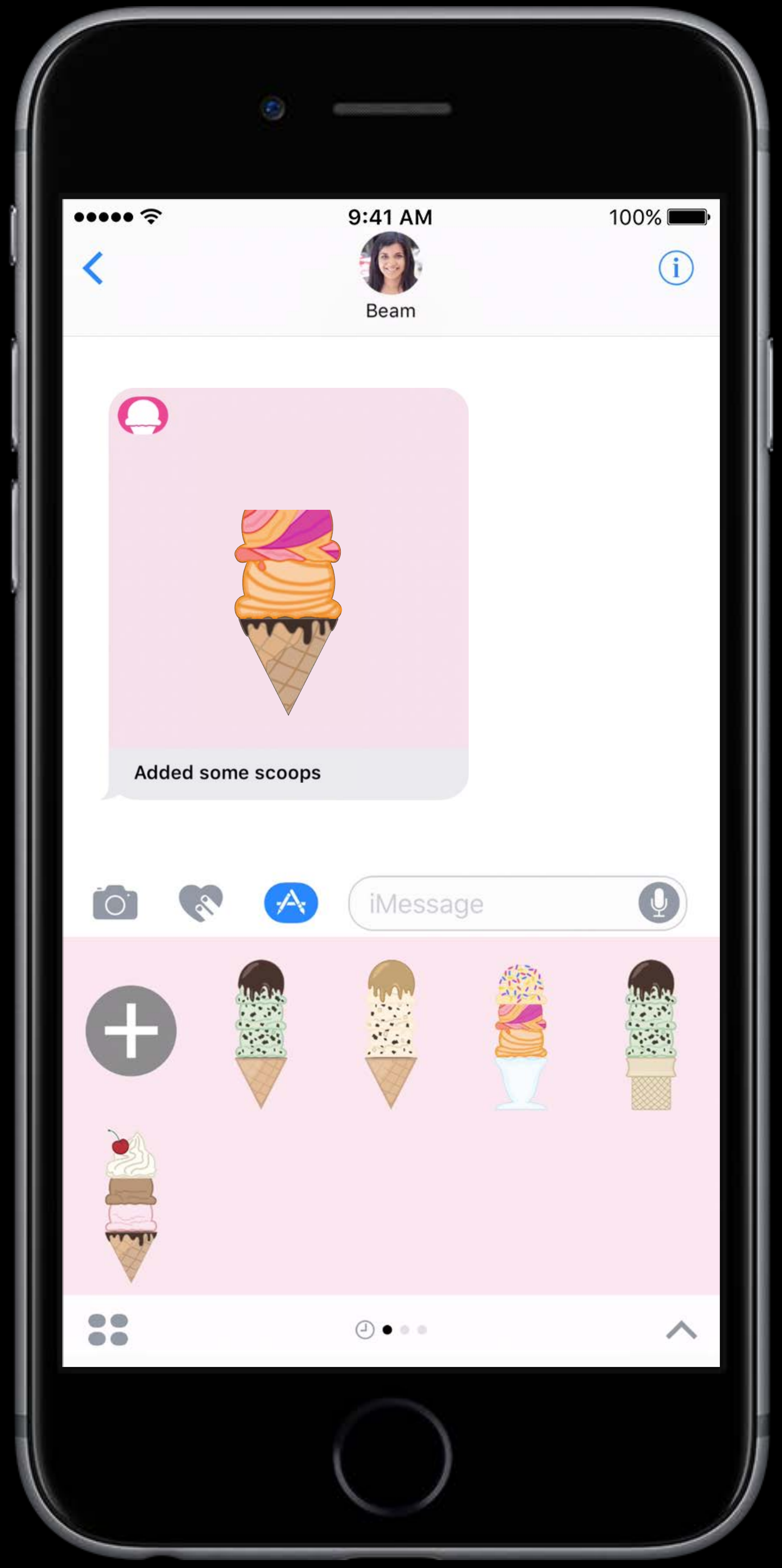
Delivered

NEW

iMessage Apps

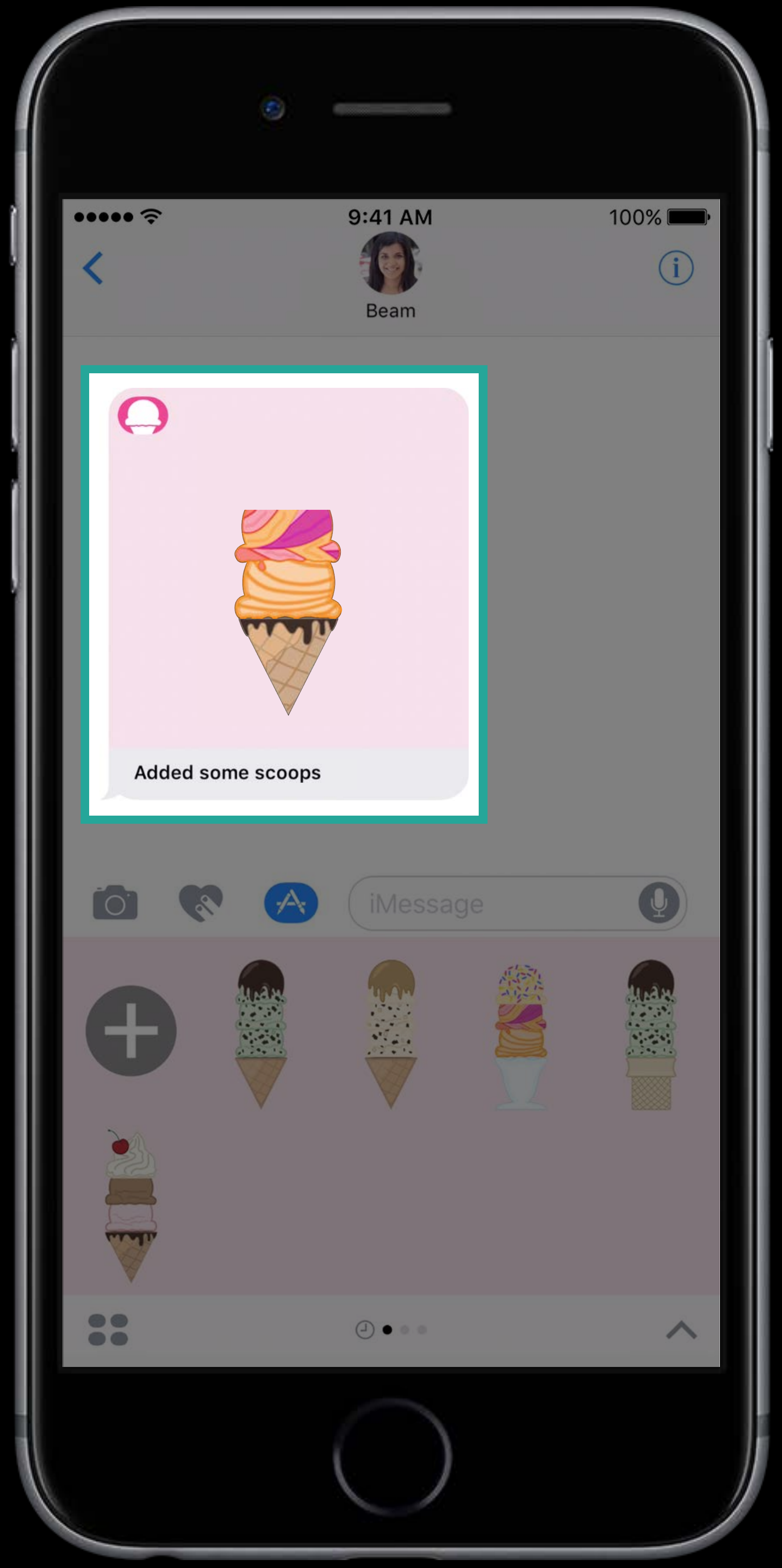
Interactive Messages

Introduction



Introduction

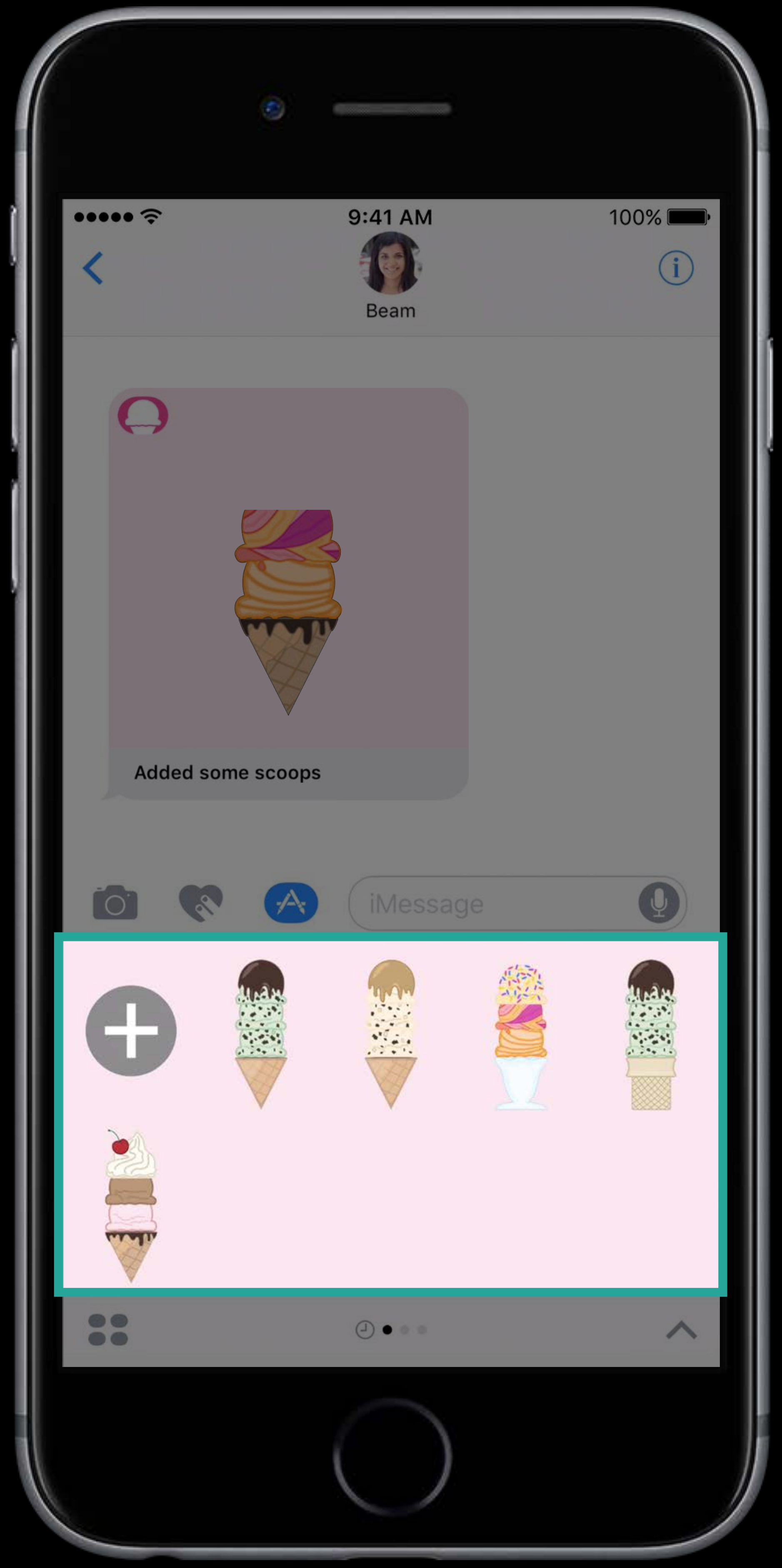
Interactive Messages



Introduction

Interactive Messages

Messages Extension



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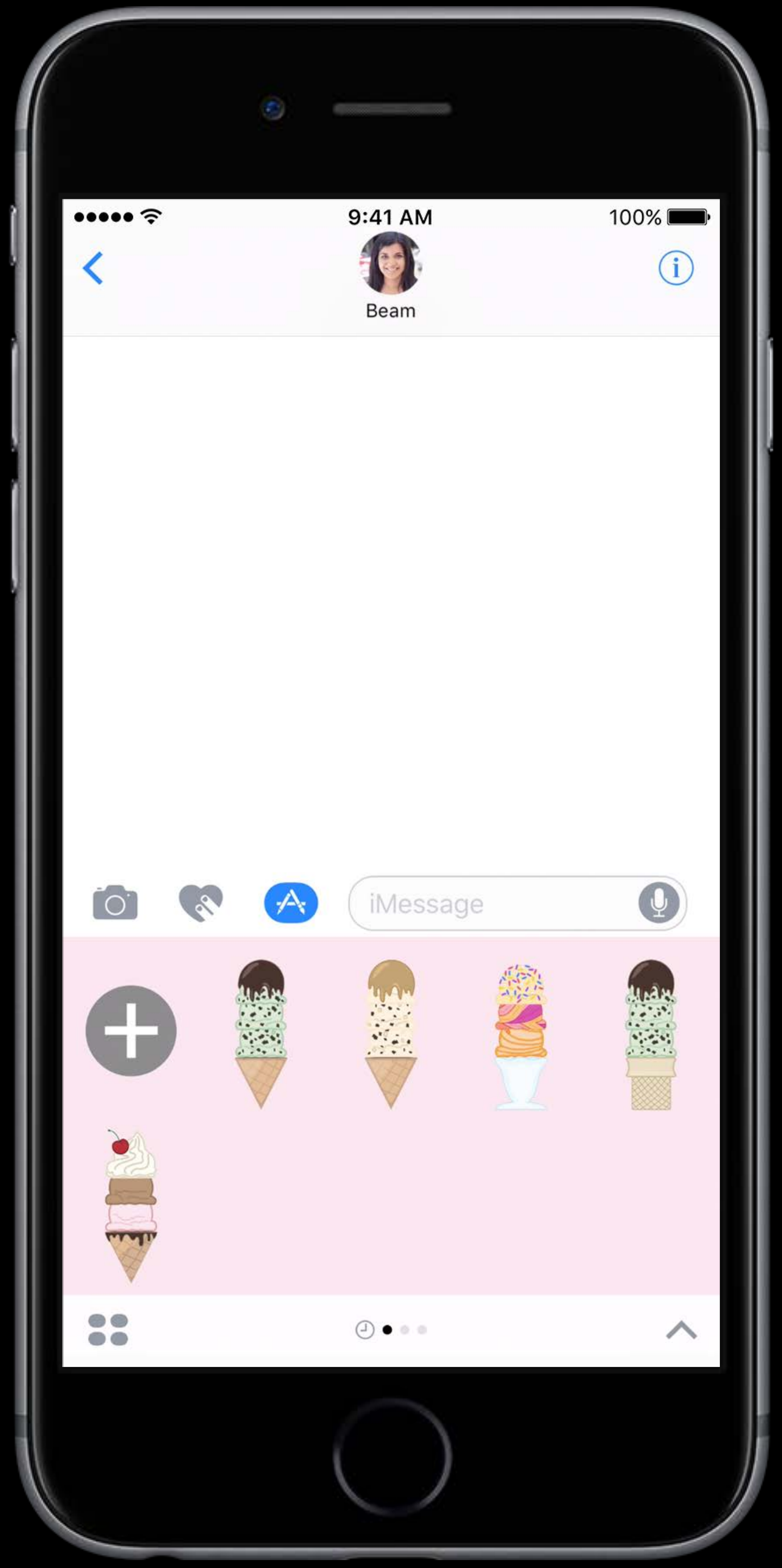
Messages Extension

Compose an Interactive Message



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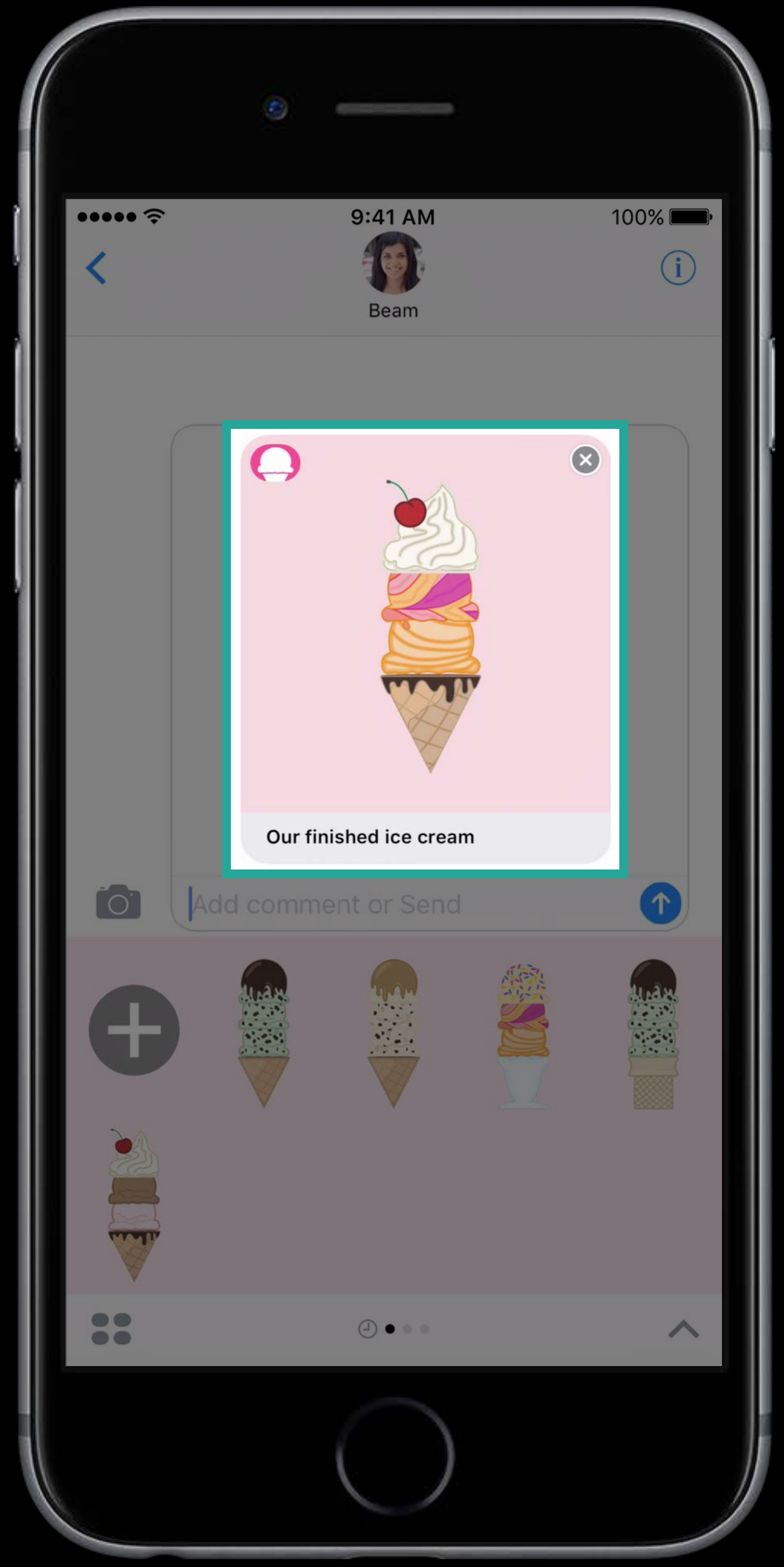

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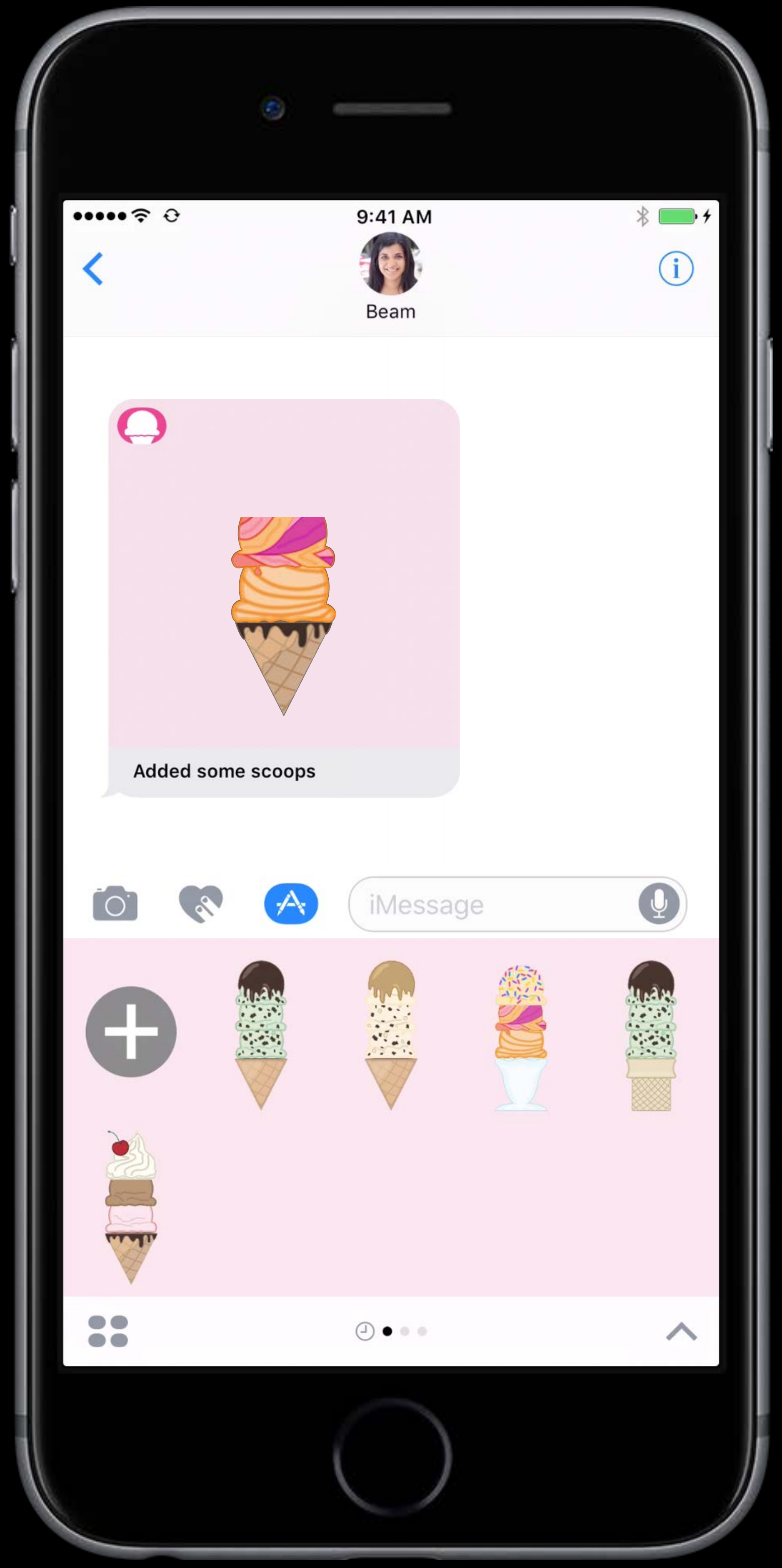

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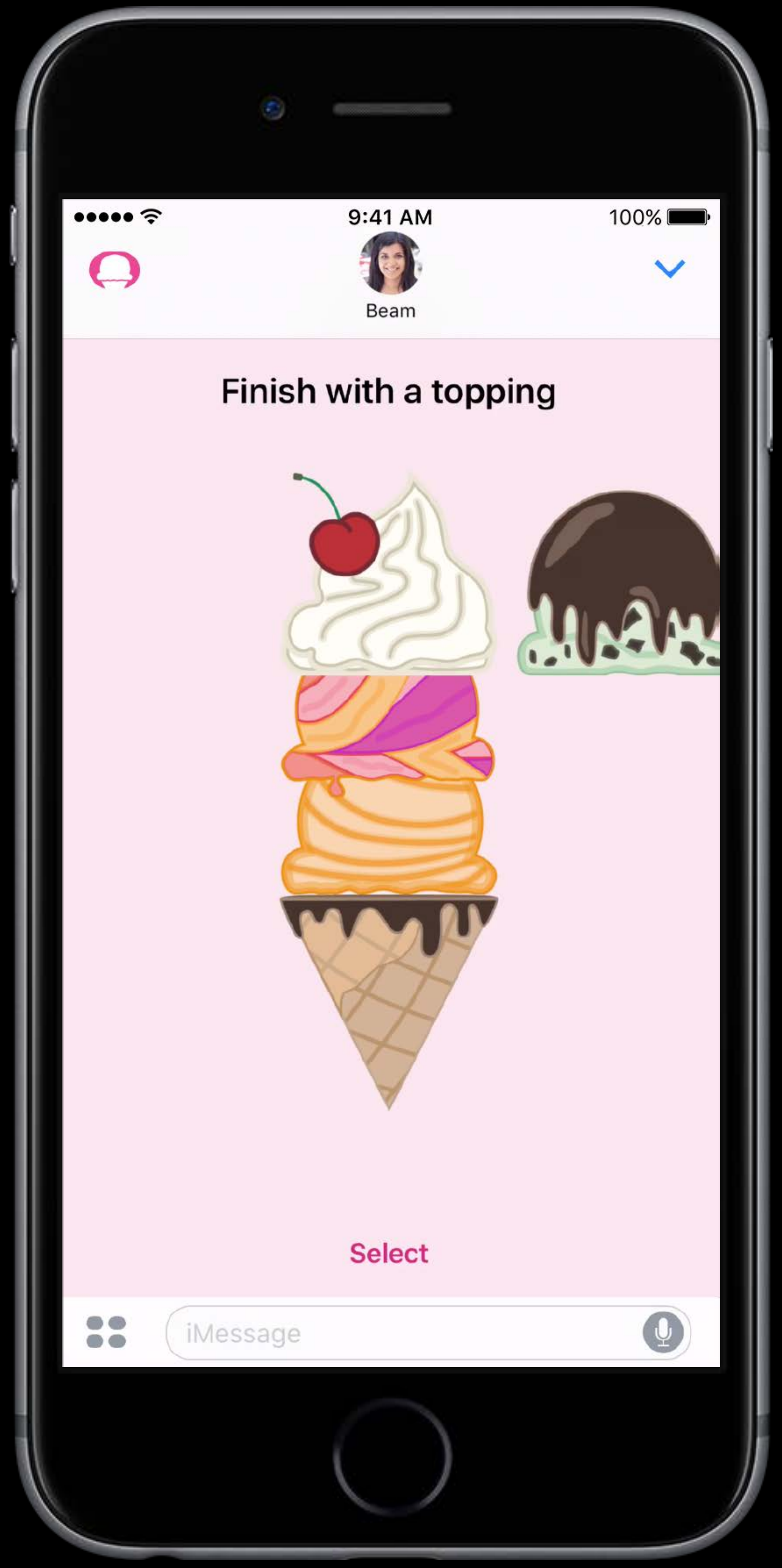

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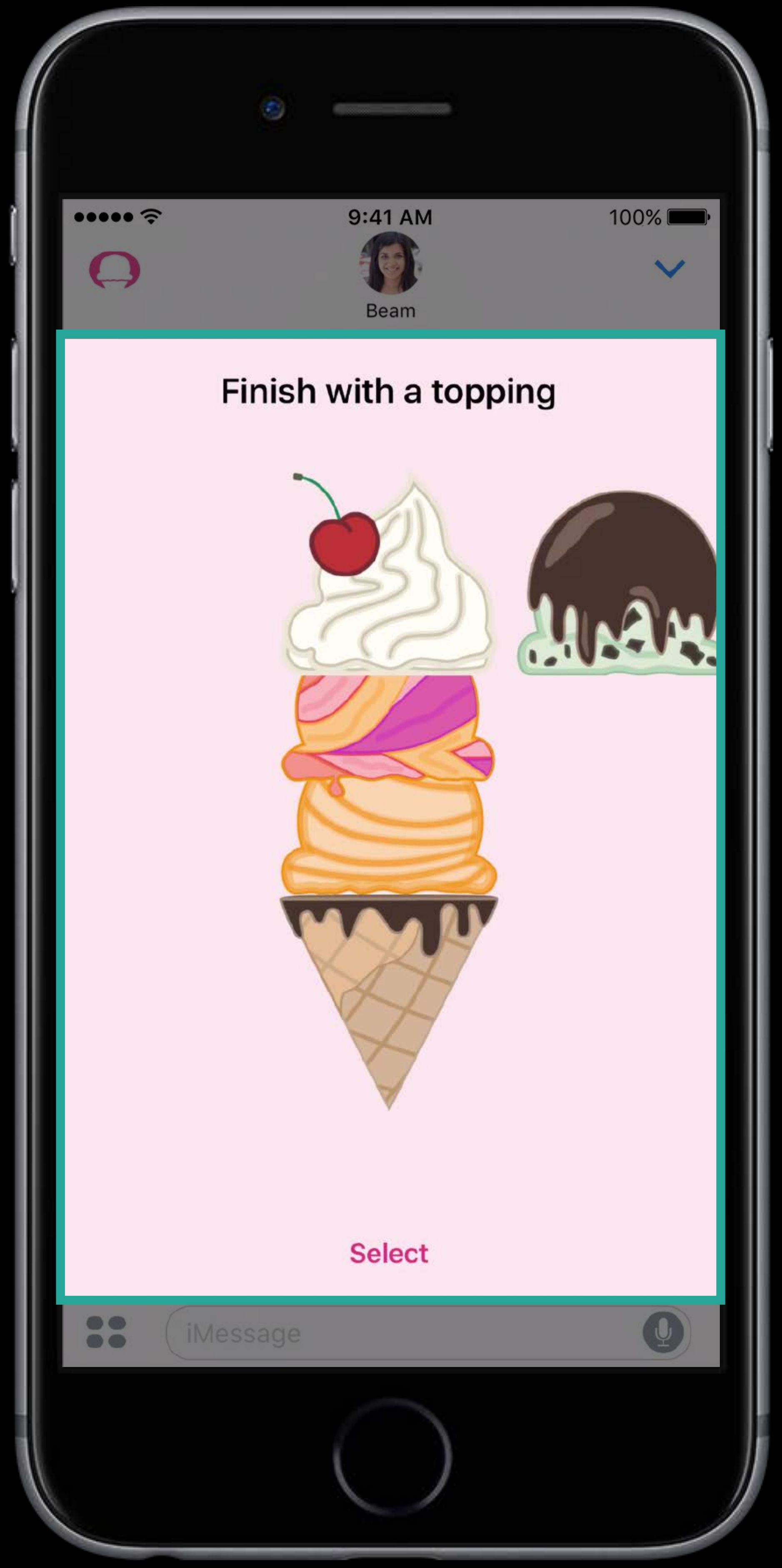

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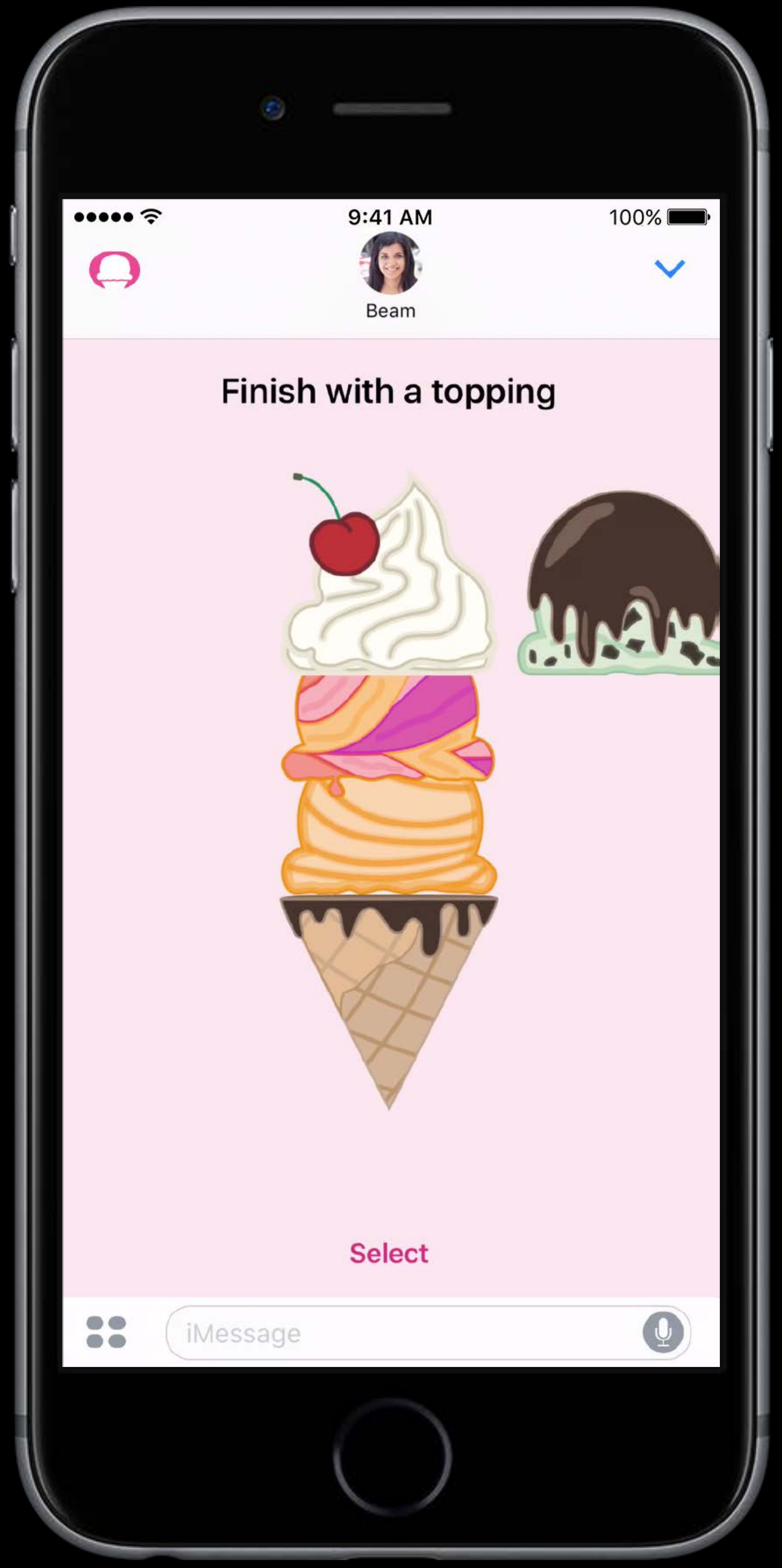

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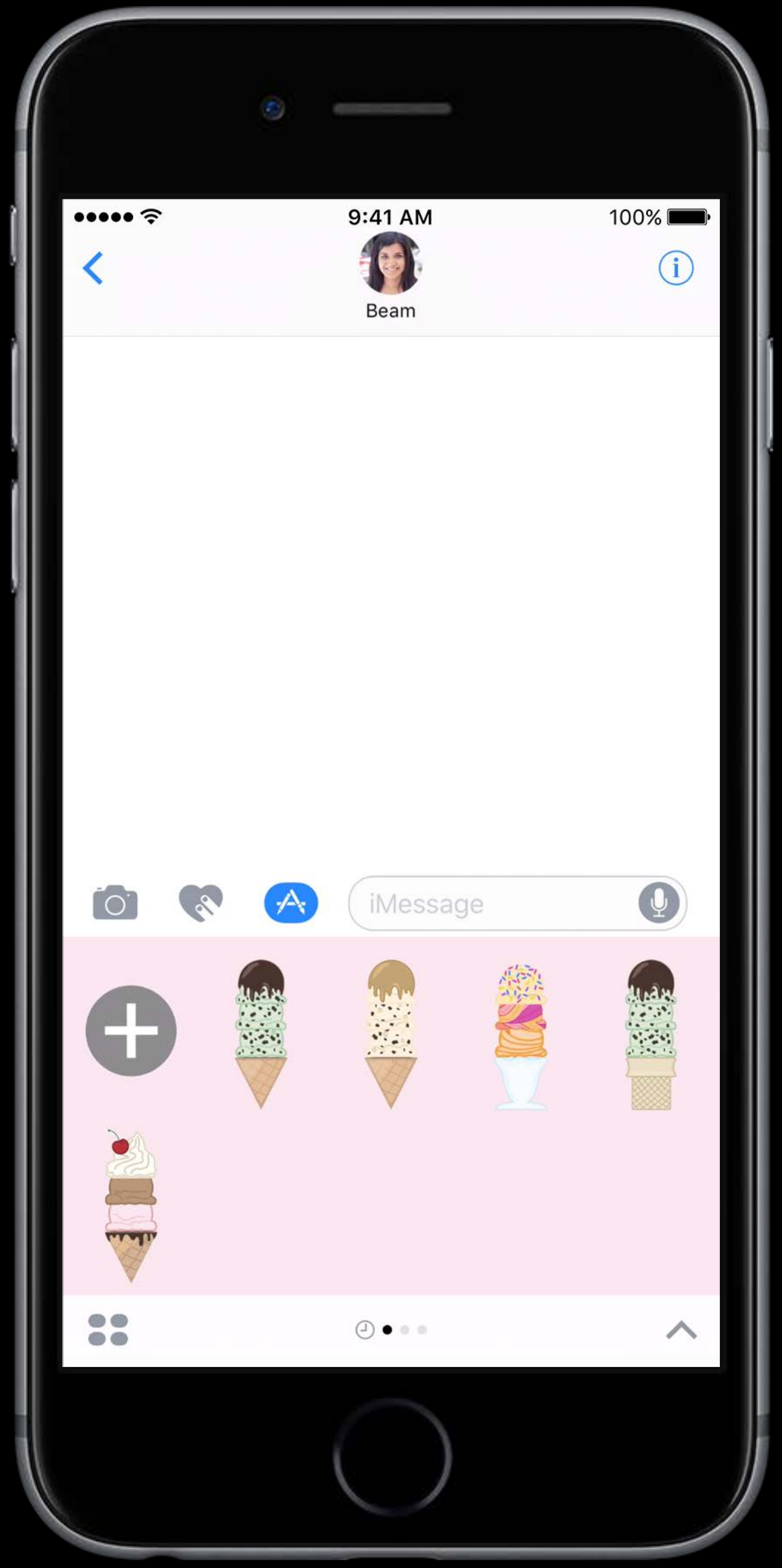

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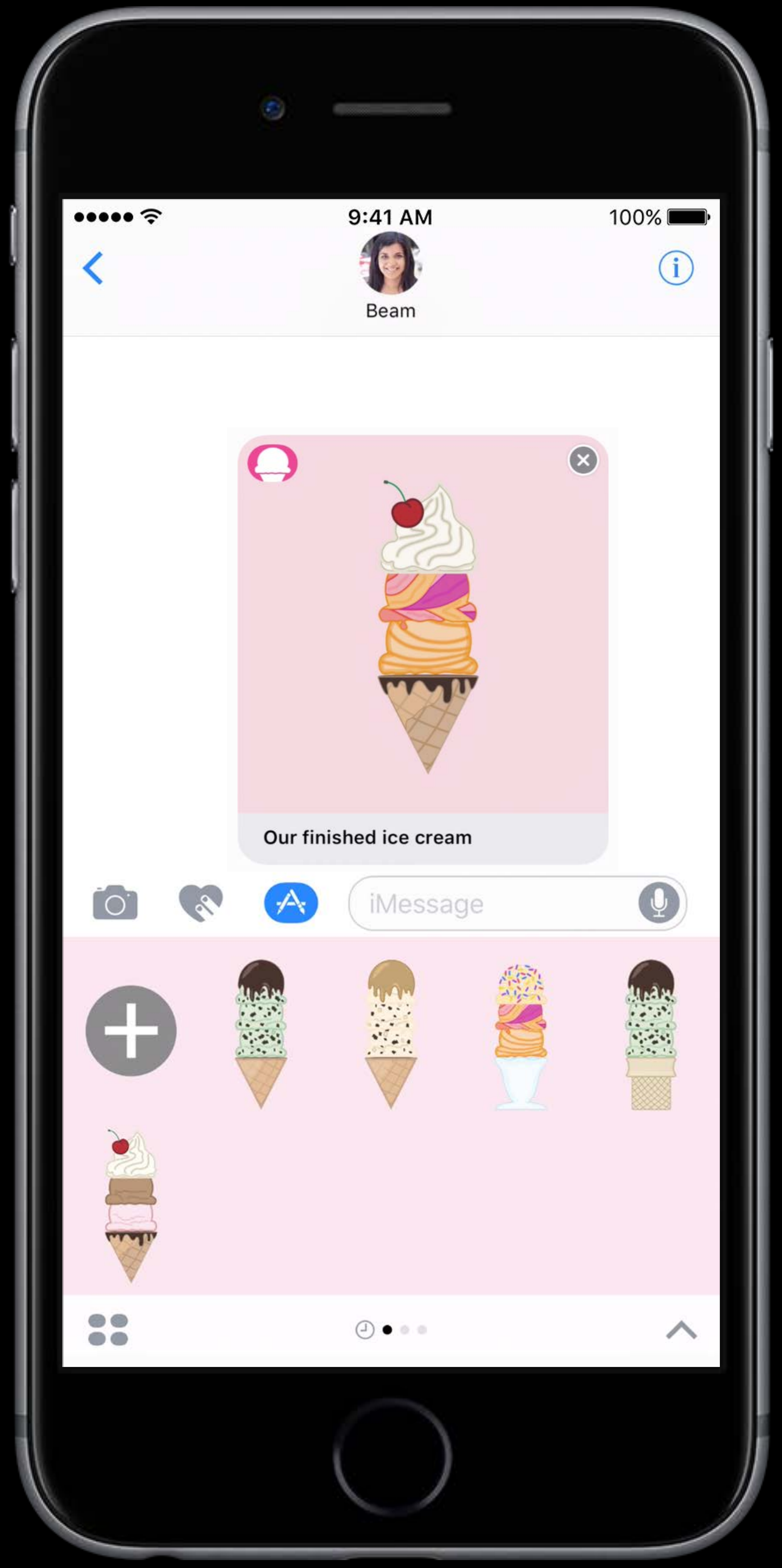

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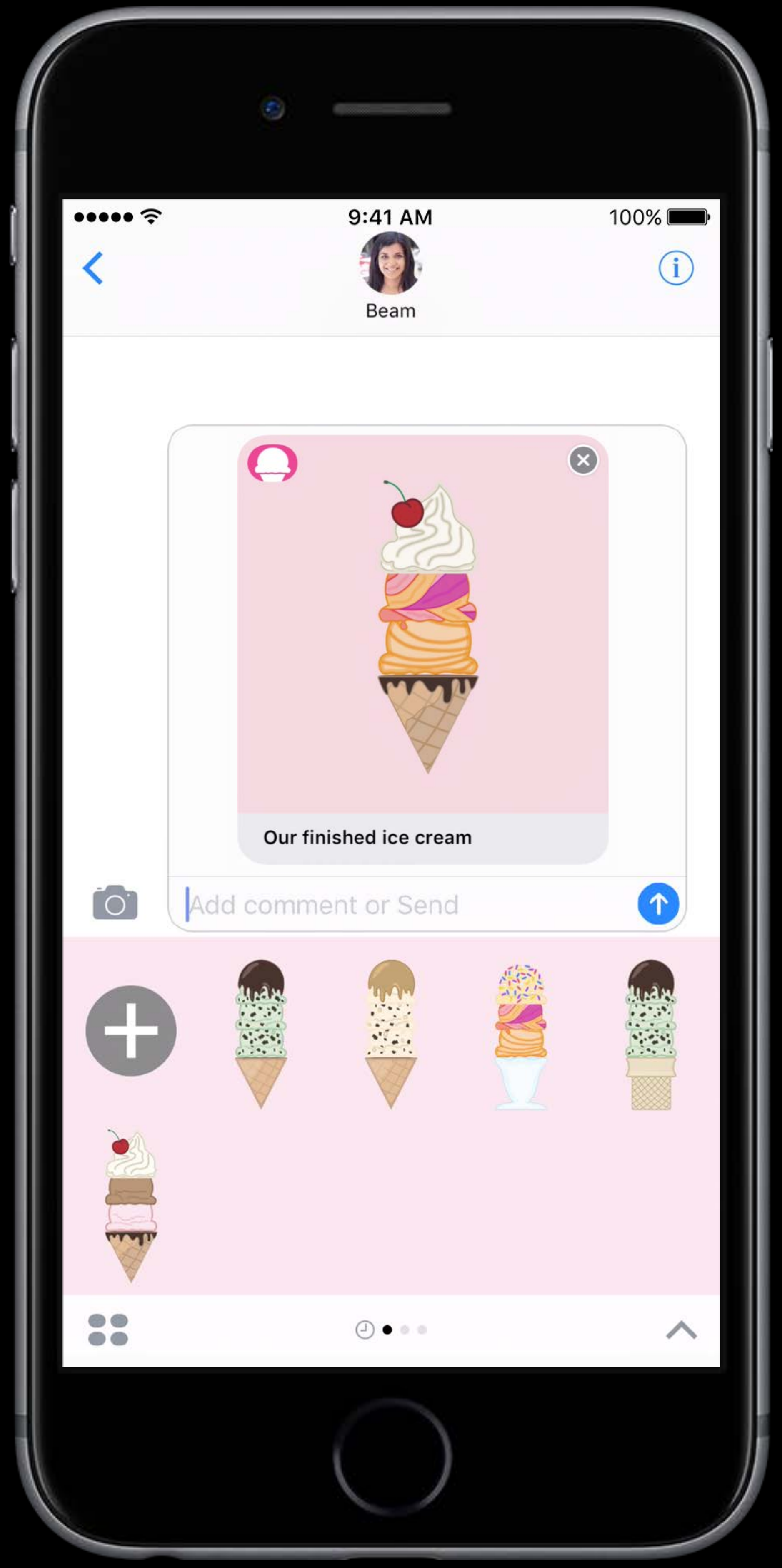


Our finished ice cream

Demo

Interactive Messages

Interactive Messages

Interactive Messages

Messages API overview

Interactive Messages

Messages API overview

Extension lifecycle

Interactive Messages

Messages API overview

Extension lifecycle

Compose a message

Interactive Messages

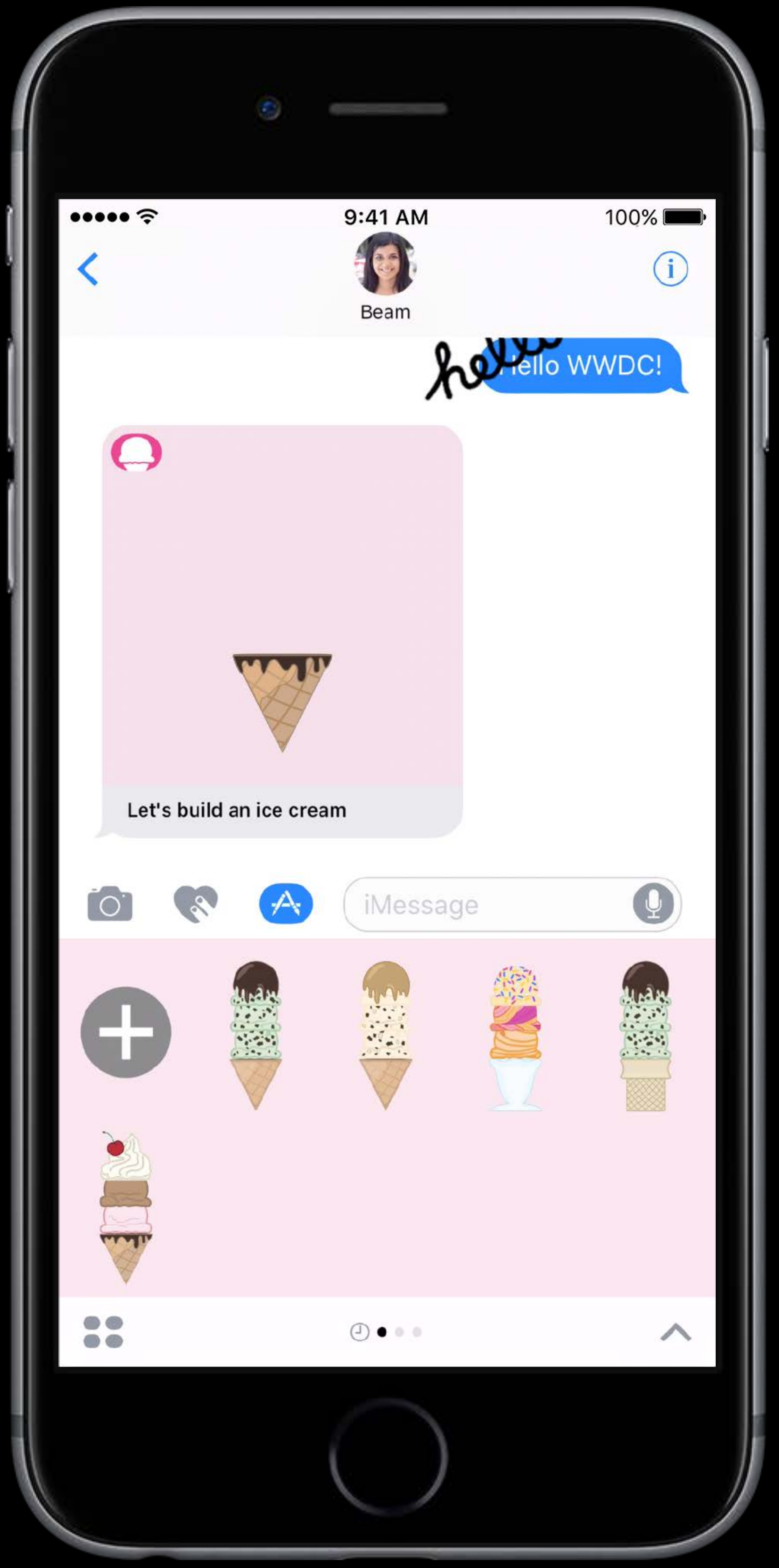
Messages API overview

Extension lifecycle

Compose a message

Send the message

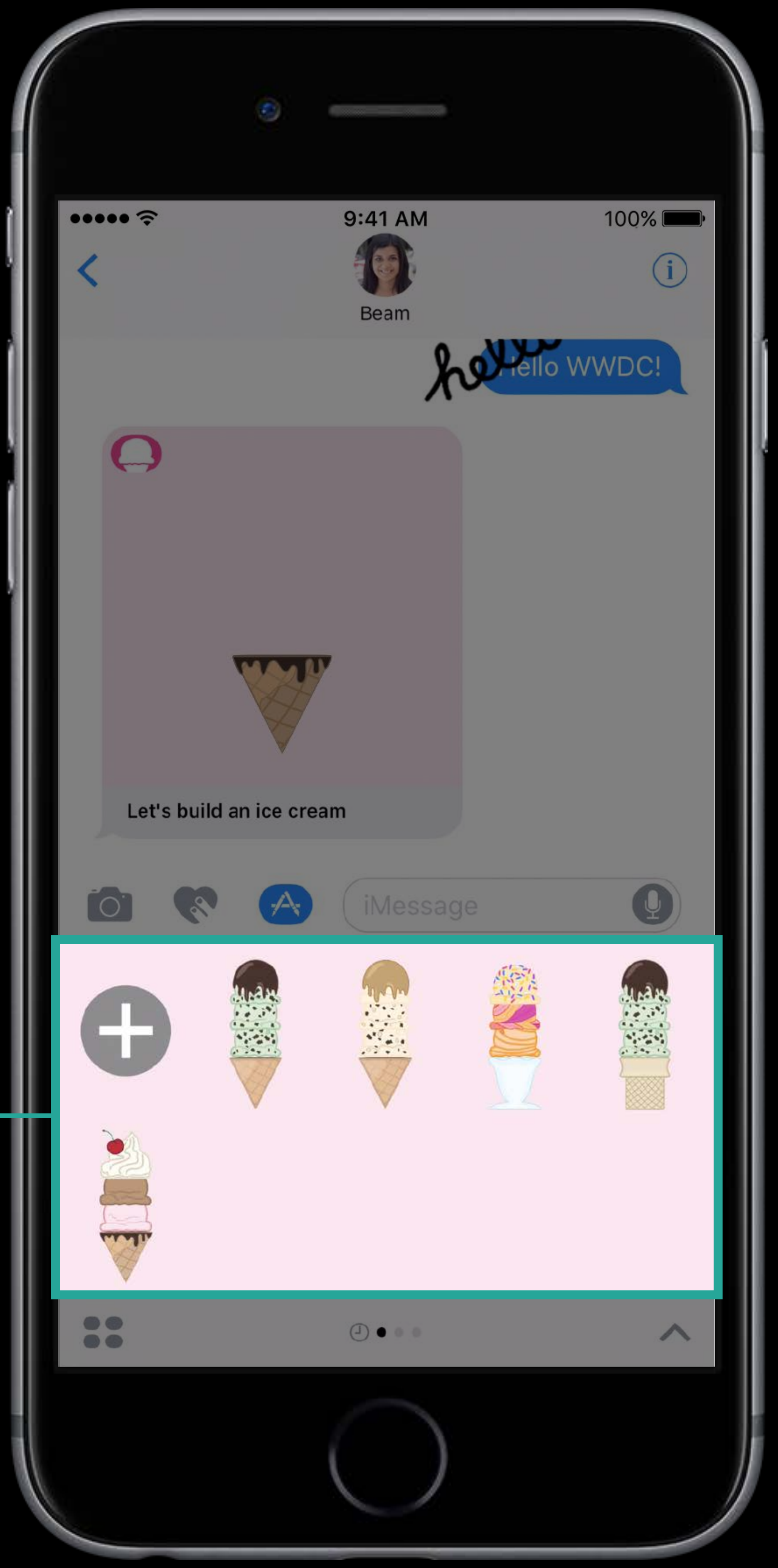
Messages API Overview



Hello WWDC!

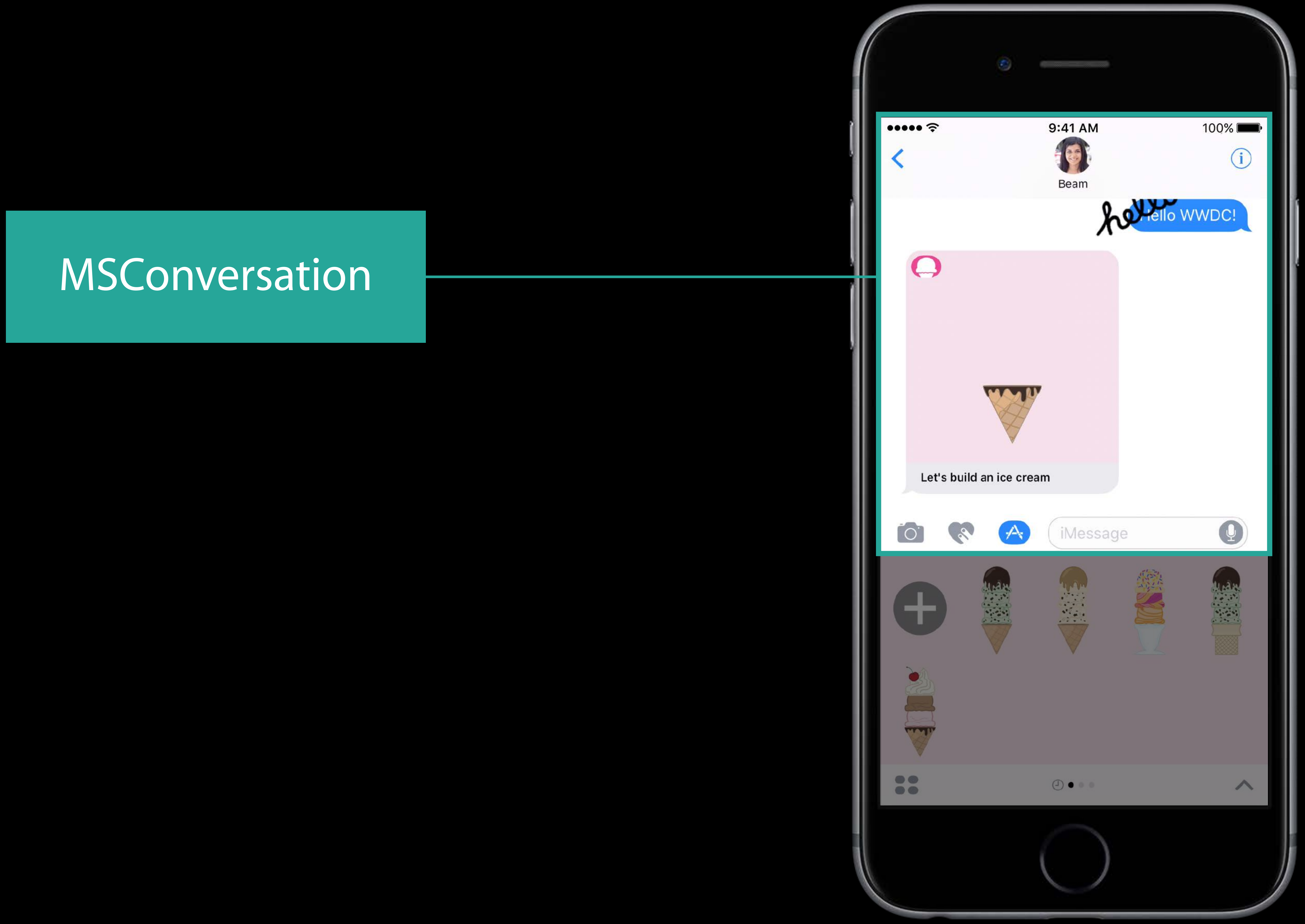
Let's build an ice cream

Messages API Overview



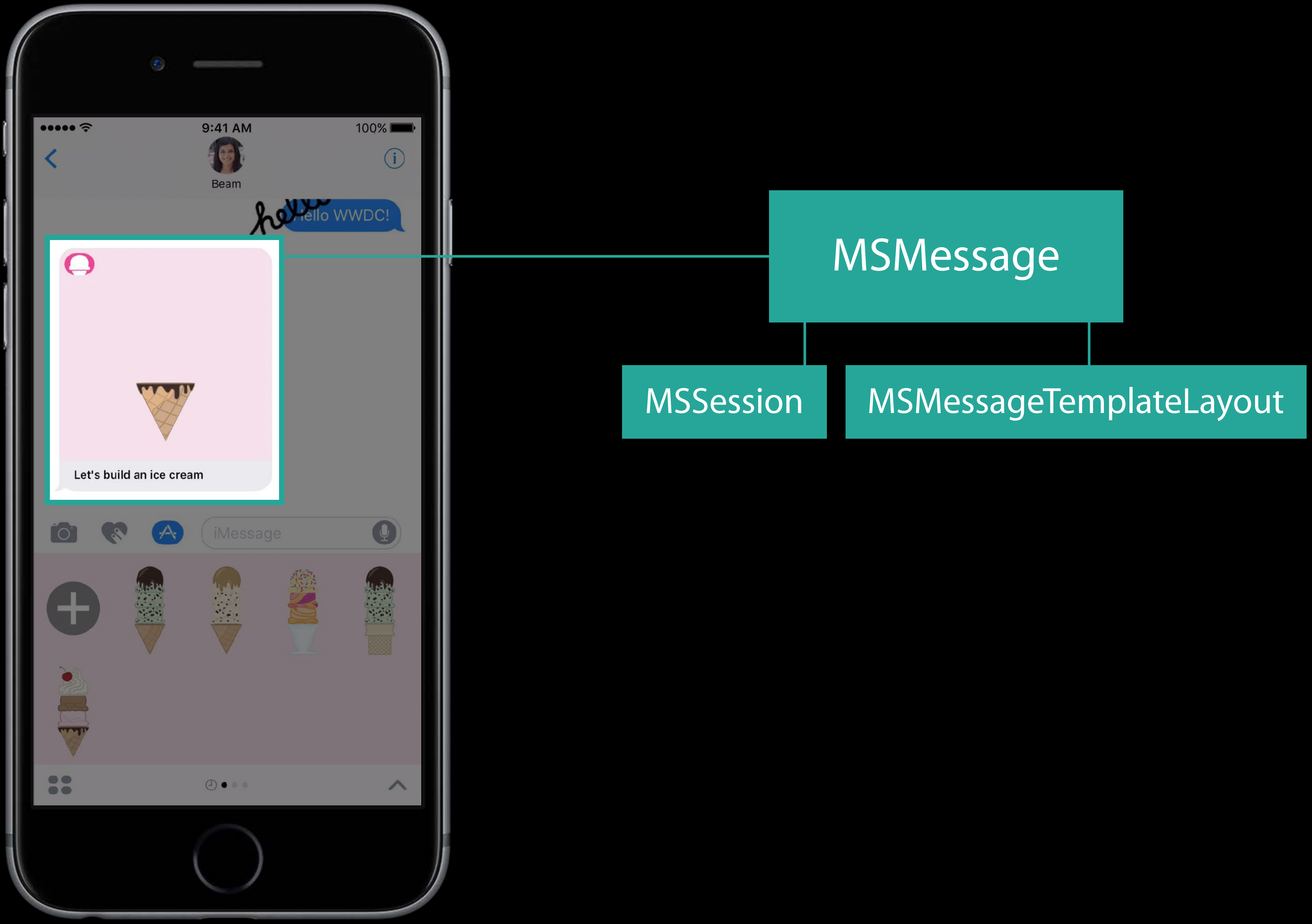
MSMessagesAppViewController

Messages API Overview

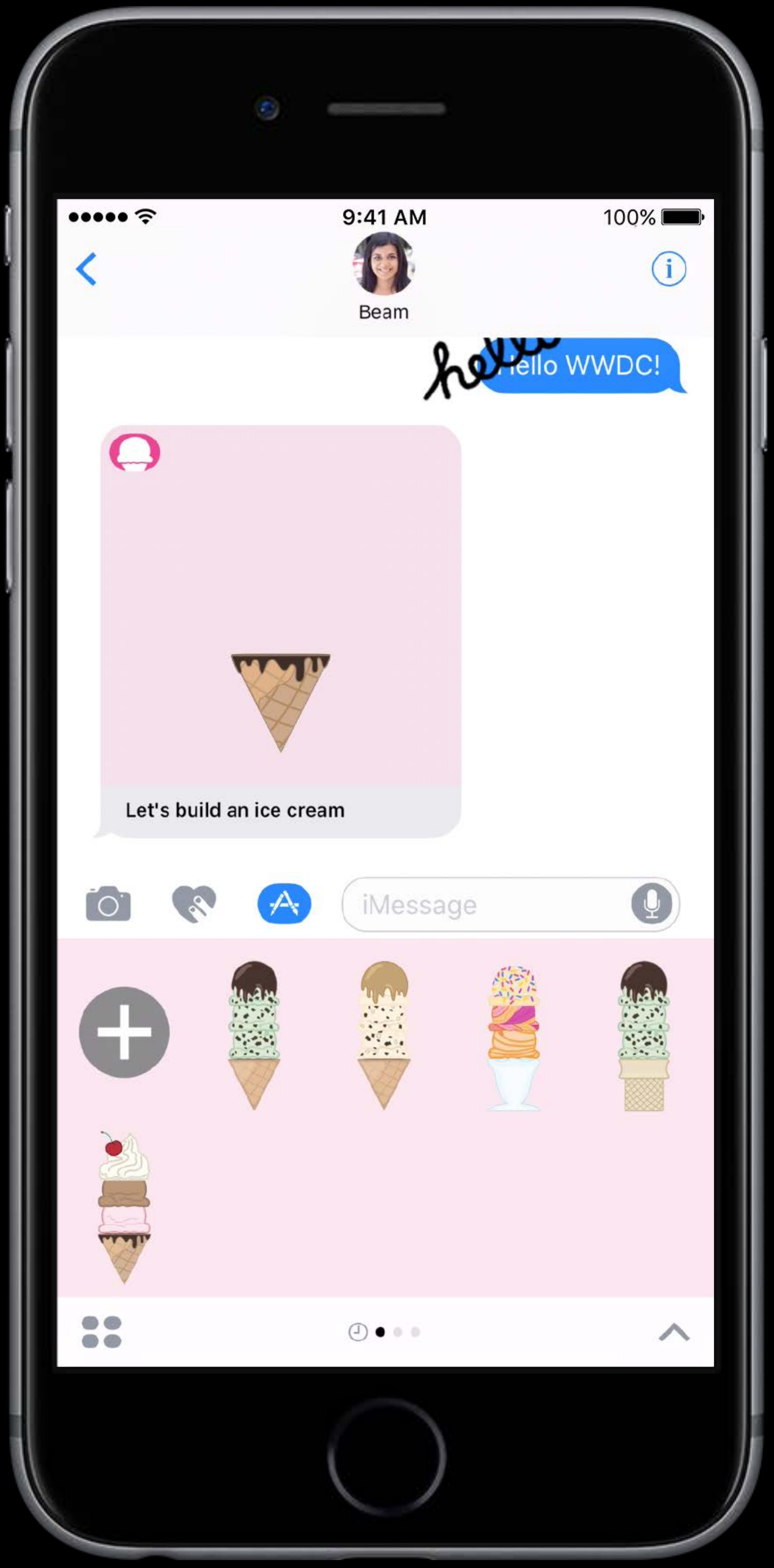


MSConversation

Messages API Overview



Messages API Overview



Let's build an ice cream

Extension Lifecycle

Becoming active

Extension Lifecycle

Becoming active

Process Launched

Extension Lifecycle

Becoming active

Process Launched

```swift
func didBecomeActive(with conversation: MSConversation)
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Extension Lifecycle

Becoming active

Process Launched

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```
func viewWillAppear(_ animated: Bool)
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Extension Lifecycle

Becoming active

Process Launched

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func didBecomeActive(with conversation: MSConversation)
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func viewWillAppear(_ animated: Bool)
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```
func viewDidAppear(_ animated: Bool)
```

Extension Lifecycle

Resigning active

Extension Lifecycle

Resigning active

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func viewWillDisappear(_ animated: Bool)
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Extension Lifecycle

Resigning active

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func viewWillDisappear(_ animated: Bool)
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func viewDidDisappear(_ animated: Bool)
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Extension Lifecycle

Resigning active

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func viewWillDisappear(_ animated: Bool)
```

```
func viewDidDisappear(_ animated: Bool)
```

```
func willResignActive(with conversation: MSConversation)
```

Extension Lifecycle

Resigning active

```
func viewWillDisappear(_ animated: Bool)
```

```
func viewDidDisappear(_ animated: Bool)
```

```
func willResignActive(with conversation: MSConversation)
```

Process Terminated

Compose a Message

```swift
let message = MSMessage()
```

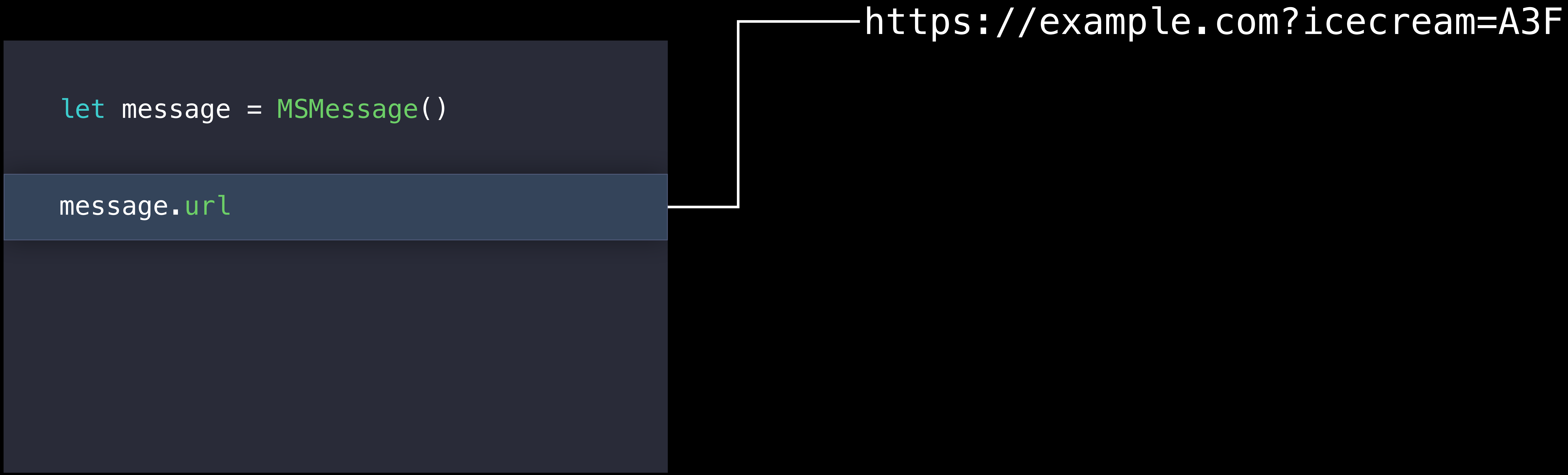
Compose a Message

```
let message = MSMessage()


message.url
```

https://example.com?icecream=A3F

Compose a Message



```swift
let message = MSMessage()

message.url
```

https://example.com?icecream=A3F

Compose a Message

```
let message = MSMessage()

message.url
message.accessibilityLabel
```

`https://example.com?icecream=A3F`

"Let’s build an ice cream"

Compose a Message

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let message = MSMessage()

message.url
message.accessibilityLabel
```

https://example.com?icecream=A3F

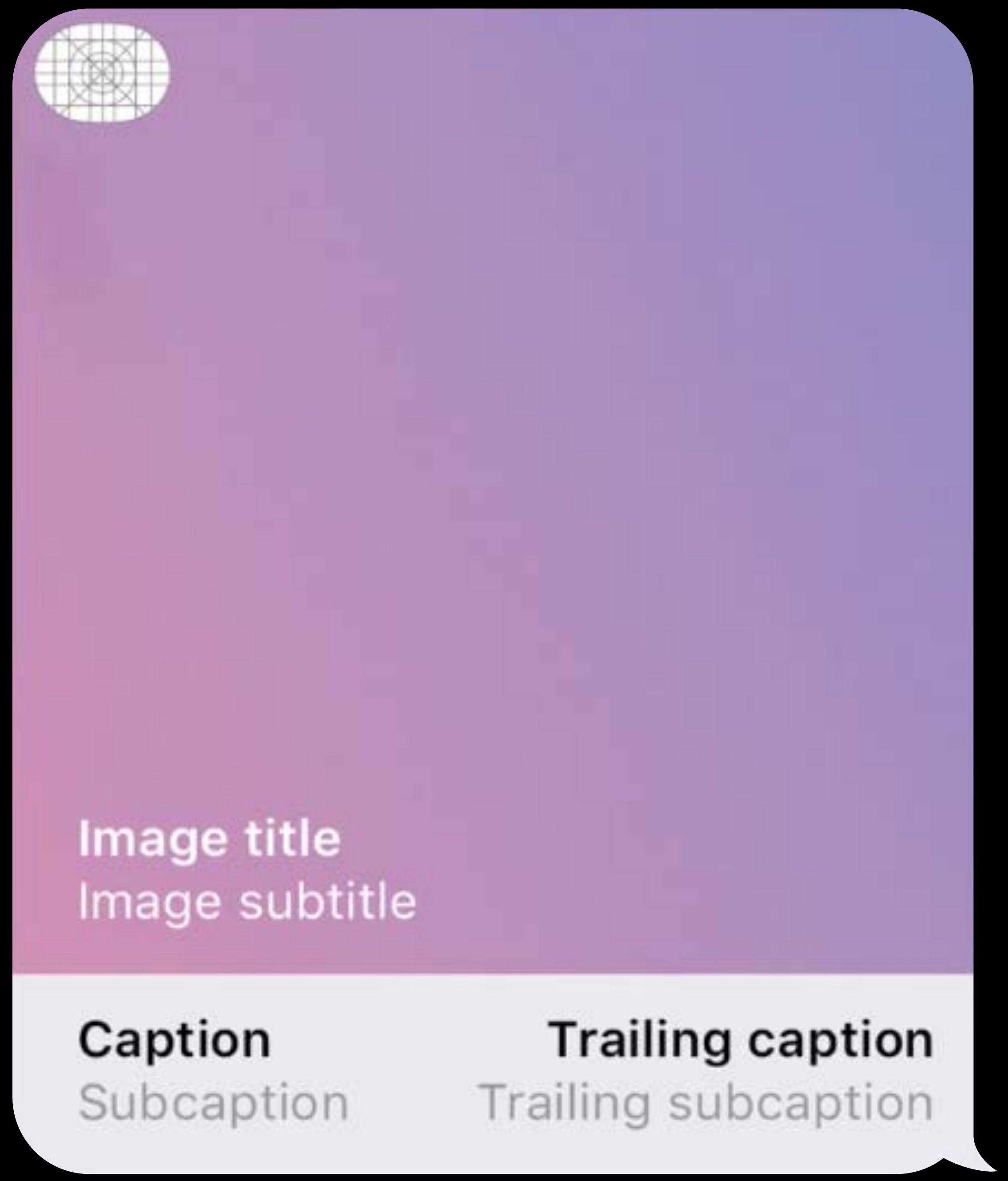
"Let’s build an ice cream"

Compose a Message

```swift
let message = MSMessage()

message.url
message.accessibilityLabel
message.layout
```

`https://example.com?icecream=A3F`

"Let’s build an ice cream"

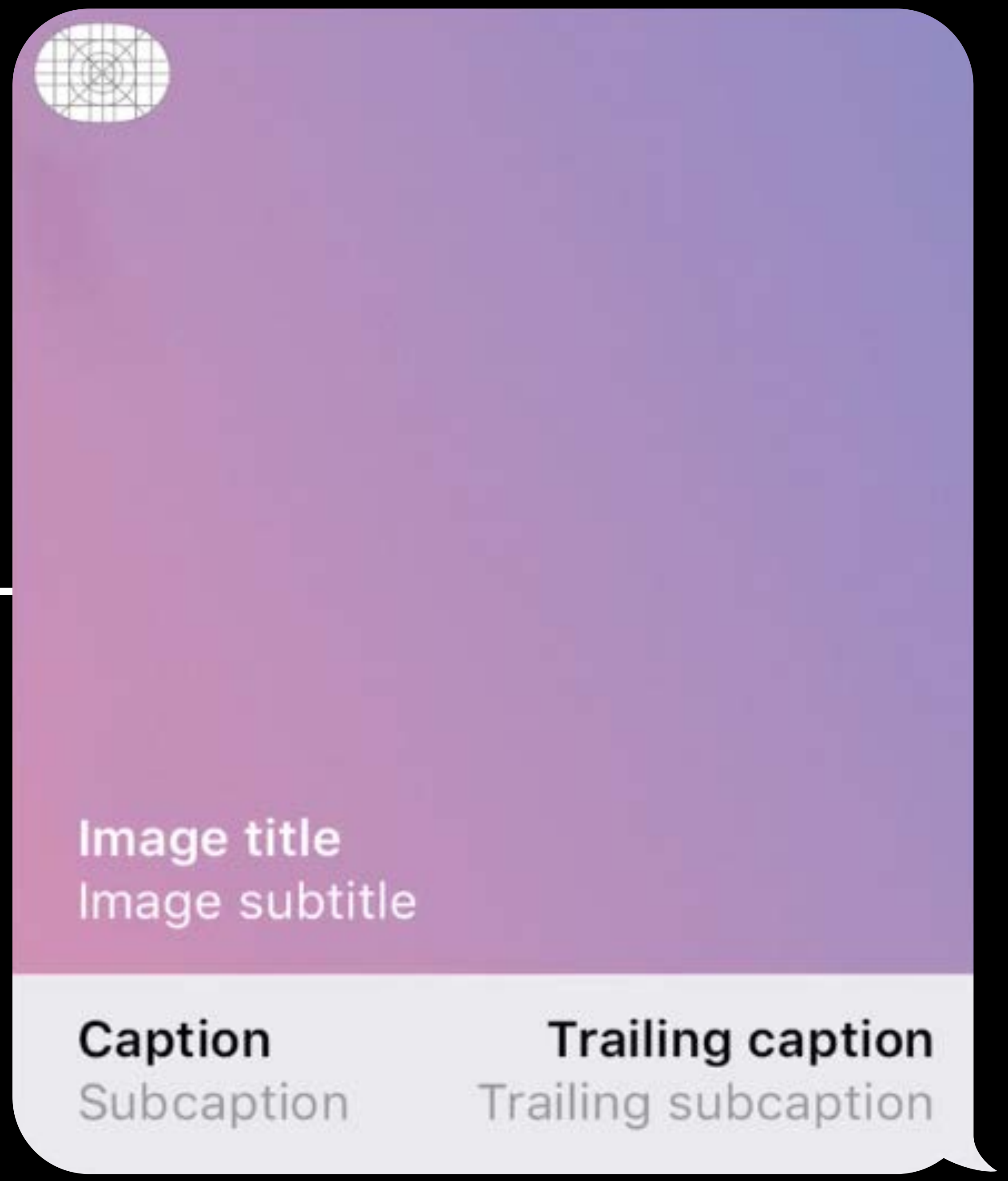


Compose a Message

```
let message = MSMessage()

message.url
message.accessibilityLabel
message.layout
```

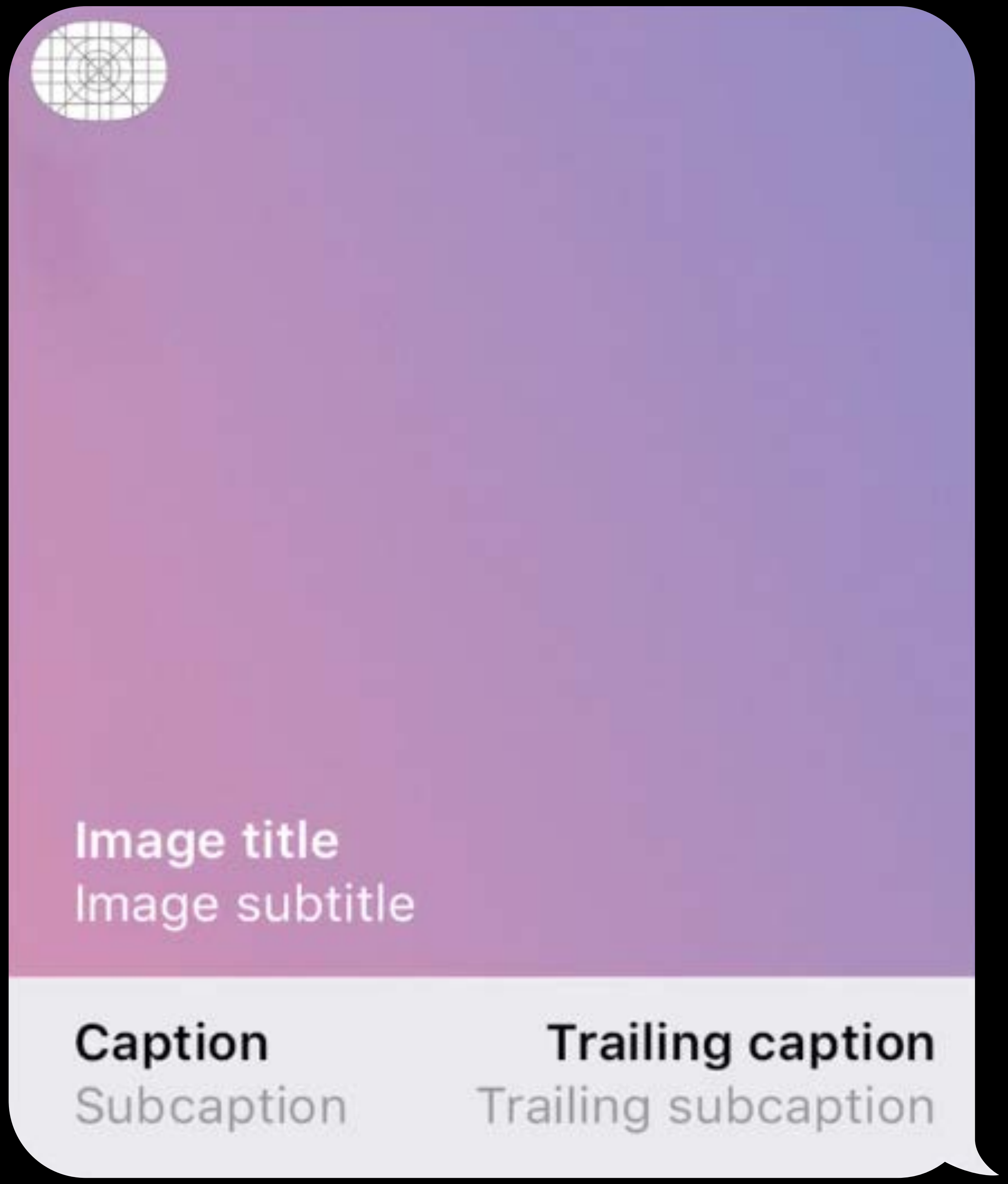
`https://example.com?icecream=A3F`

"Let's build an ice cream"



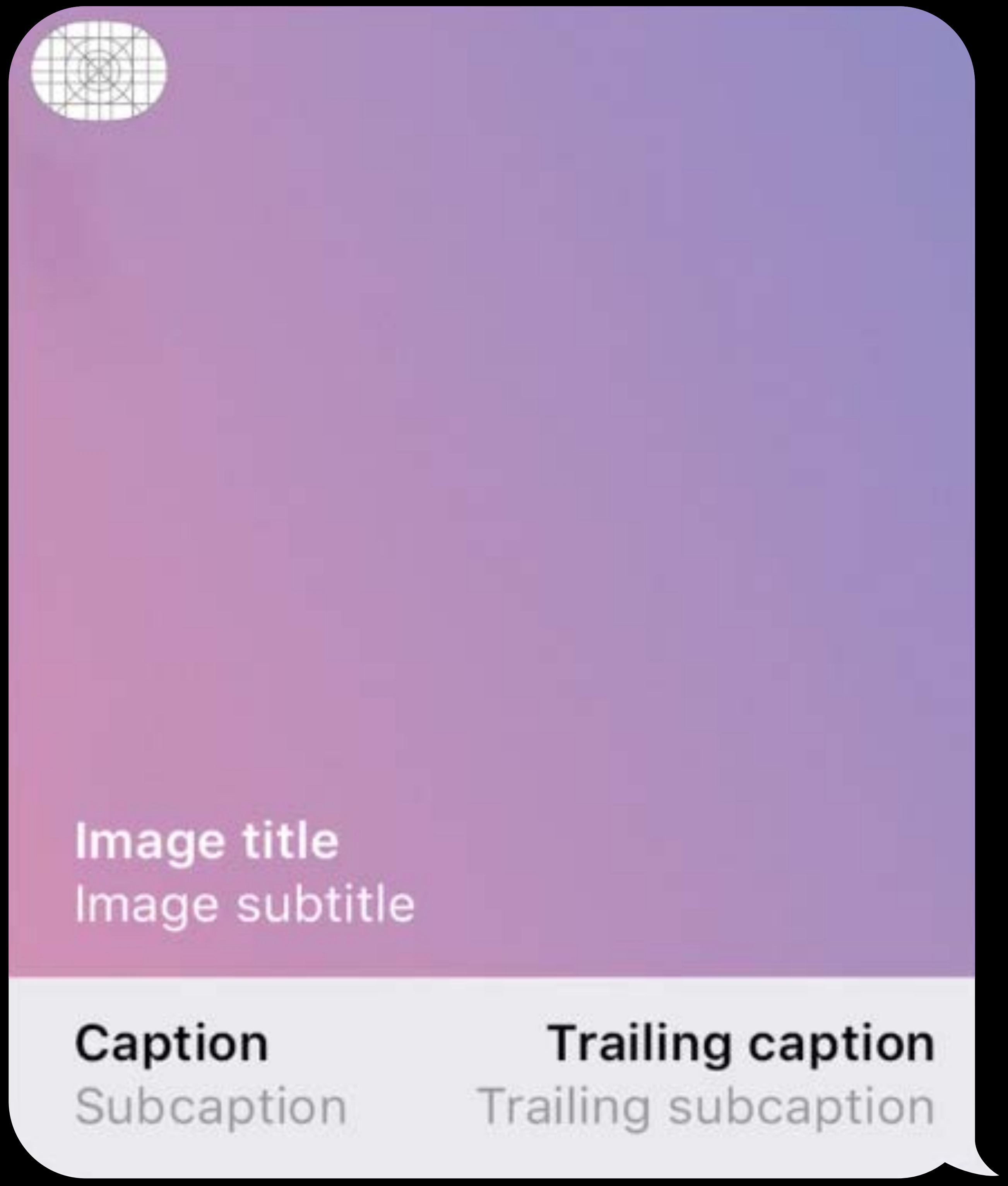
Compose a Message

```
let layout = MSMessageTemplateLayout()
```



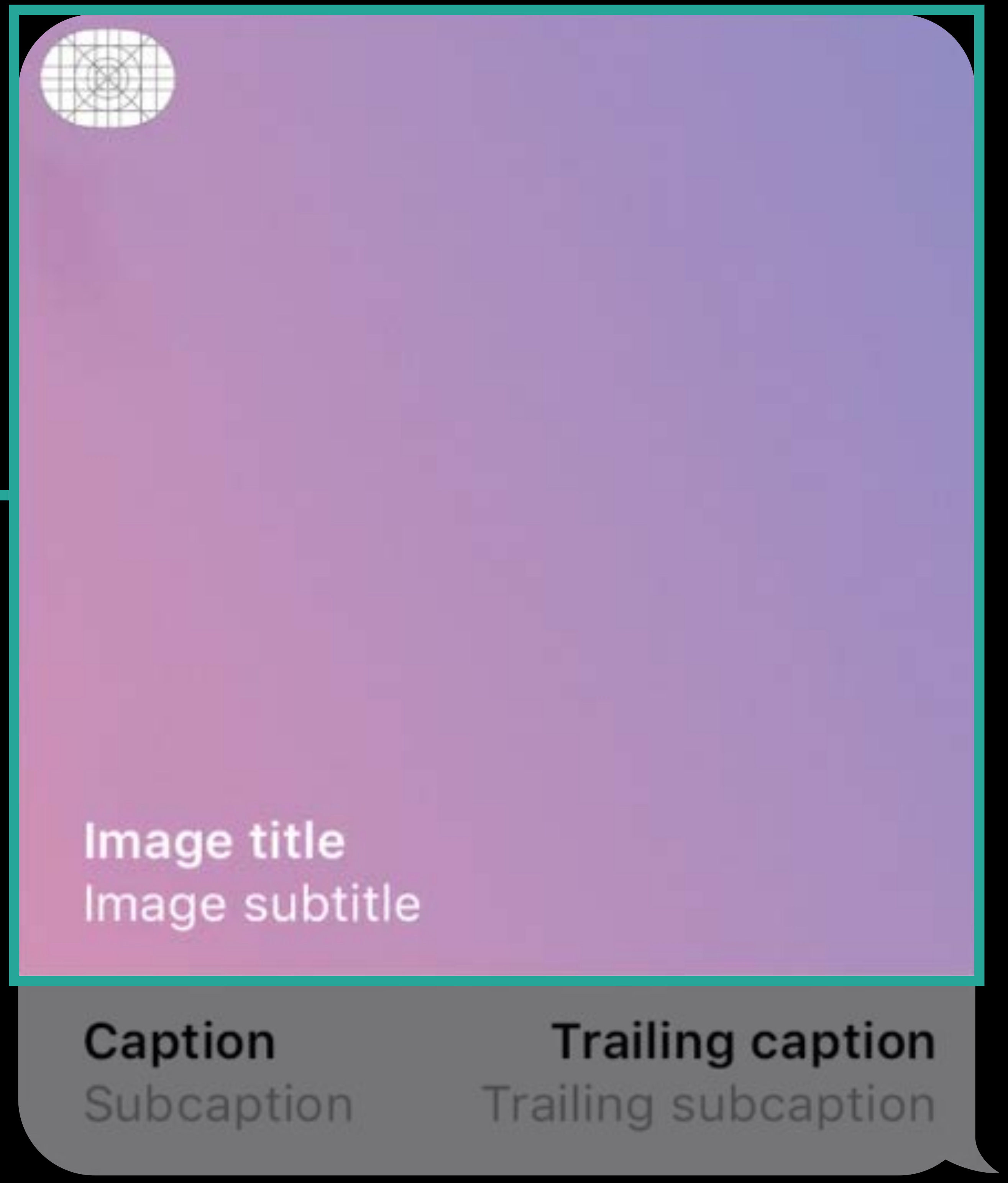
Compose a Message

```
let layout = MSMessageTemplateLayout()

layout.image
```



Compose a Message

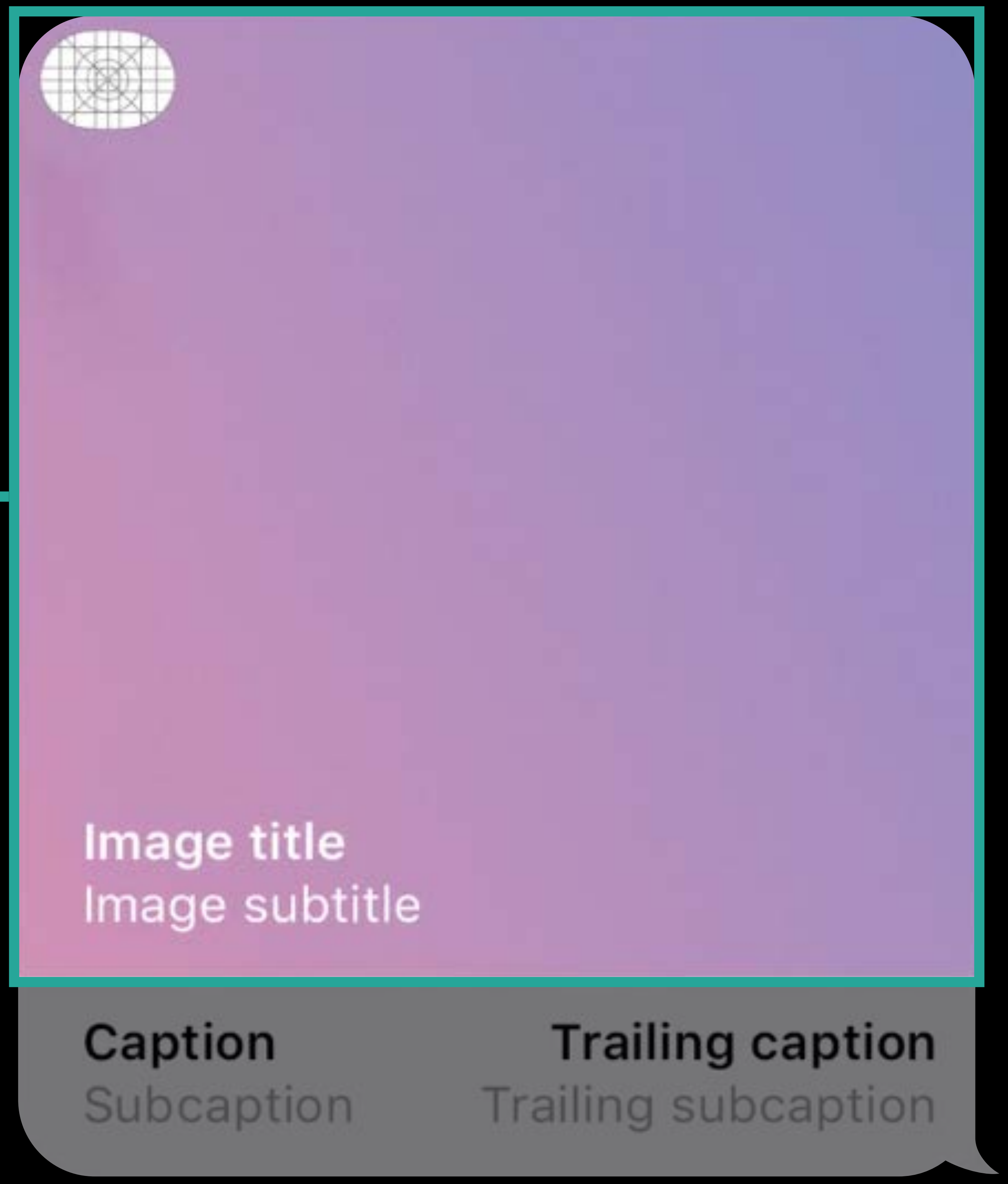
```
let layout = MSMessageTemplateLayout()

layout.image
```



Compose a Message

```swift
let layout = MSMessageTemplateLayout()

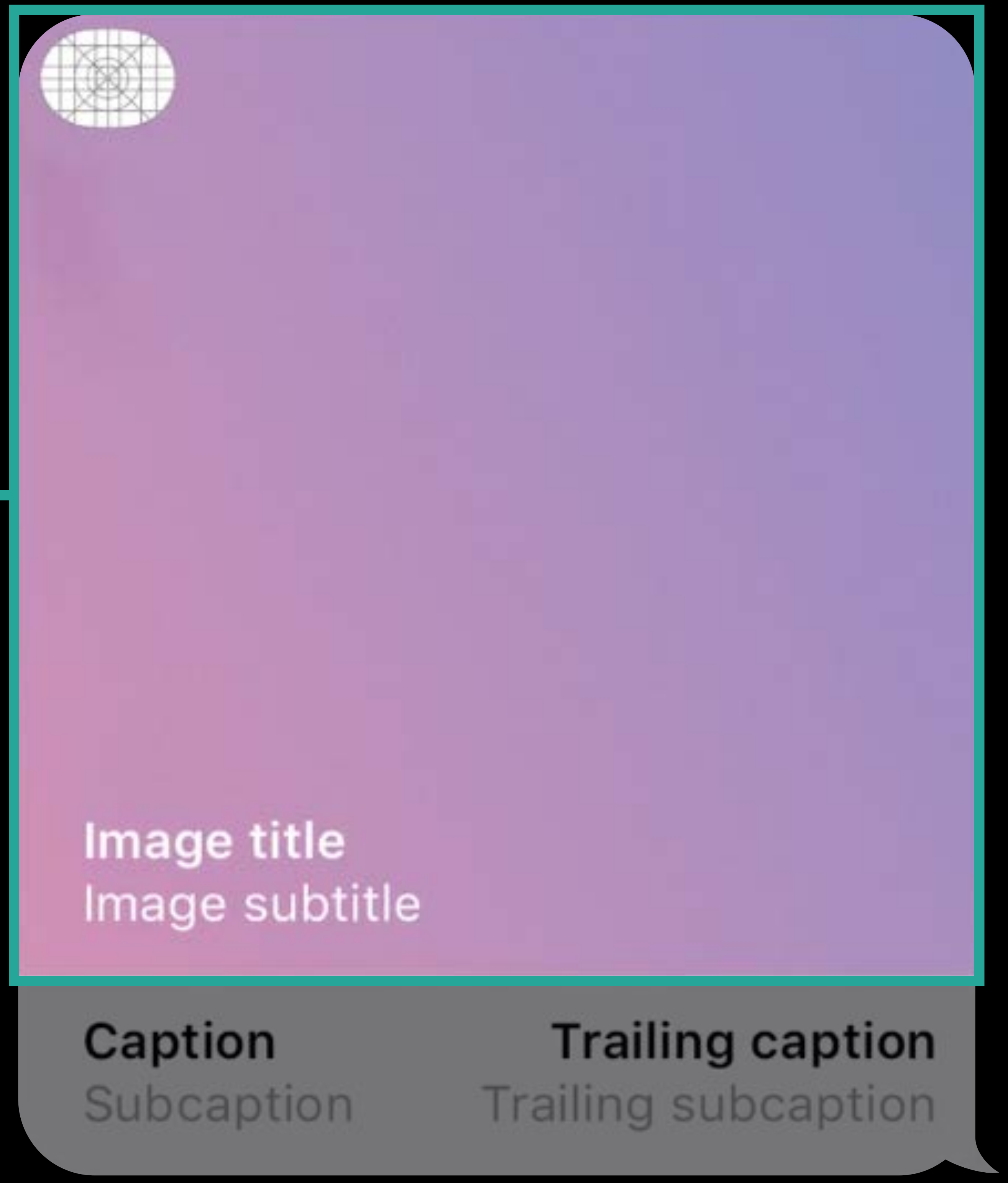
layout.image
layout.mediaFileURL
```



Compose a Message

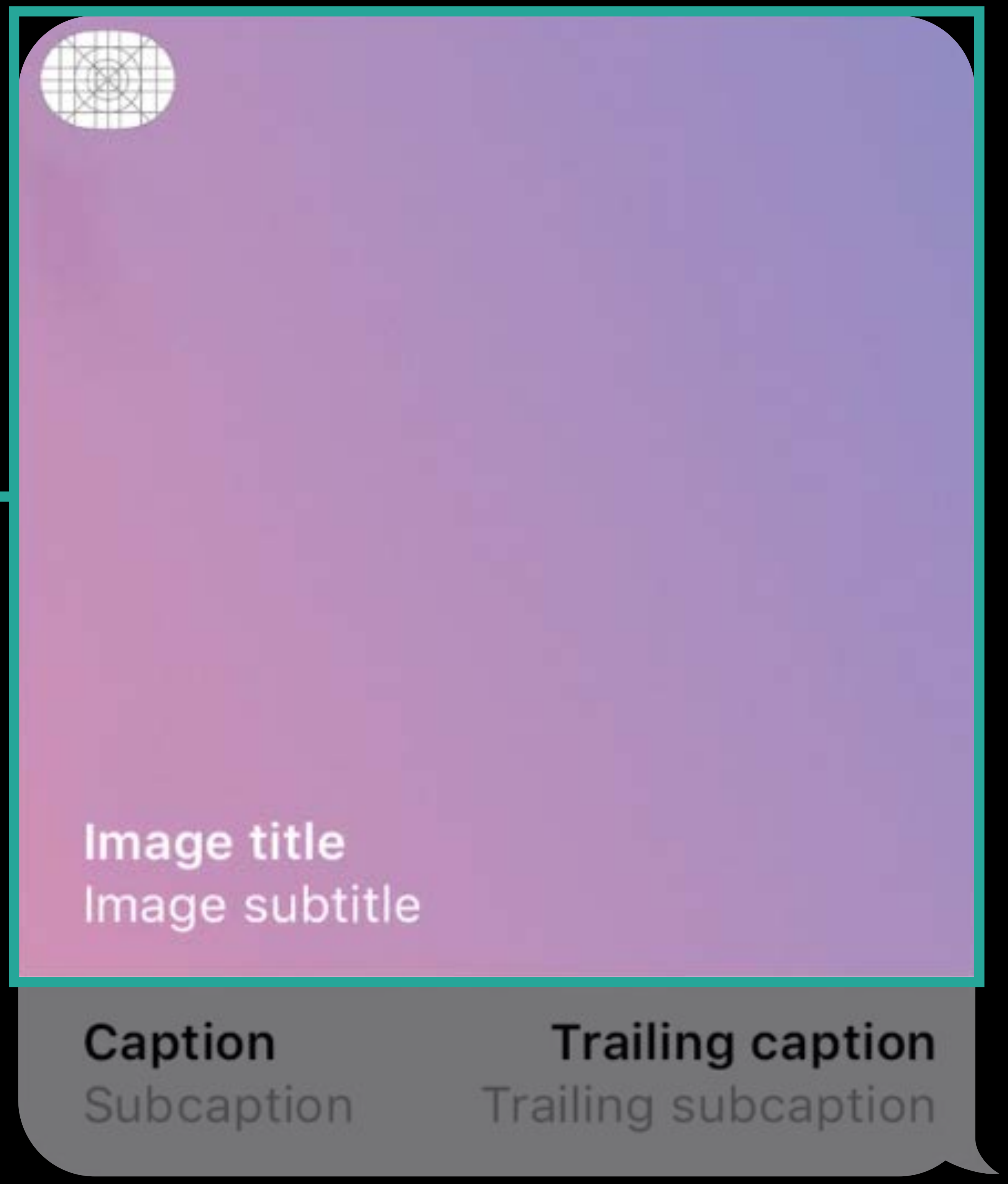
```
let layout = MSMessageTemplateLayout()

layout.image
layout.mediaFileURL
```



Compose a Message

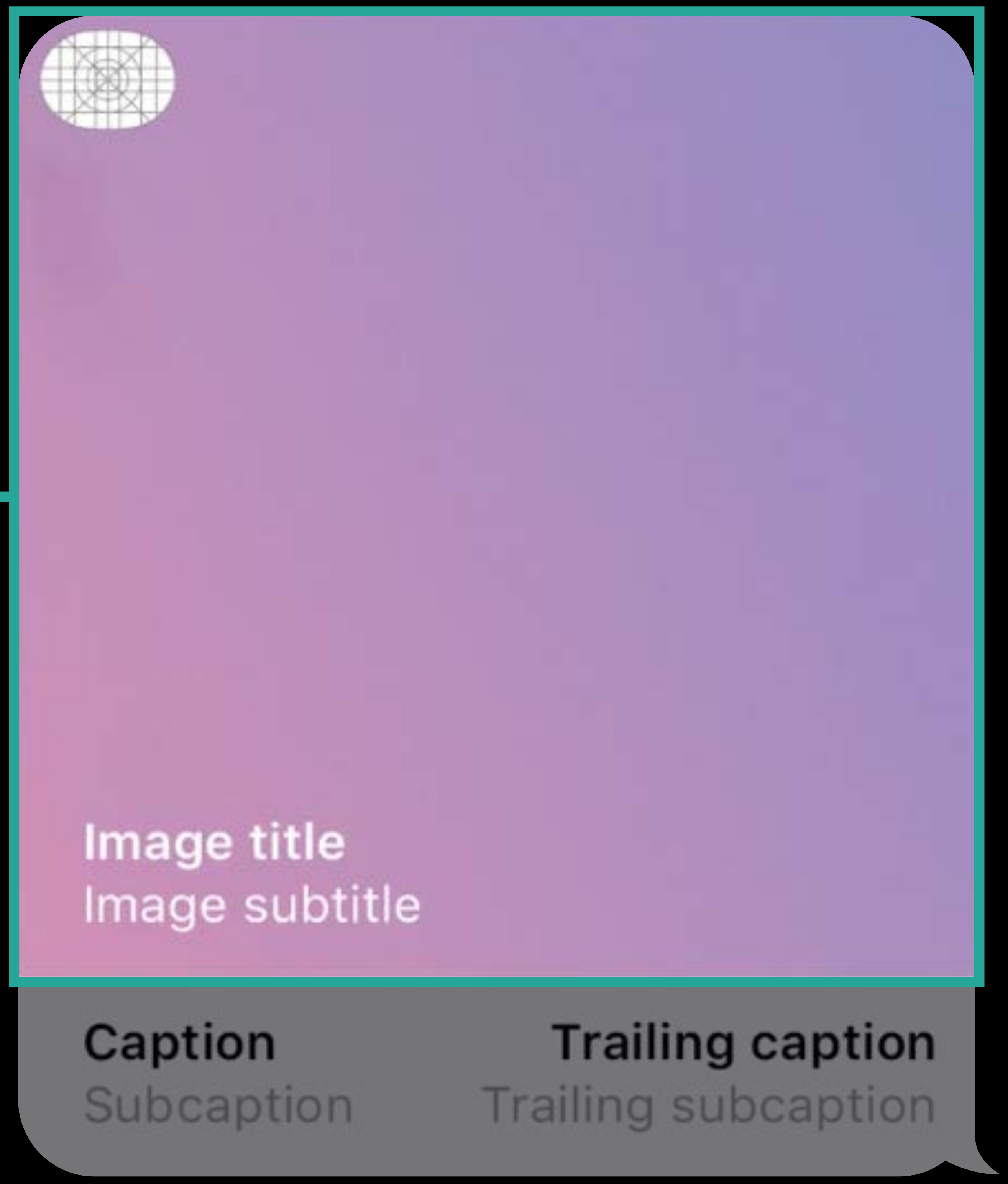
```
layout.image
layout.mediaFileURL
```



Compose a Message

```
layout.image
layout.mediaFileURL
```

Recommended media/image size 300x300pt @3x

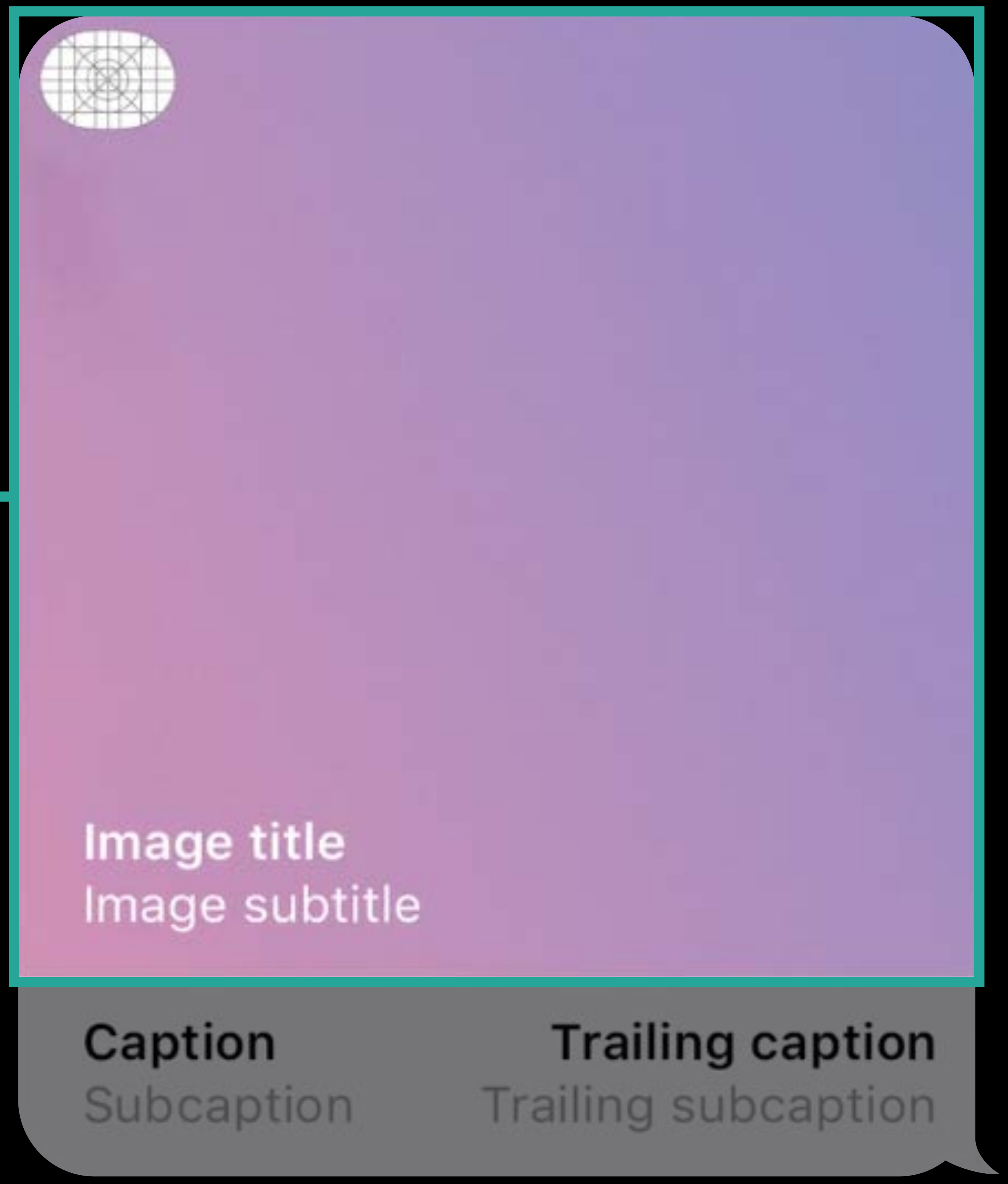


Compose a Message

```
layout.image
layout.mediaFileURL
```

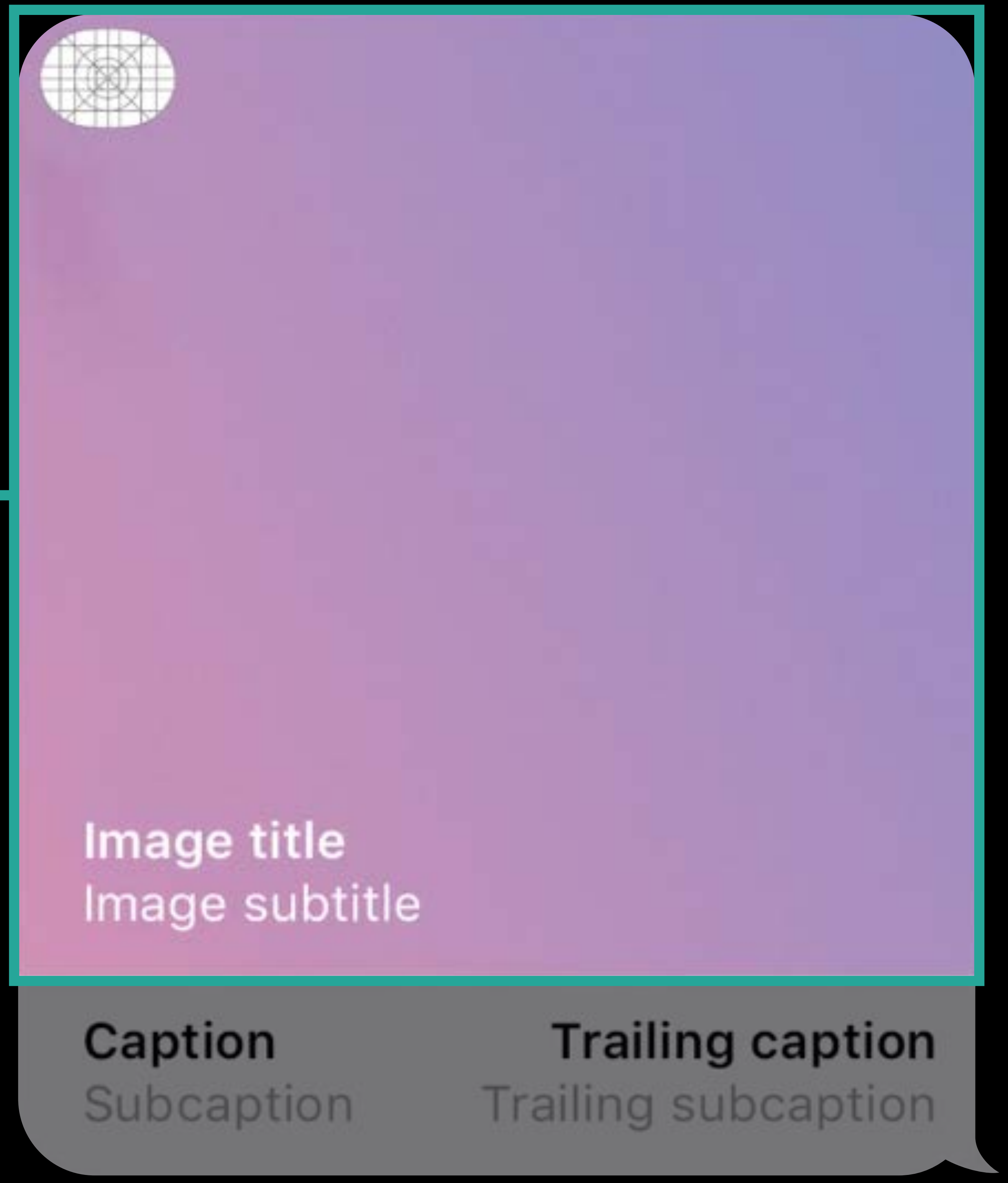
Recommended media/image size 300x300pt @3x

PNG, JPEG, GIF, video



Compose a Message

```
layout.image
layout.mediaFileURL
```



Recommended media/image size 300x300pt @3x

PNG, JPEG, GIF, video

May be transcoded on send

Compose a Message

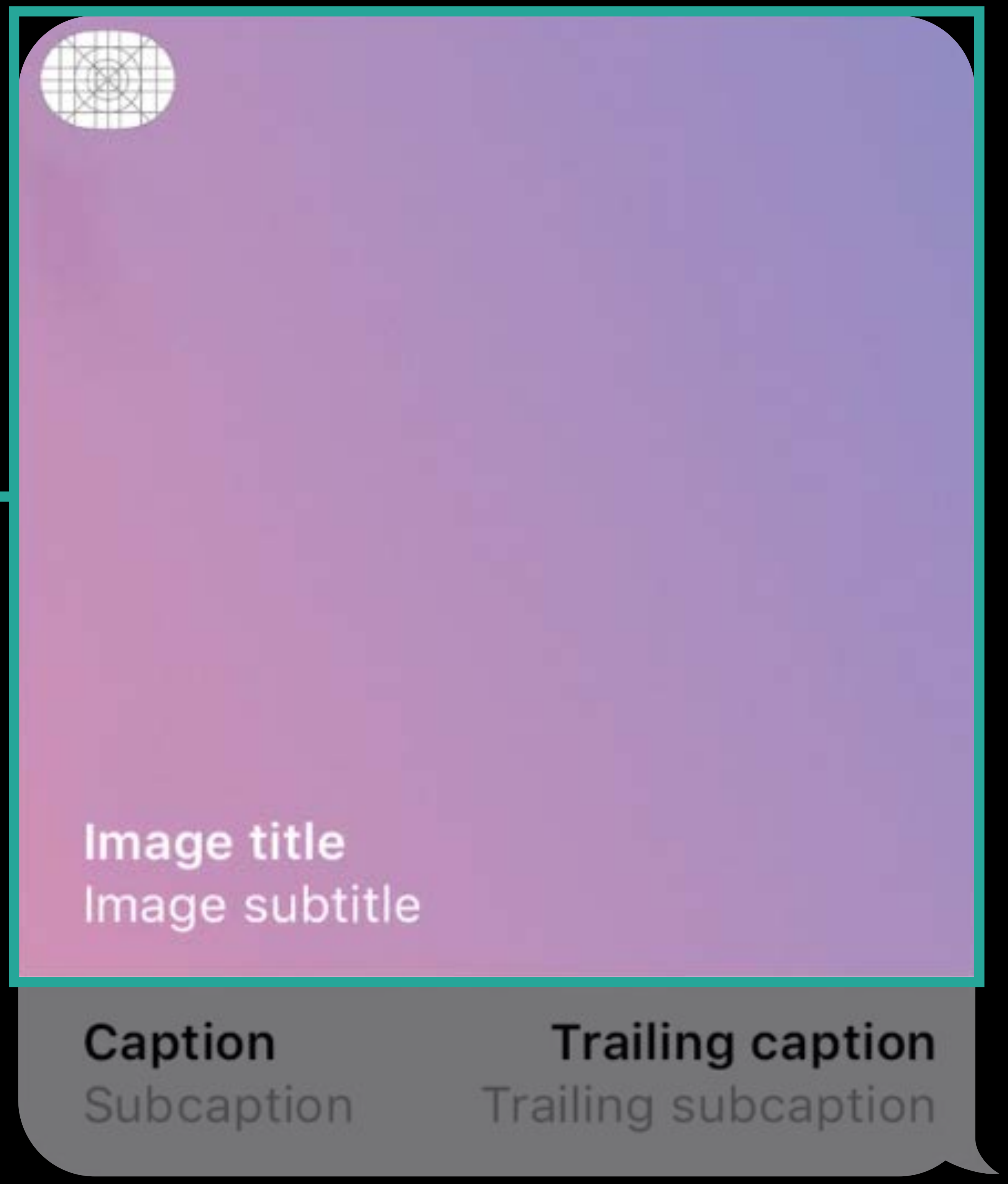
```
layout.image
layout.mediaFileURL
```

Recommended media/image size 300x300pt @3x

PNG, JPEG, GIF, video

May be transcoded on send

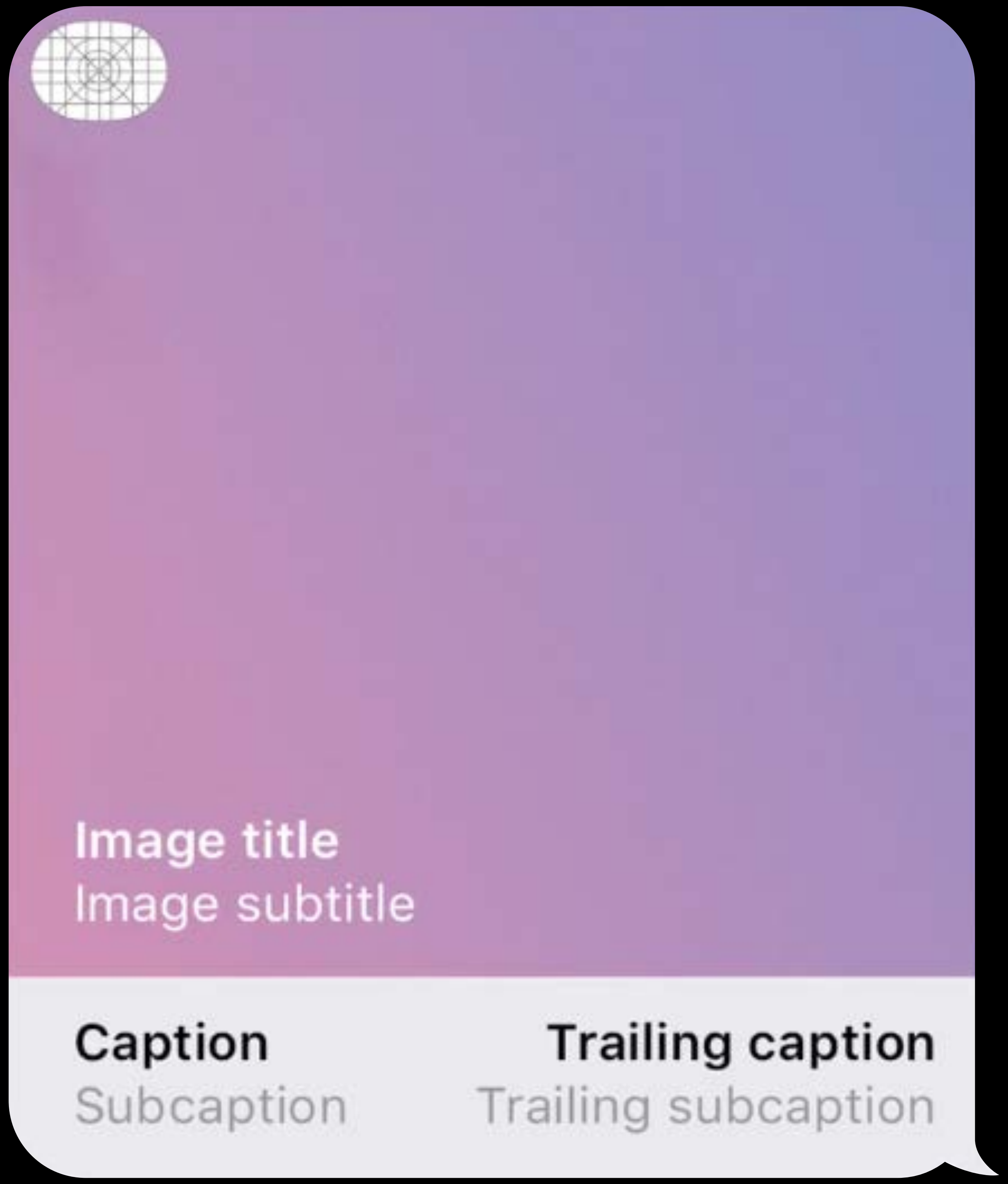
Avoid rendering text in the image



Compose a Message

```
let layout = MSMessageTemplateLayout()

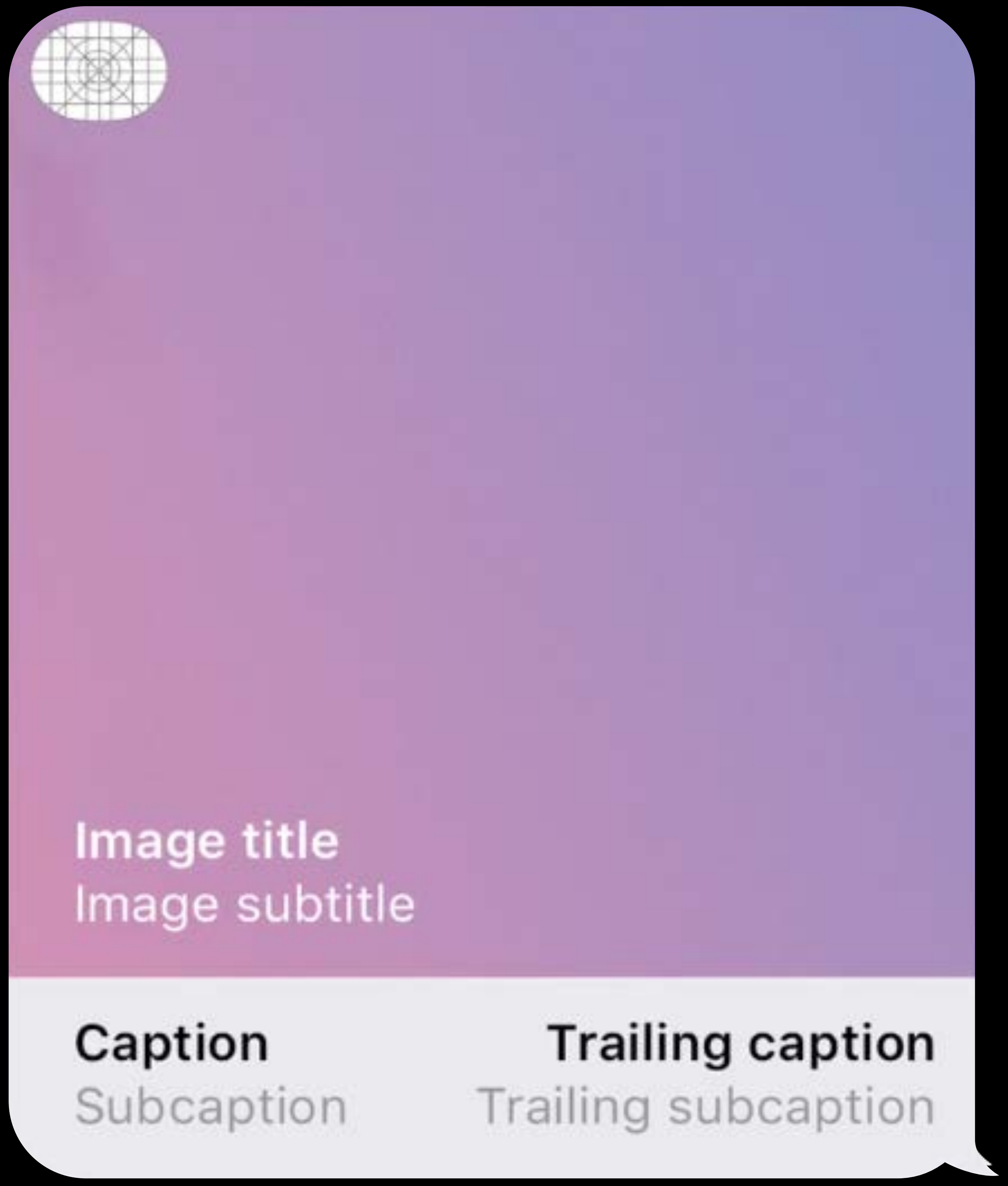
layout.image
layout.mediaFileURL
```



Compose a Message

```
let layout = MSMessageTemplateLayout()

layout.image
layout.mediaFileURL
layout.imageTitle
```



Compose a Message

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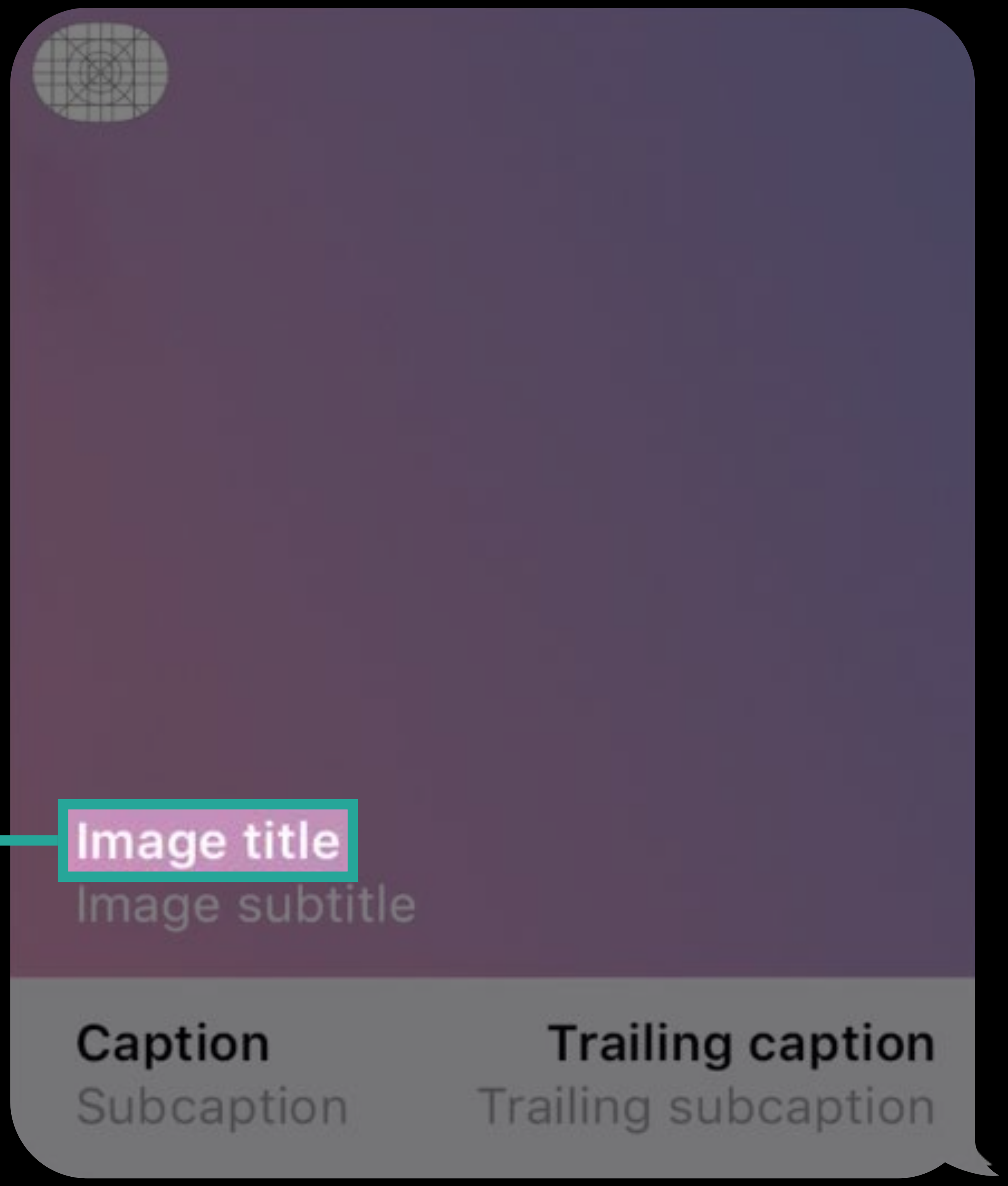
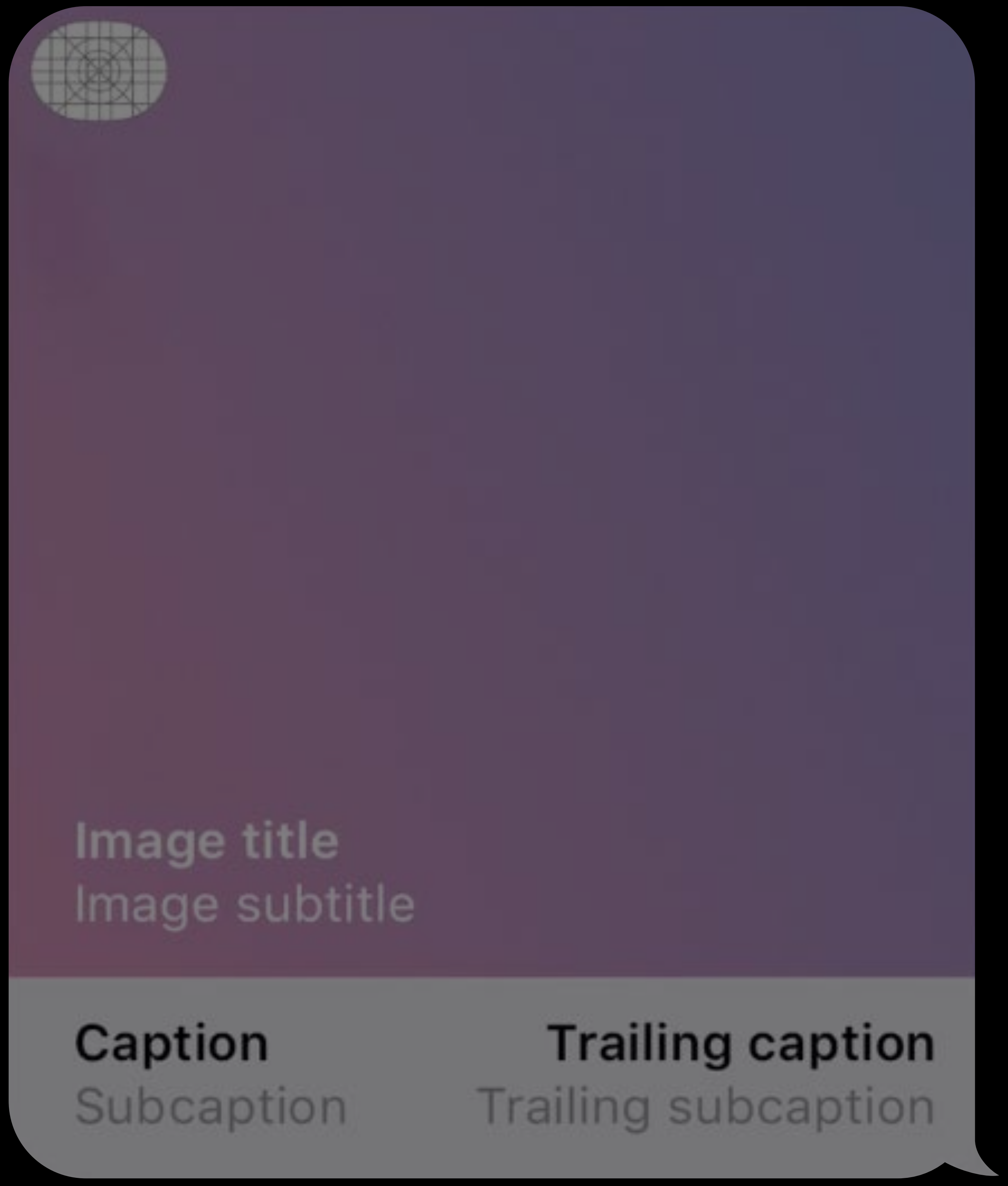


Compose a Message

```
let layout = MSMessageTemplateLayout()

layout.image
layout.mediaFileURL
layout.imageTitle
layout.imageSubtitle
```



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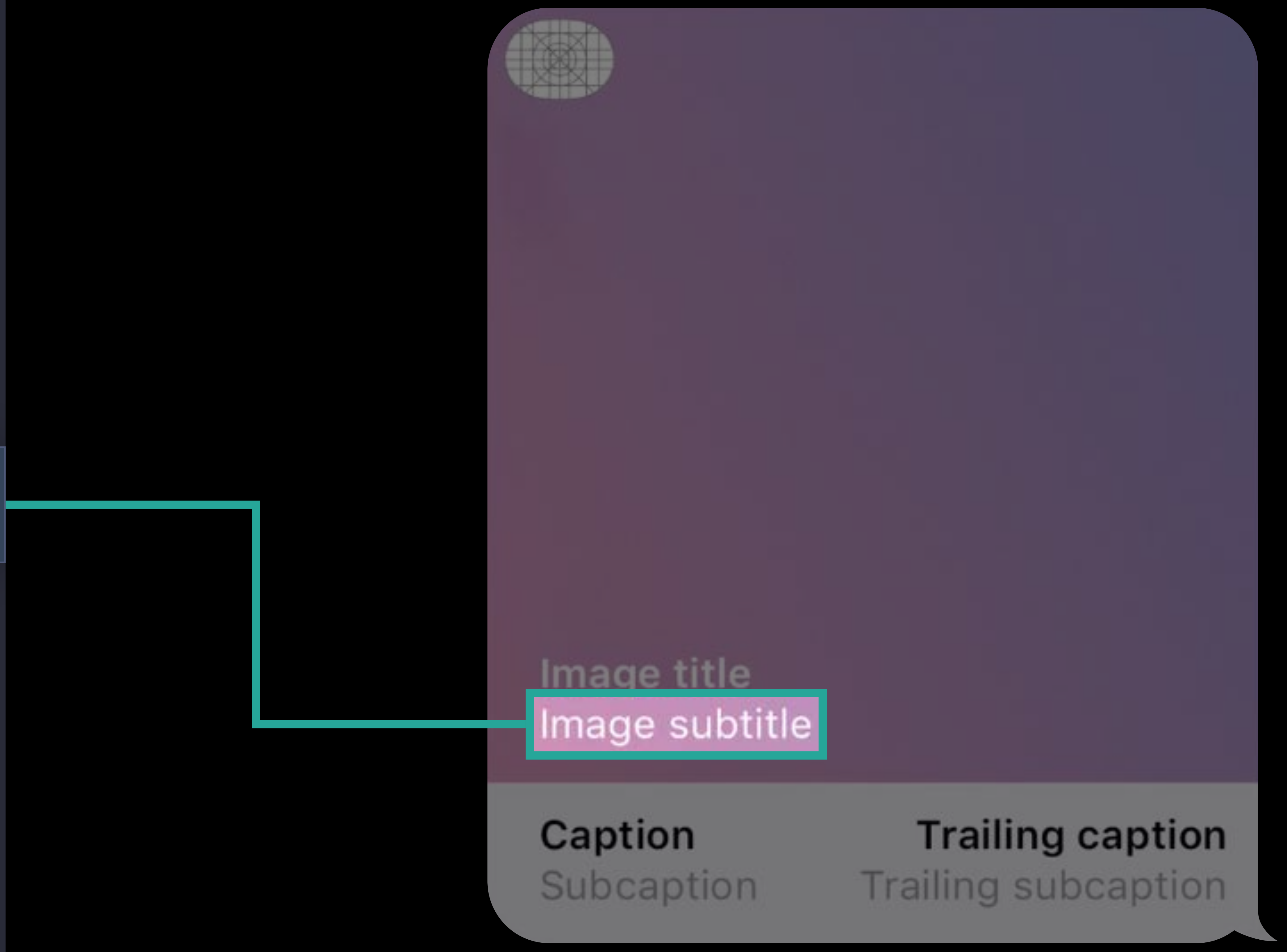

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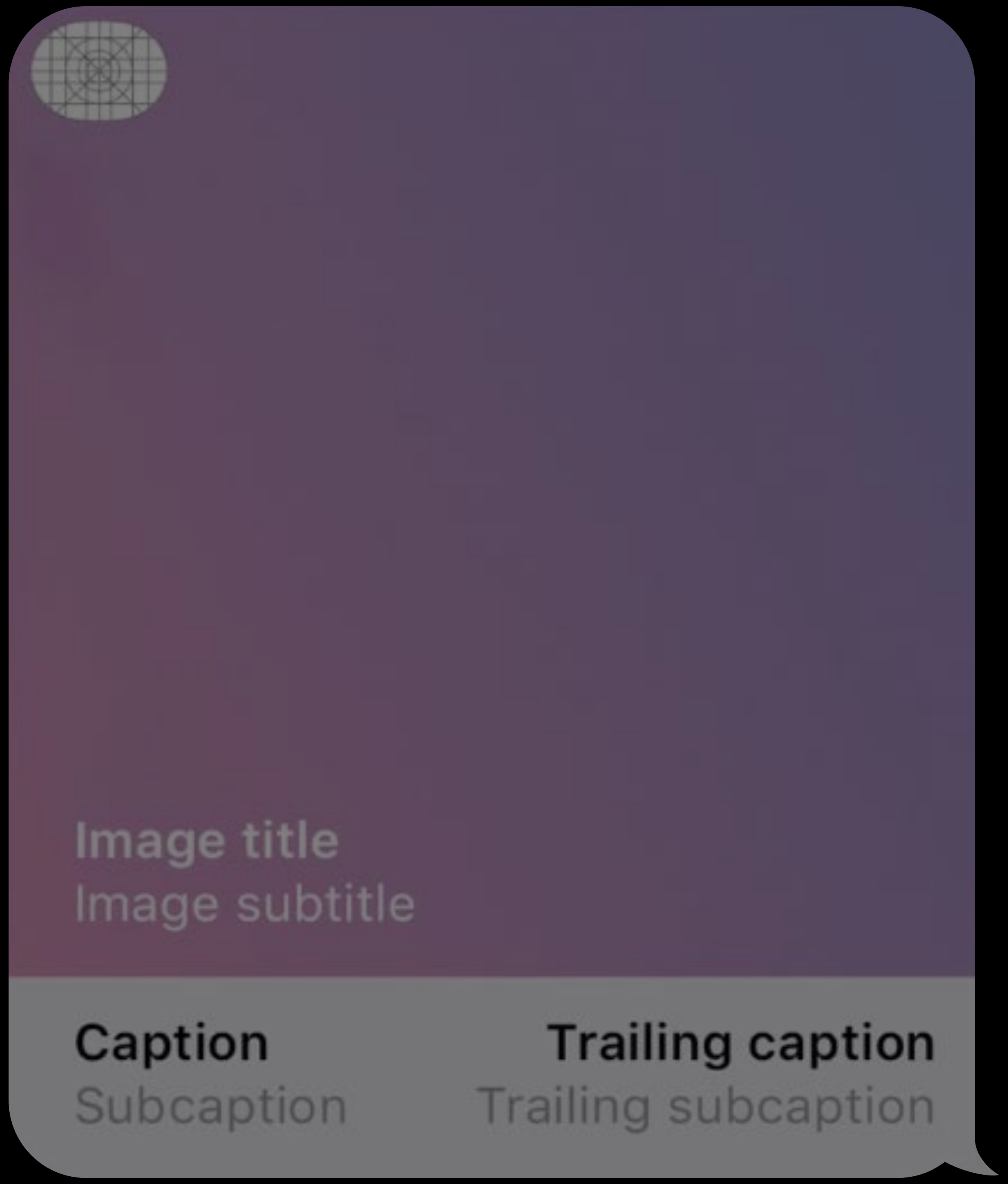

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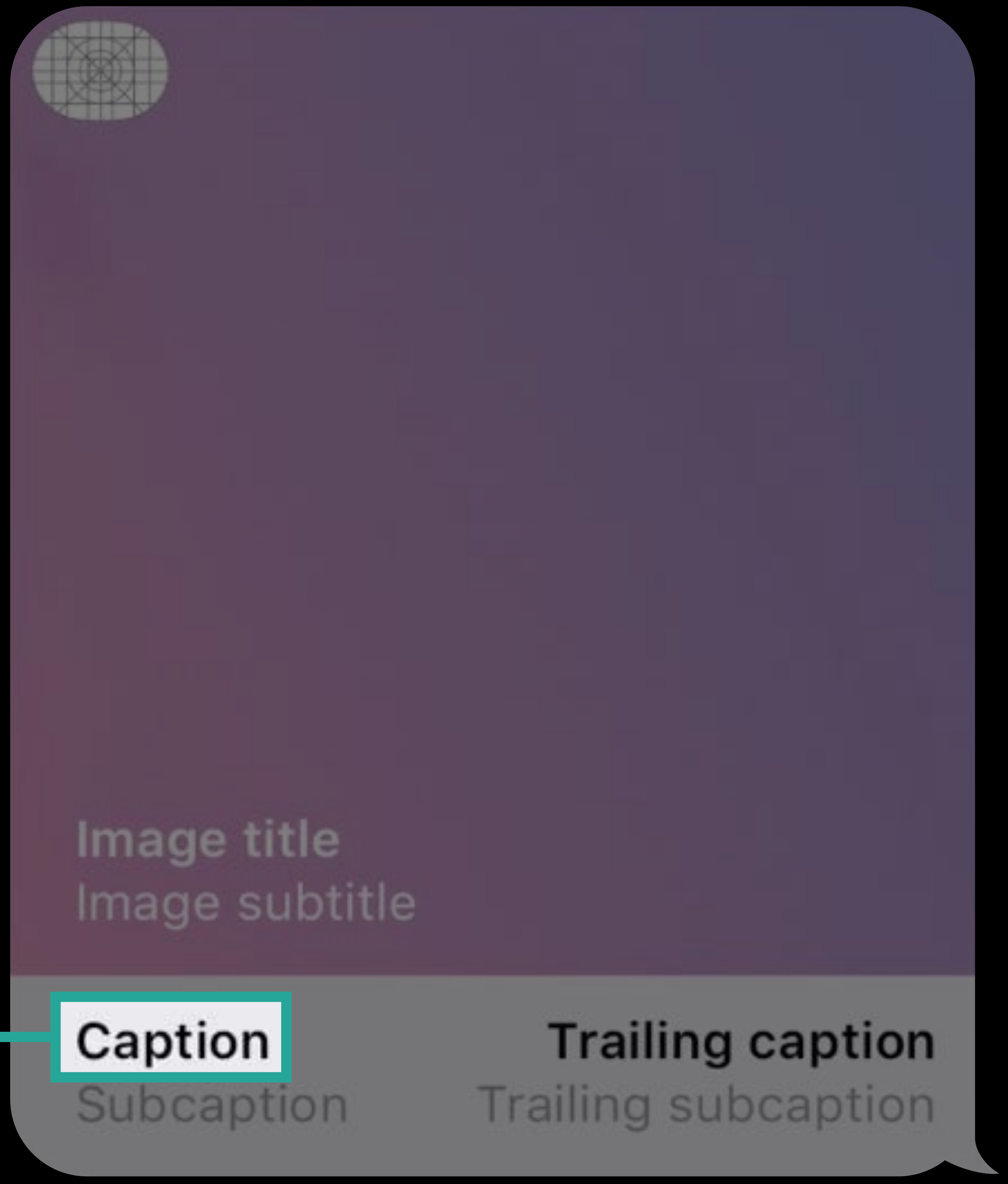

Compose a Message

```
let layout = MSMessageTemplateLayout()

layout.image
layout.mediaFileURL
layout.imageTitle
layout.imageSubtitle
layout.caption
layout.trailingCaption
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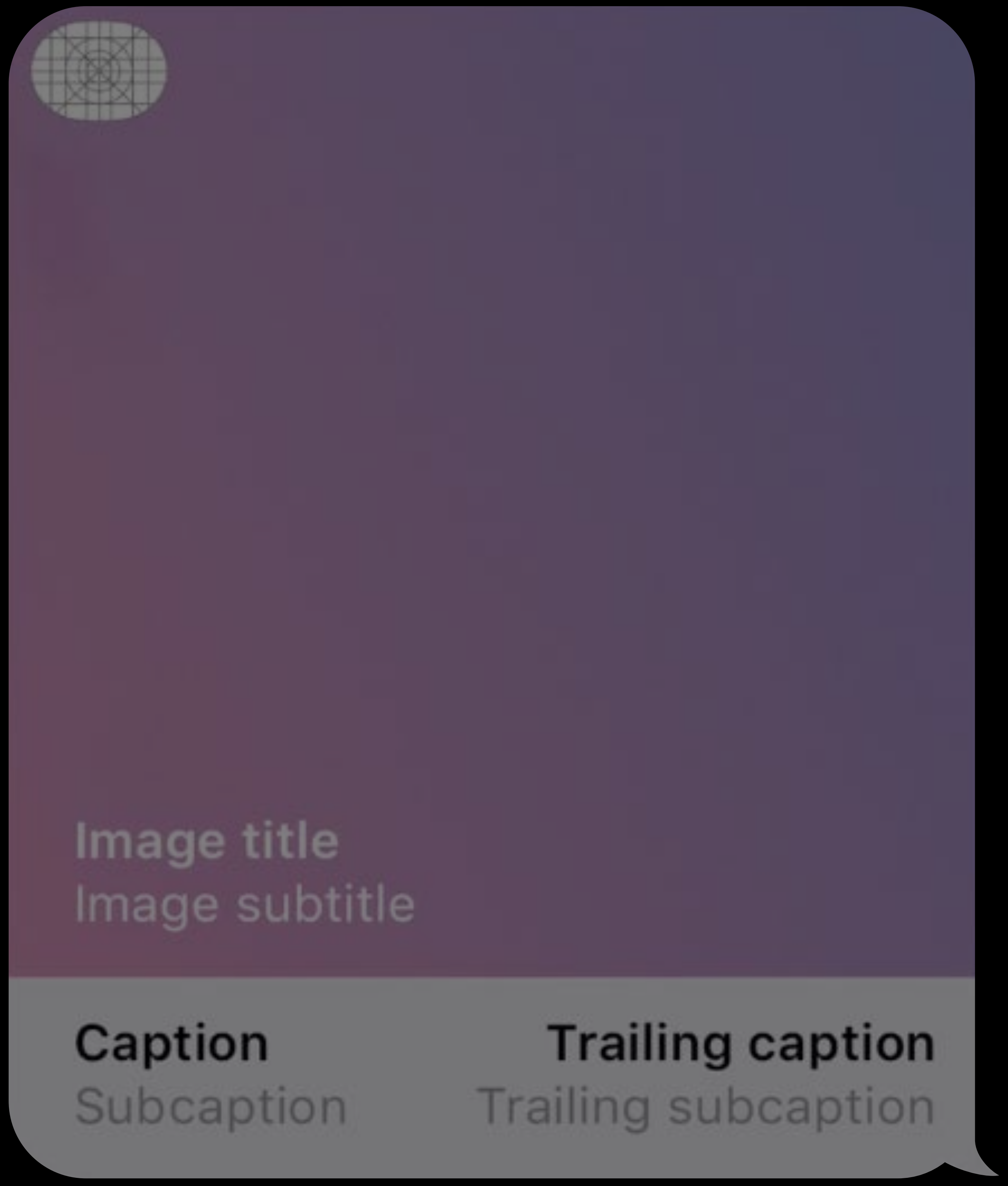

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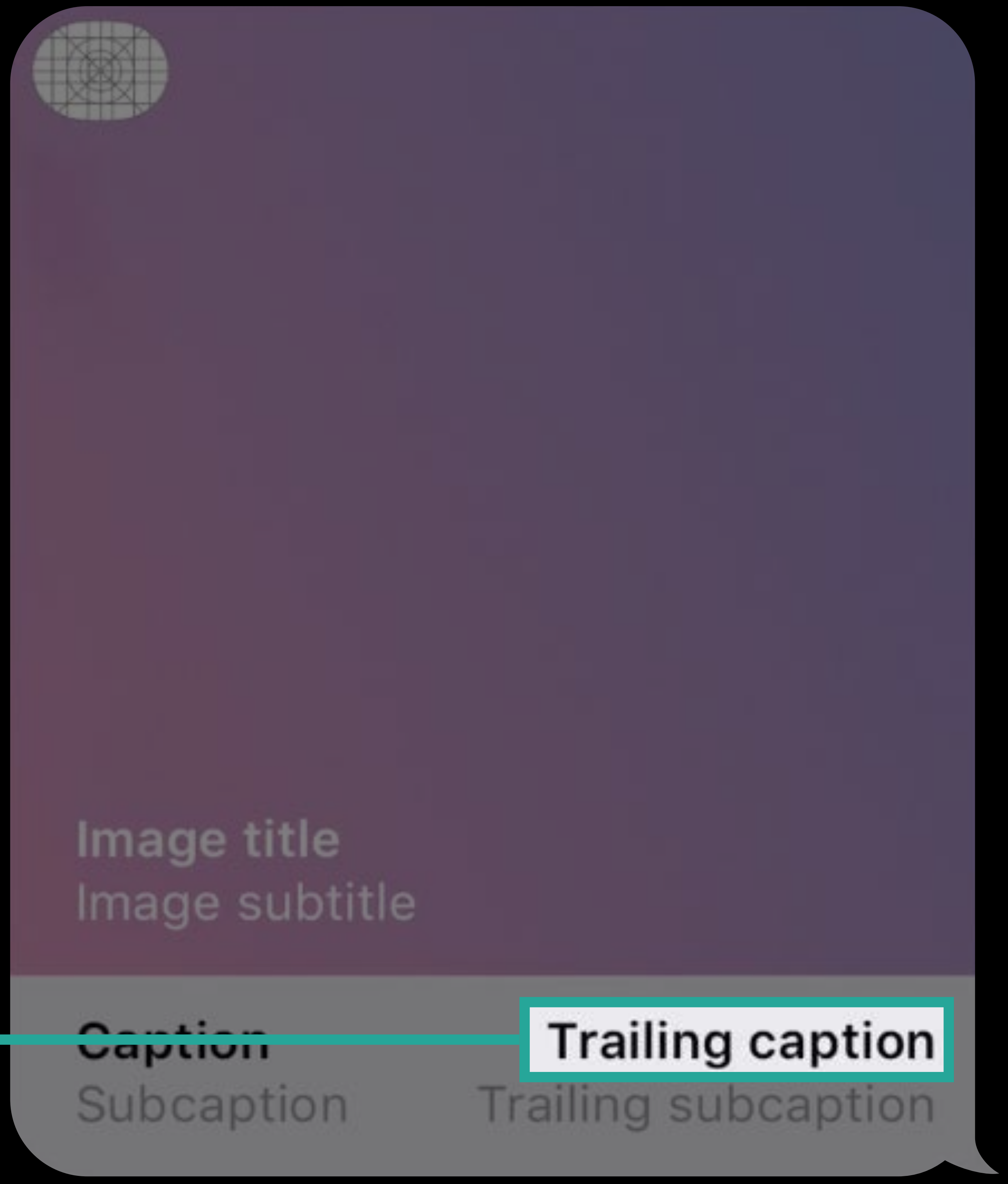

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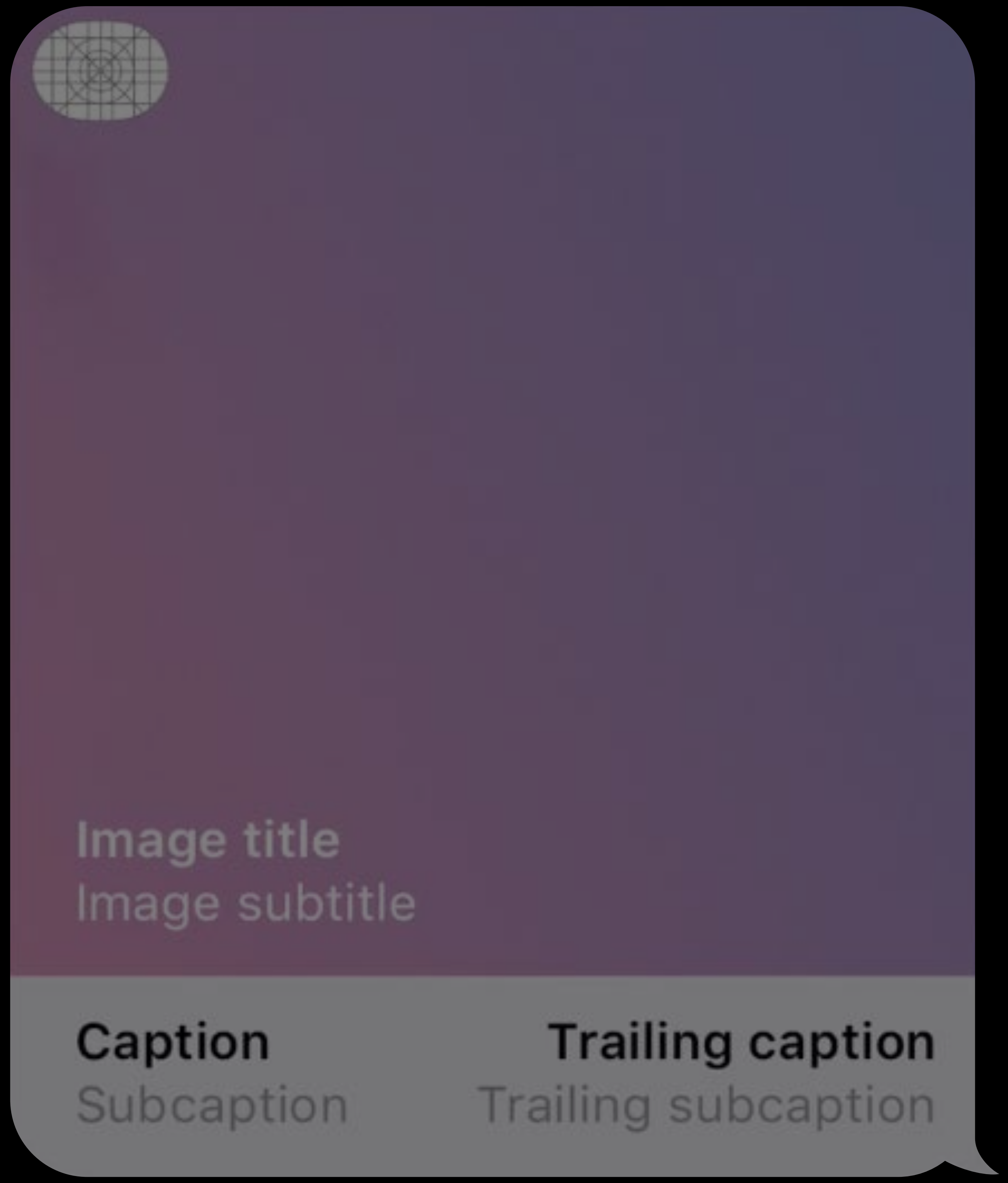

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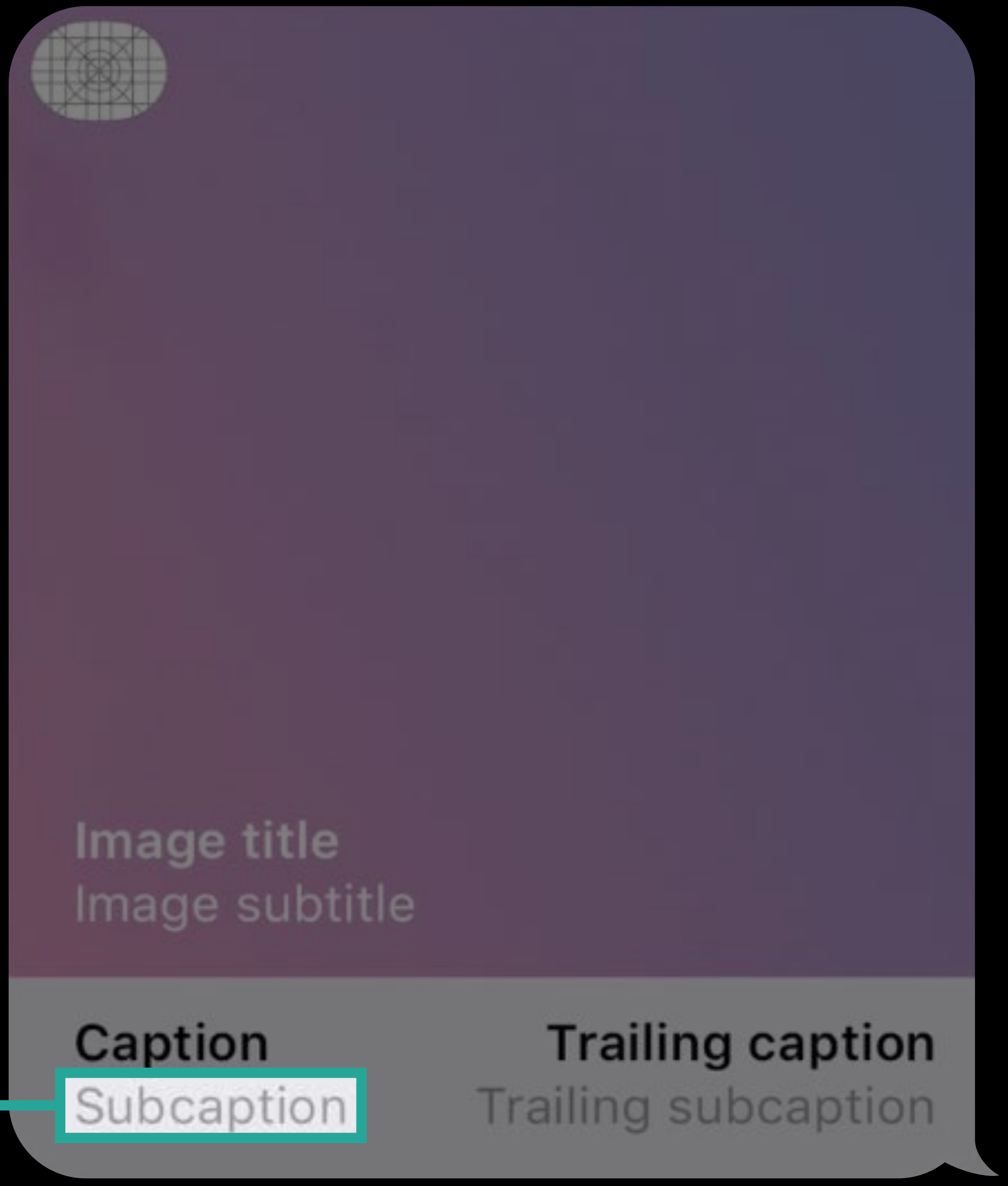

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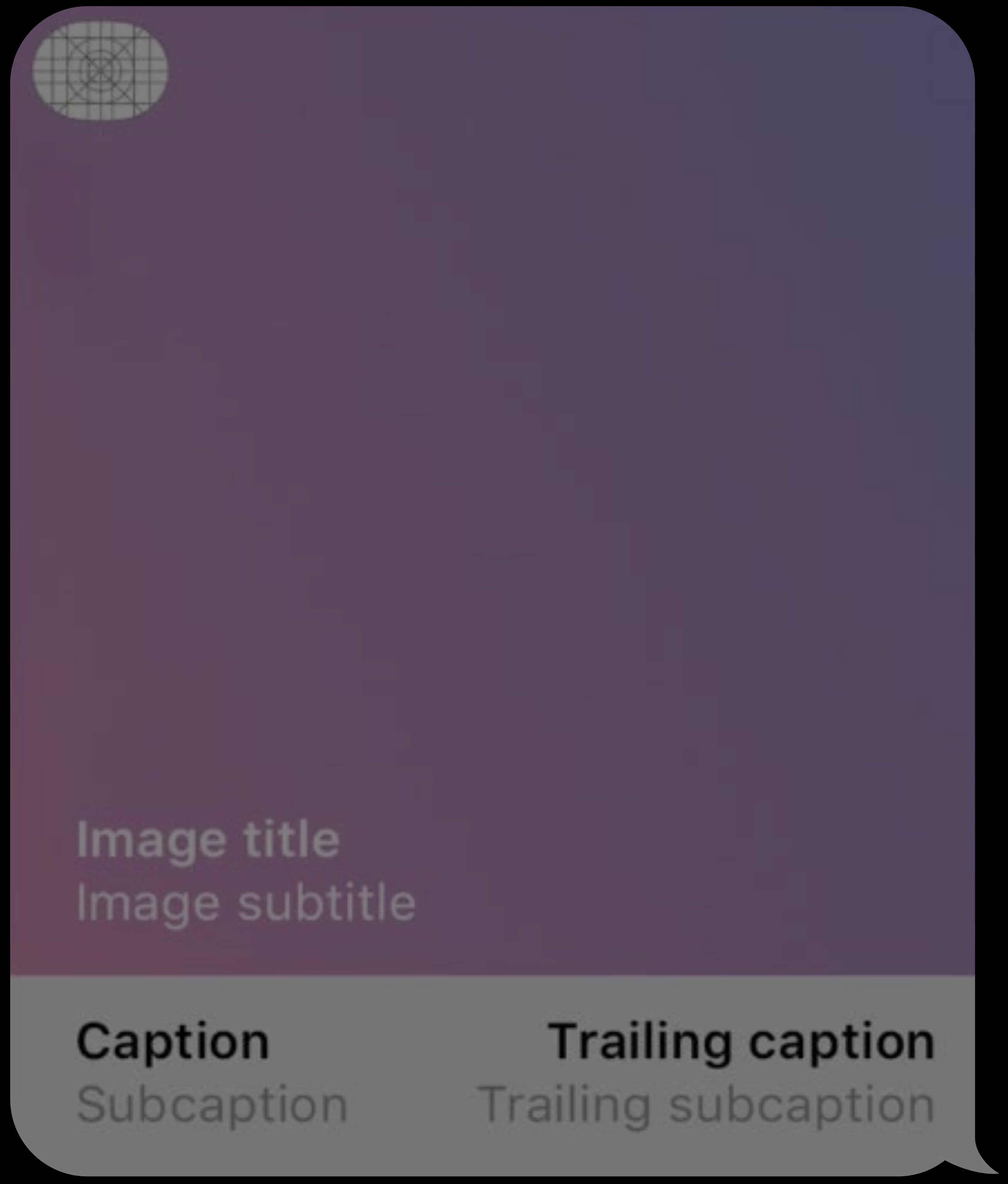

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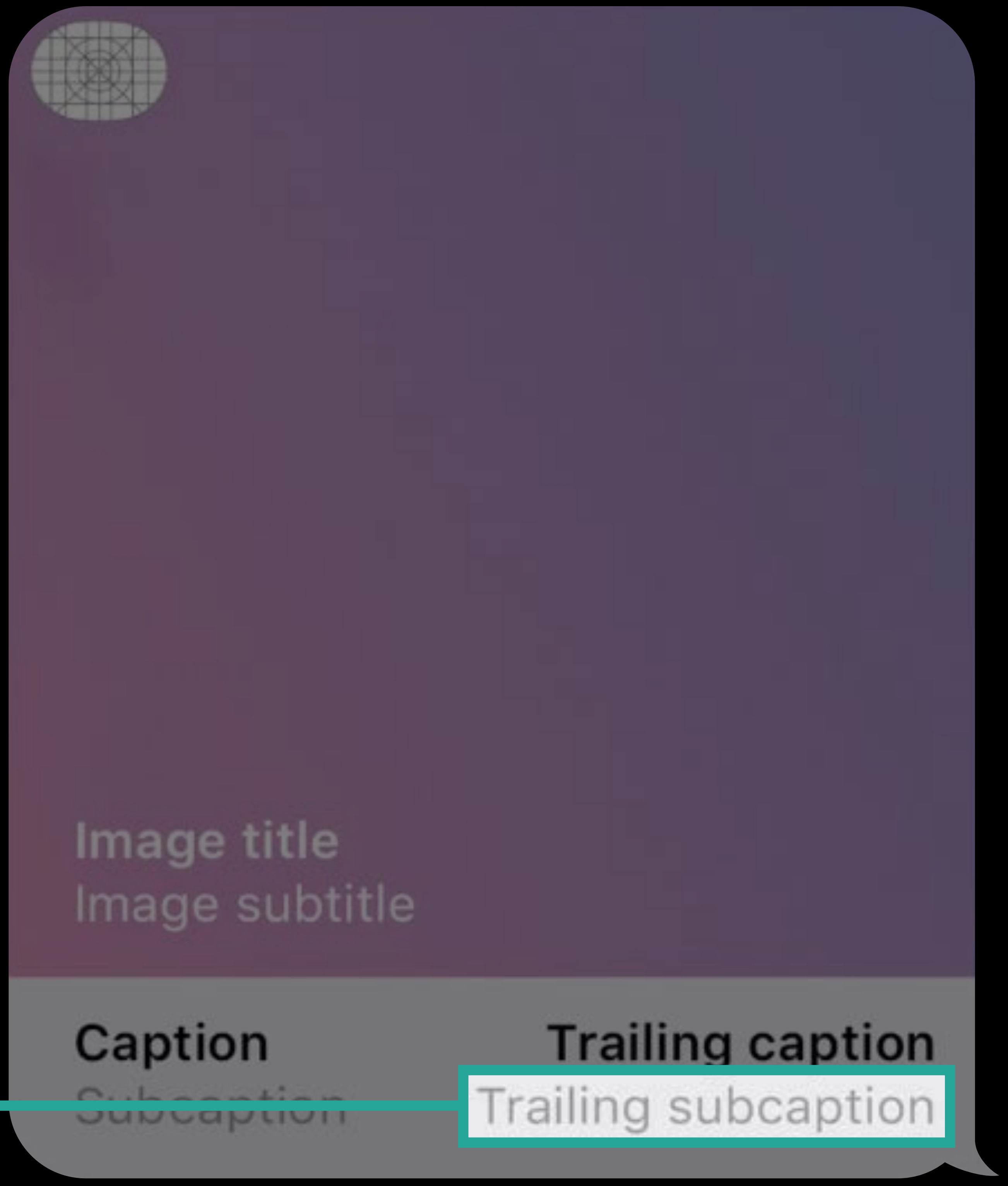

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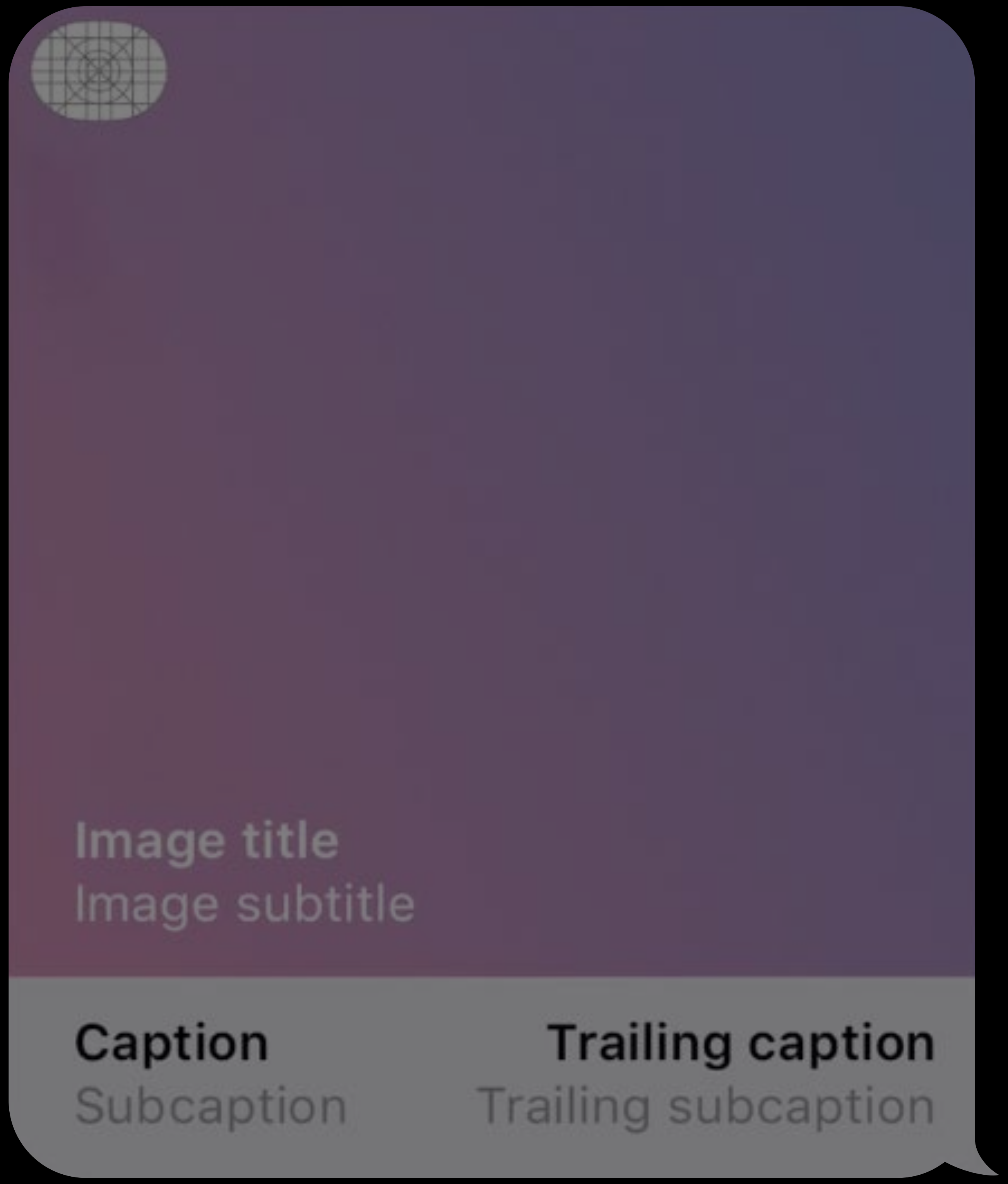

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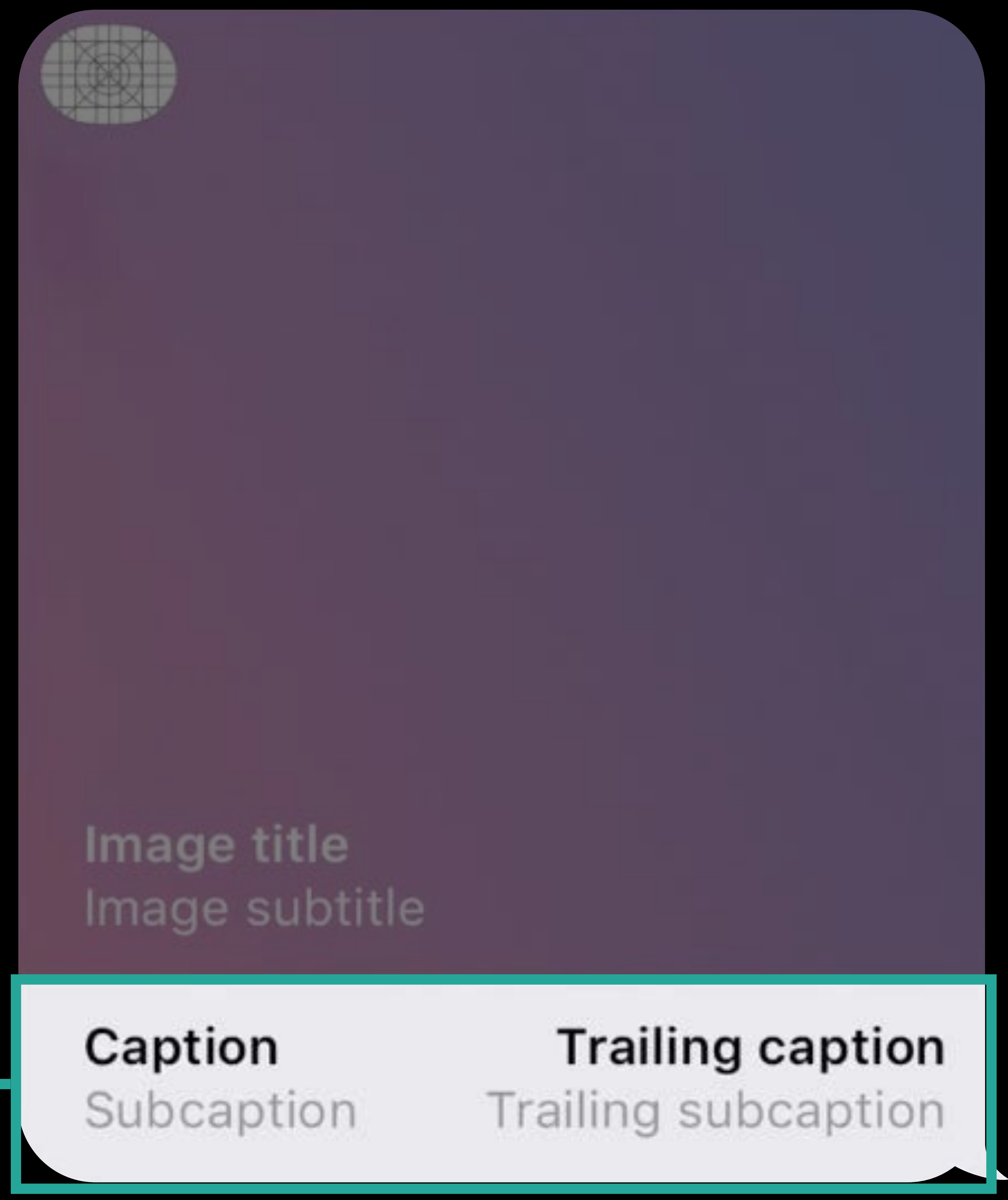
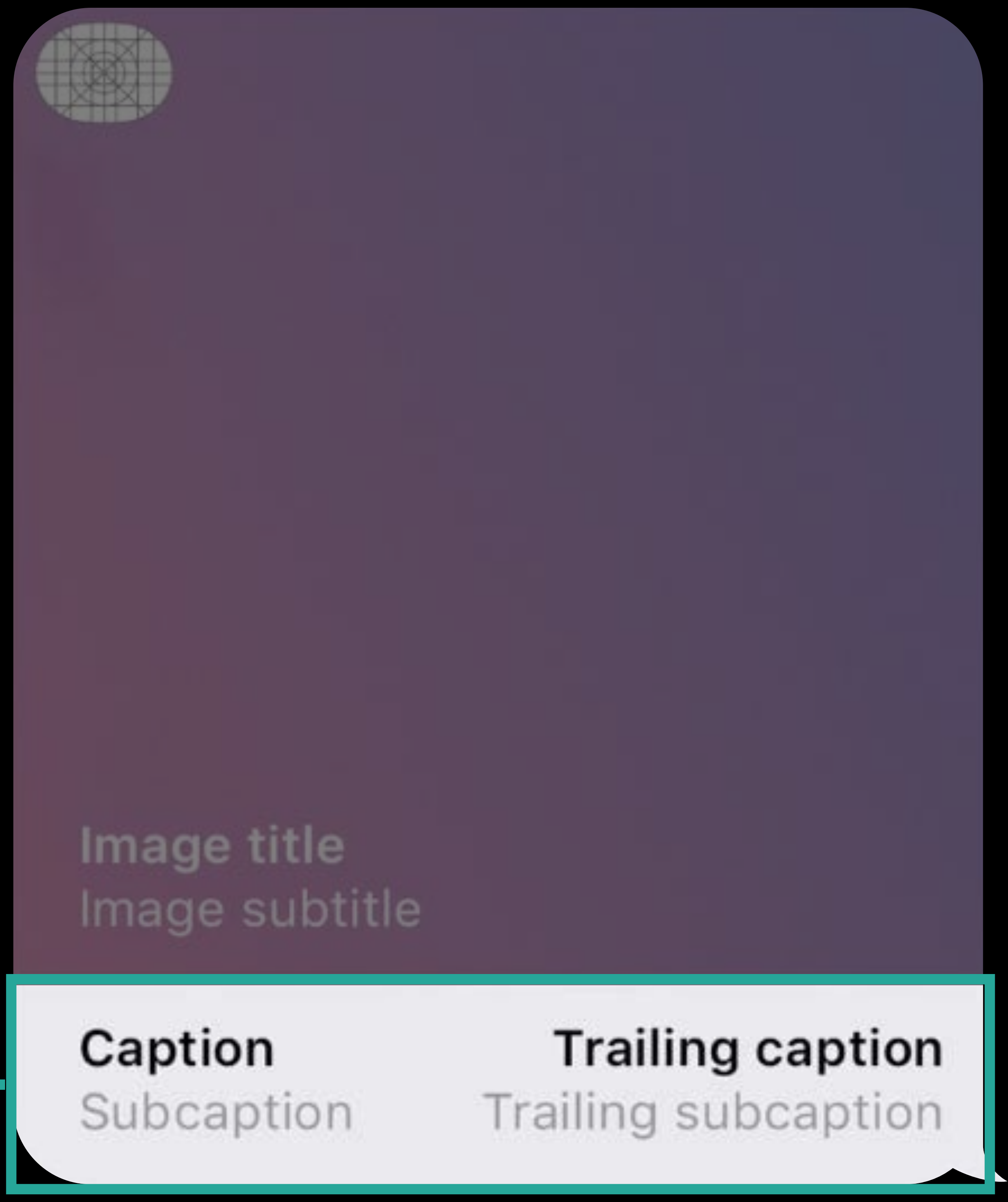


Sending a Message

Specifying message appearance

```swift
let layout = MSMessageTemplateLayout()

layout.image
layout.mediaFileURL
layout.imageTitle
layout.imageSubtitle
layout.caption = nil
layout.trailingCaption = nil
layout.subcaption = nil
layout.trailingSubcaption = nil
```



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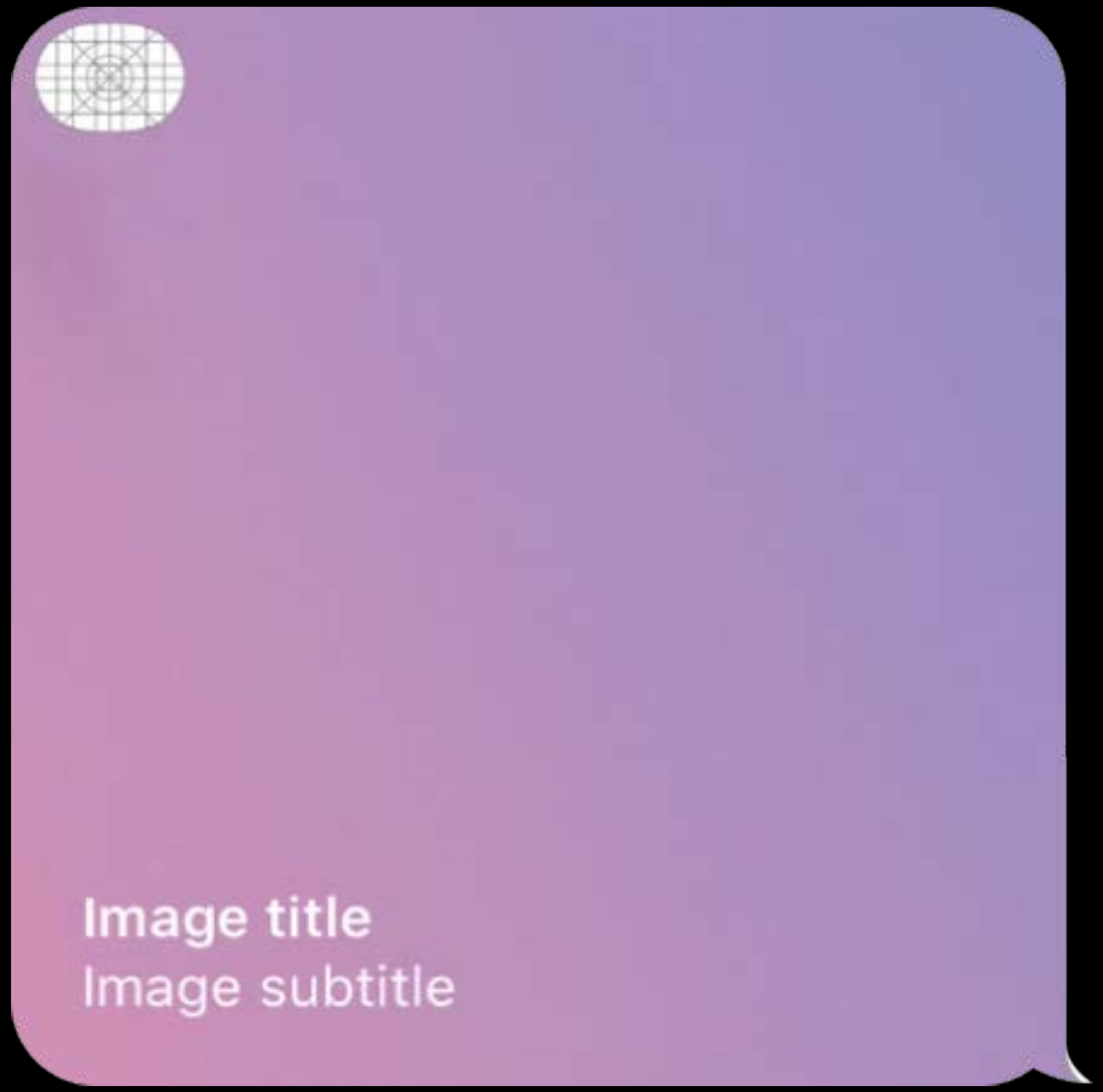

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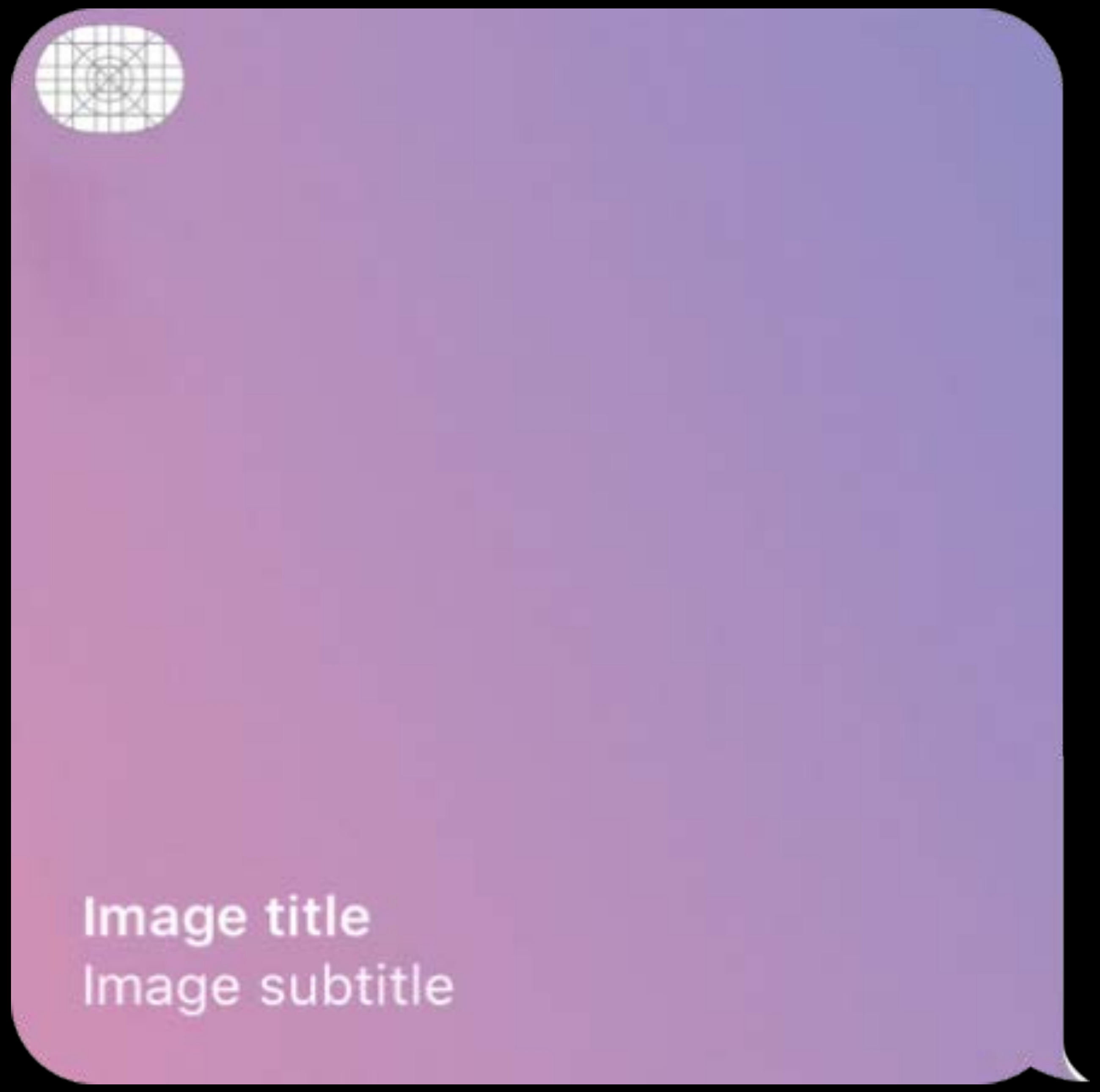

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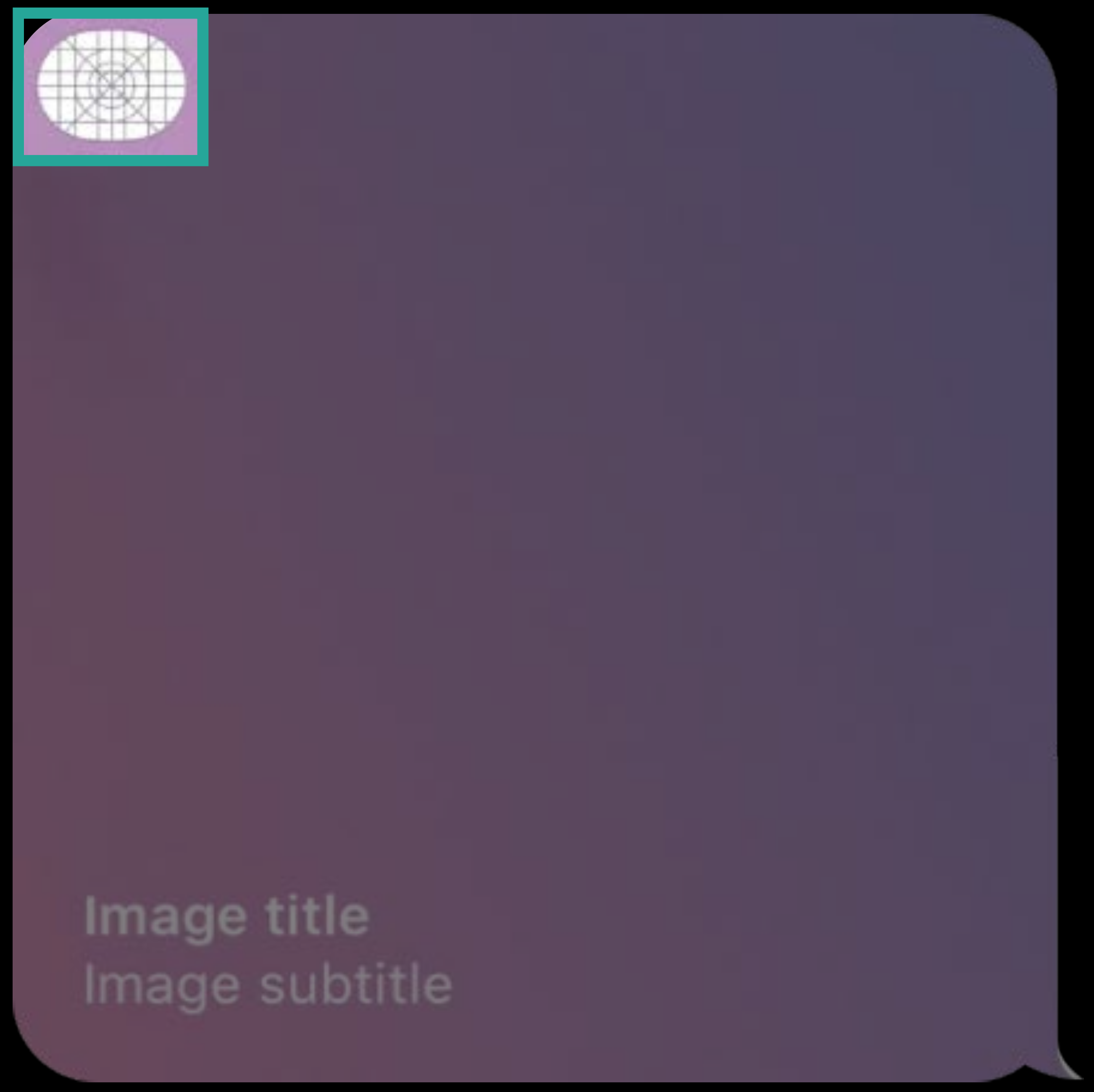
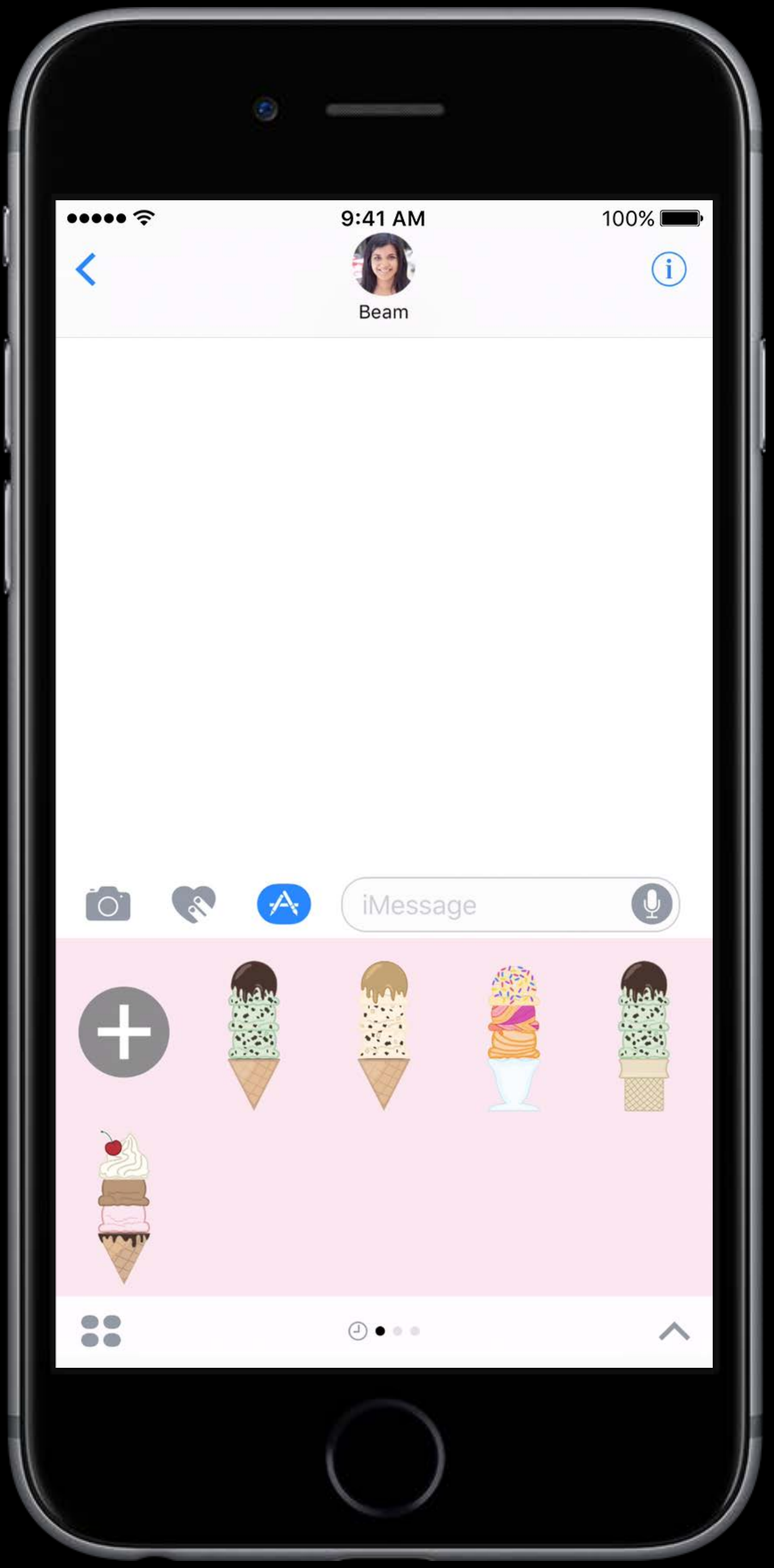
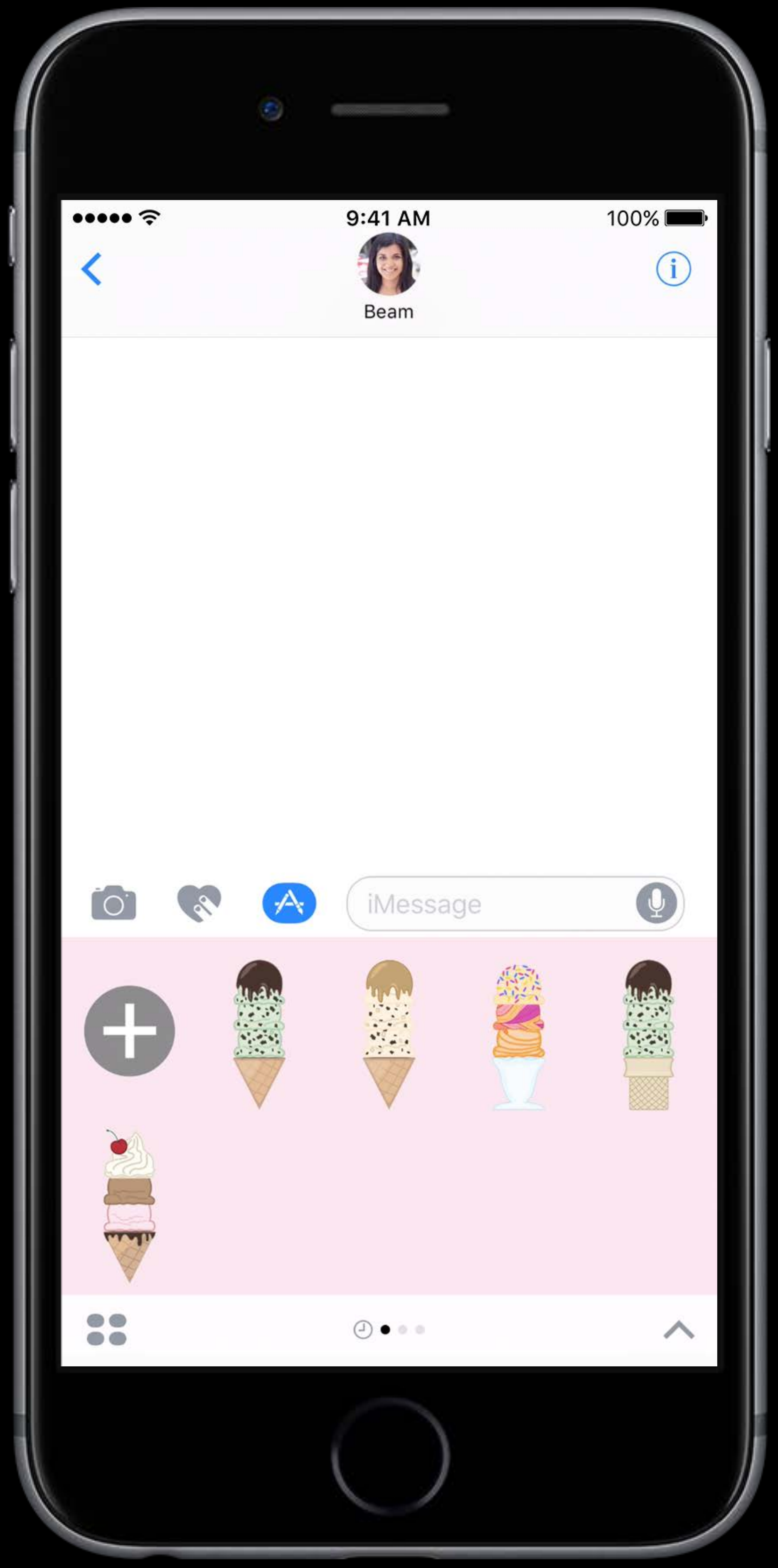


Send a Message

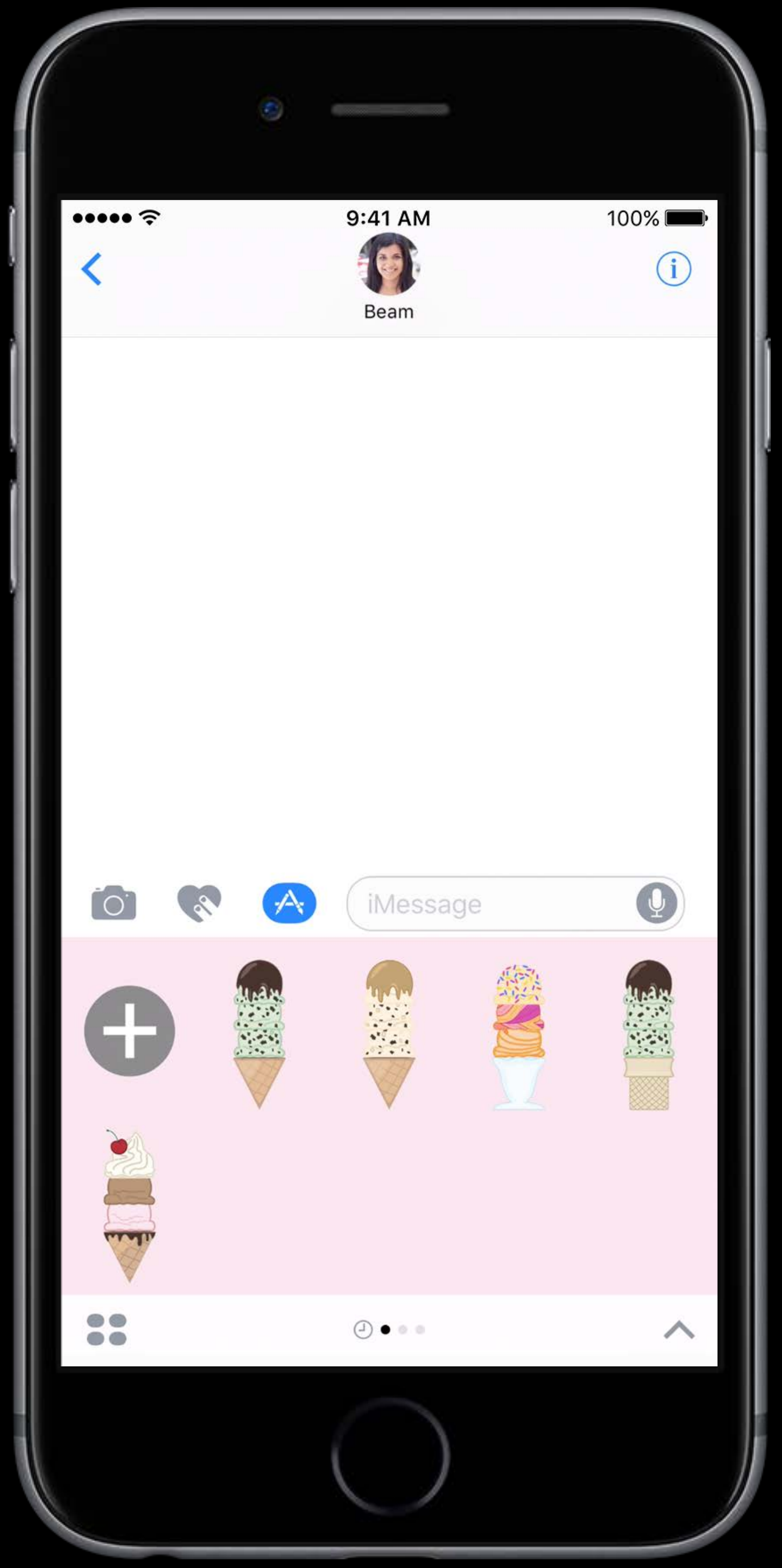


Send a Message



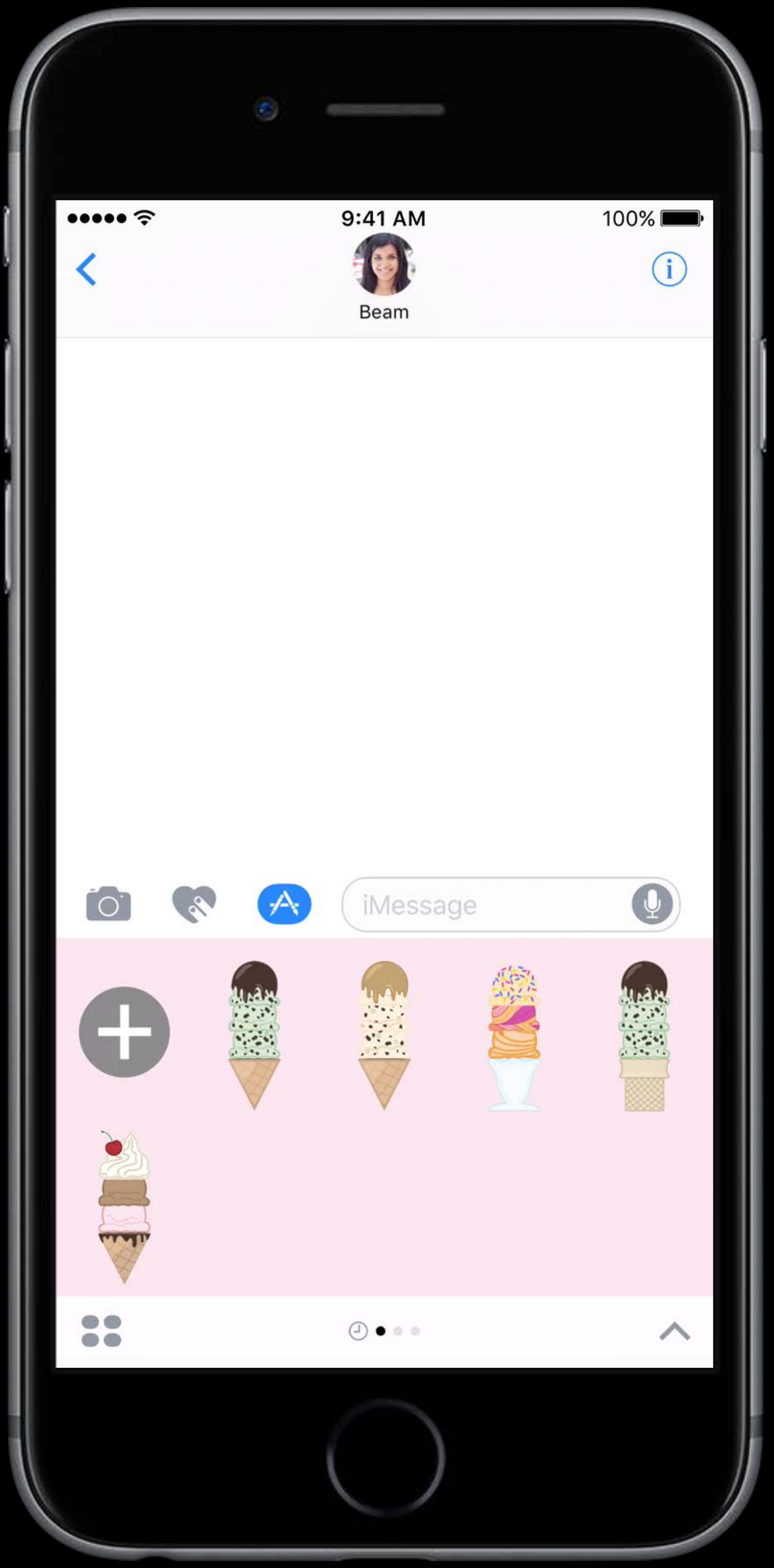
Send a Message

```swift
let conversation = self.activeConversation
```



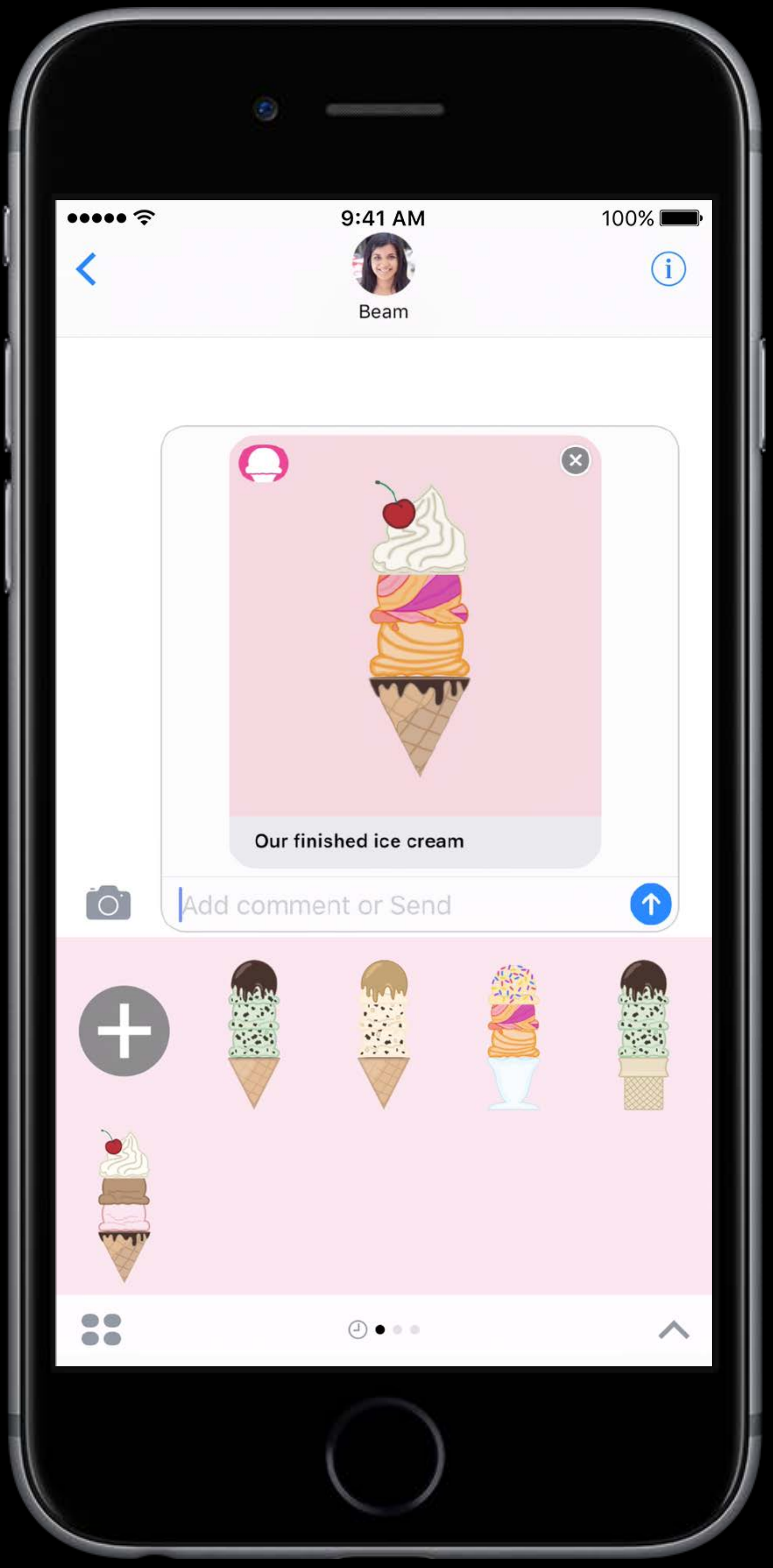
Send a Message

```
let conversation = self.activeConversation

conversation?.insert(message) { error in
    // TODO: Check for an error
})
```



Send a Message

```
let conversation = self.activeConversation

conversation?.insert(message) { error in
   // TODO: Check for an error
})
```



Our finished ice cream

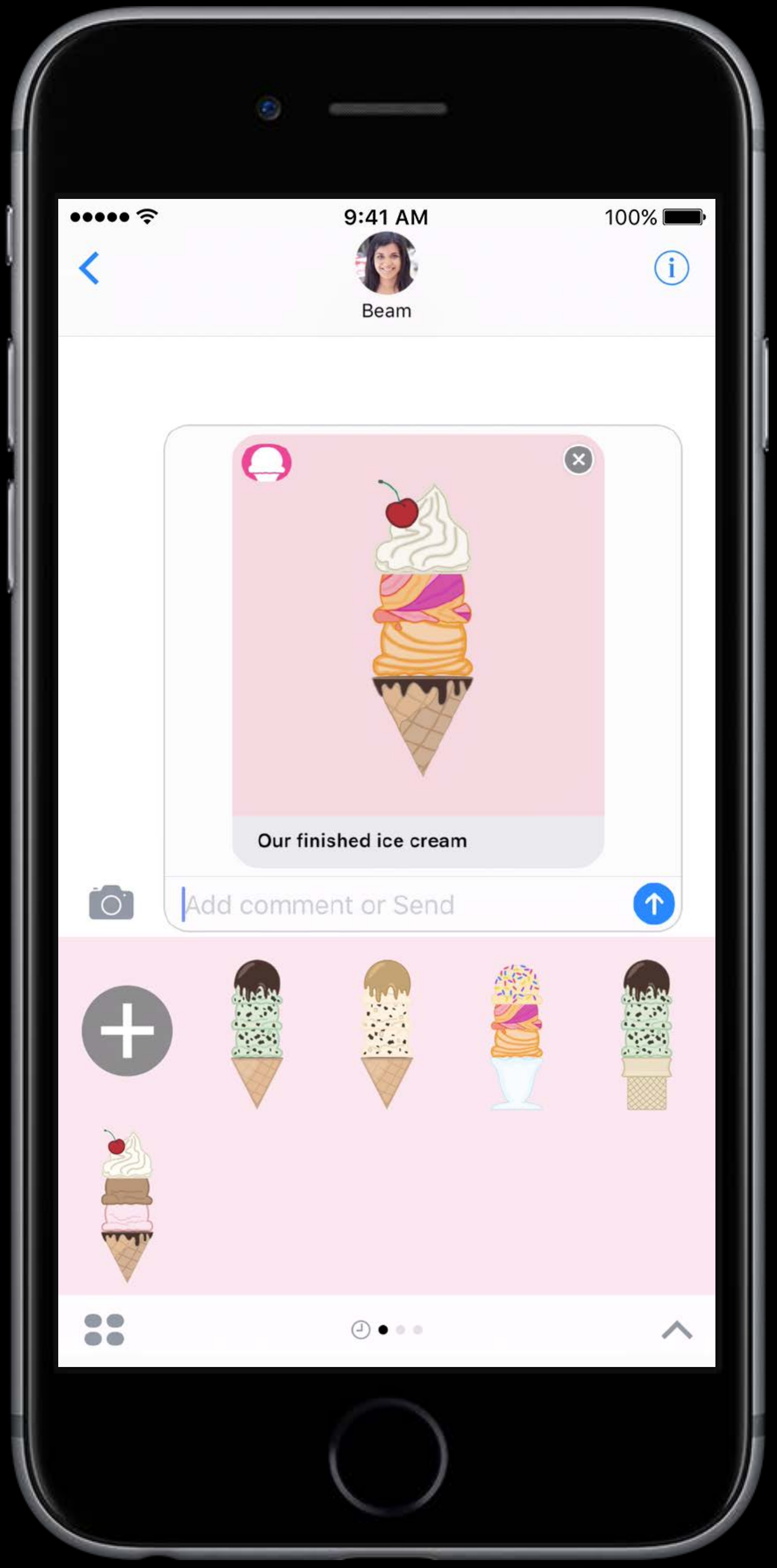
```
// Sending other types
// Sending other types
```

```
conversation?.insertText("Example text”) { error in
    // TODO: Check for an error
}
```

```
// Sending other types



conversation?.insertText("Example text”) { error in
    // TODO: Check for an error
}

conversation?.insertAttachment(resourceURL, withAlternateFilename: nil) { error in
    // TODO: Check for an error
}
```

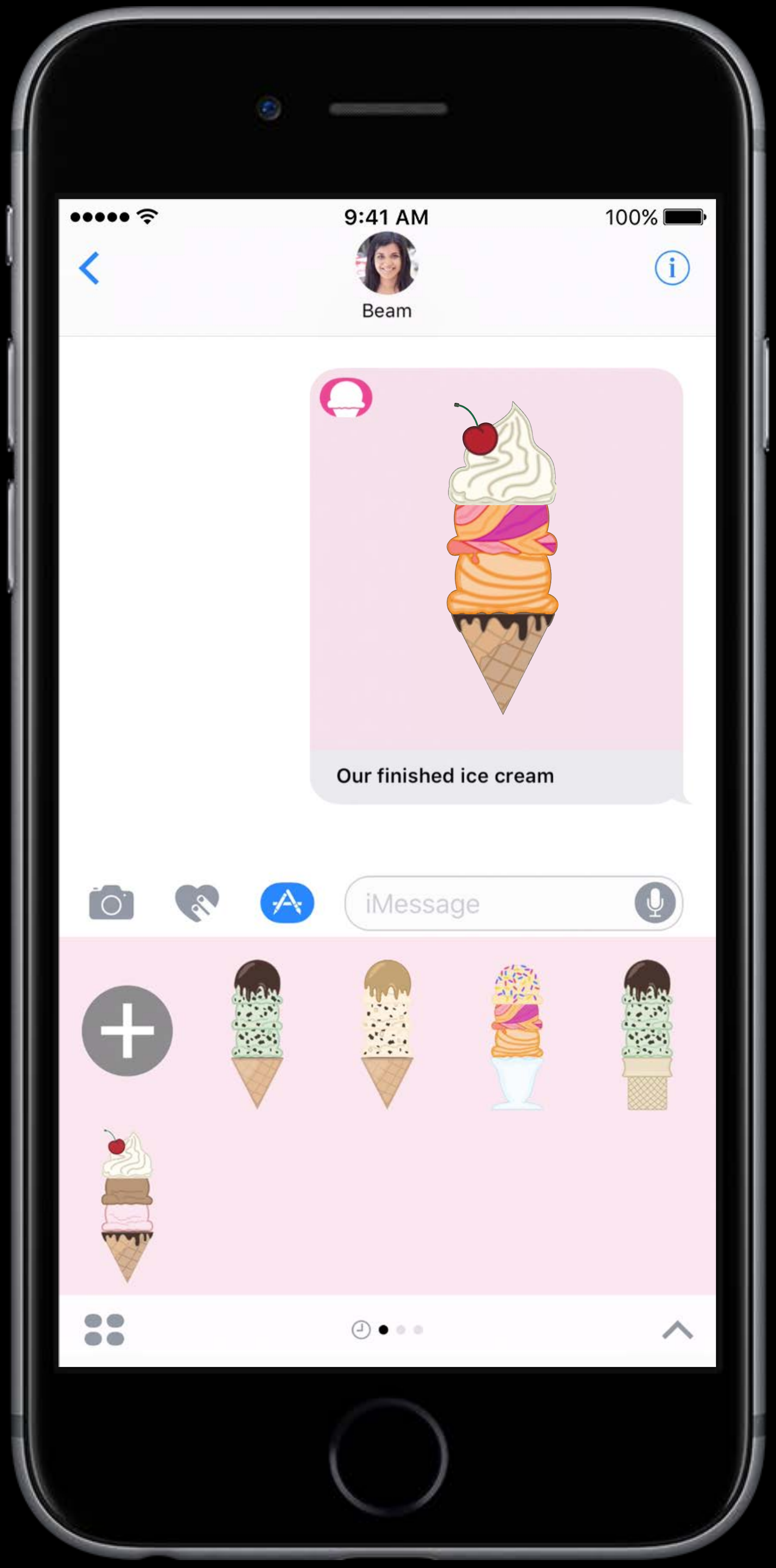
```swift
// Sending other types



conversation?.insertText("Example text”) { error in
    // TODO: Check for an error
}

conversation?.insertAttachment(resourceURL, withAlternateFilename: nil) { error in
    // TODO: Check for an error
}

conversation?.insert(sticker) { error in
    // TODO: Check for an error
})
```

Send the Message



Our finished ice cream

Send the Message



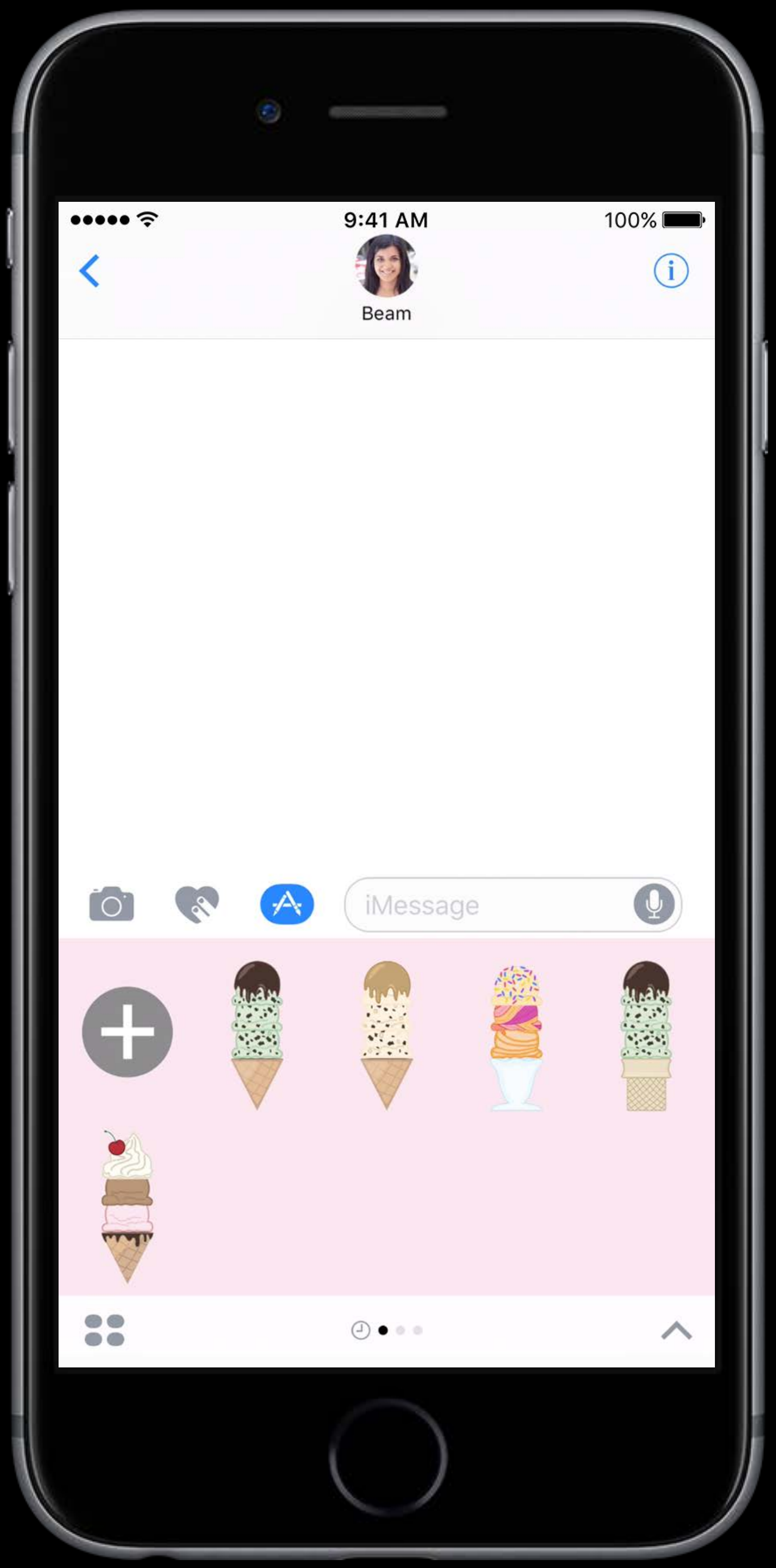
Our finished ice cream

Demo

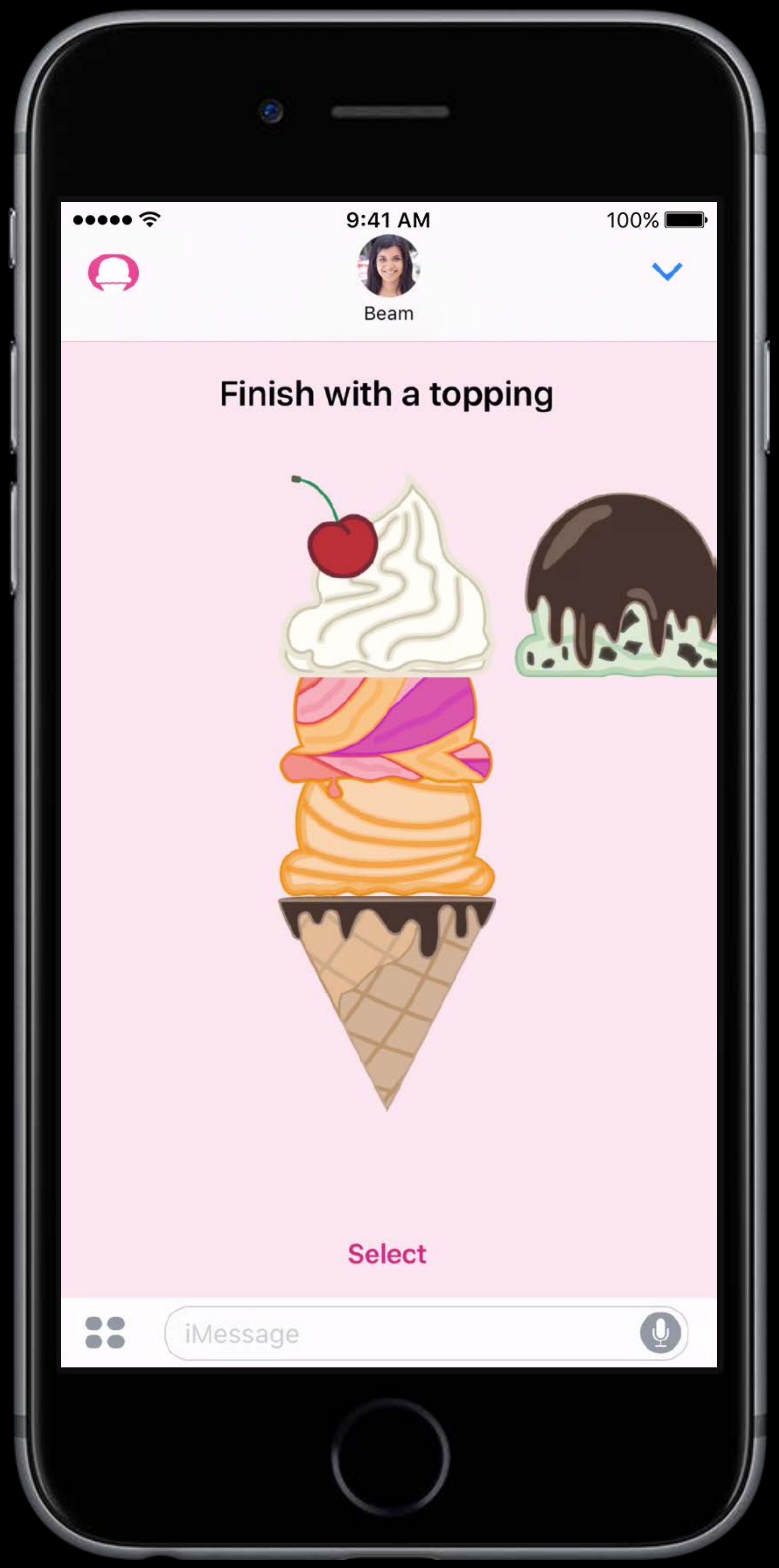
Sending a message

Presentation Style

Overview



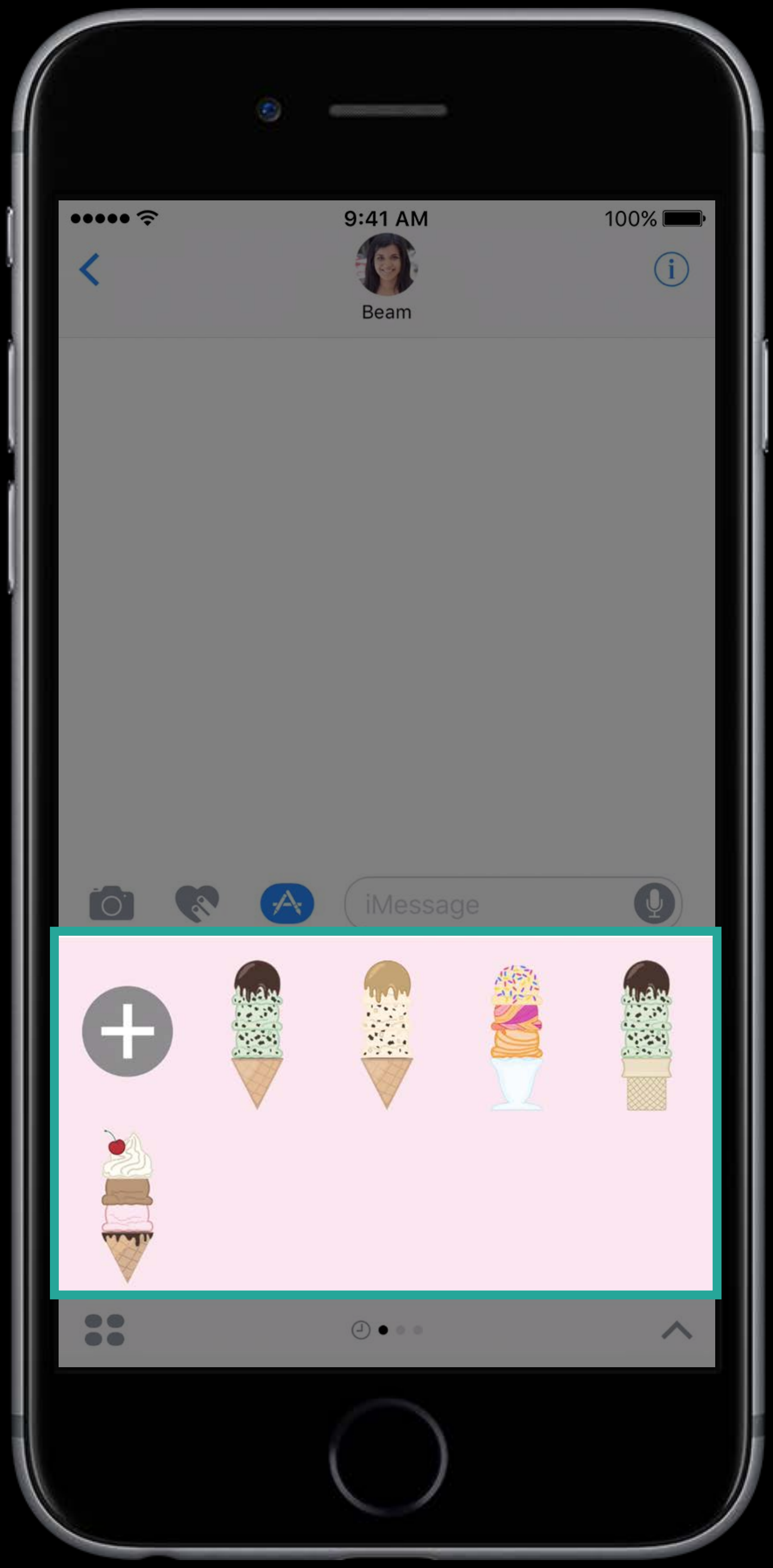
Compact



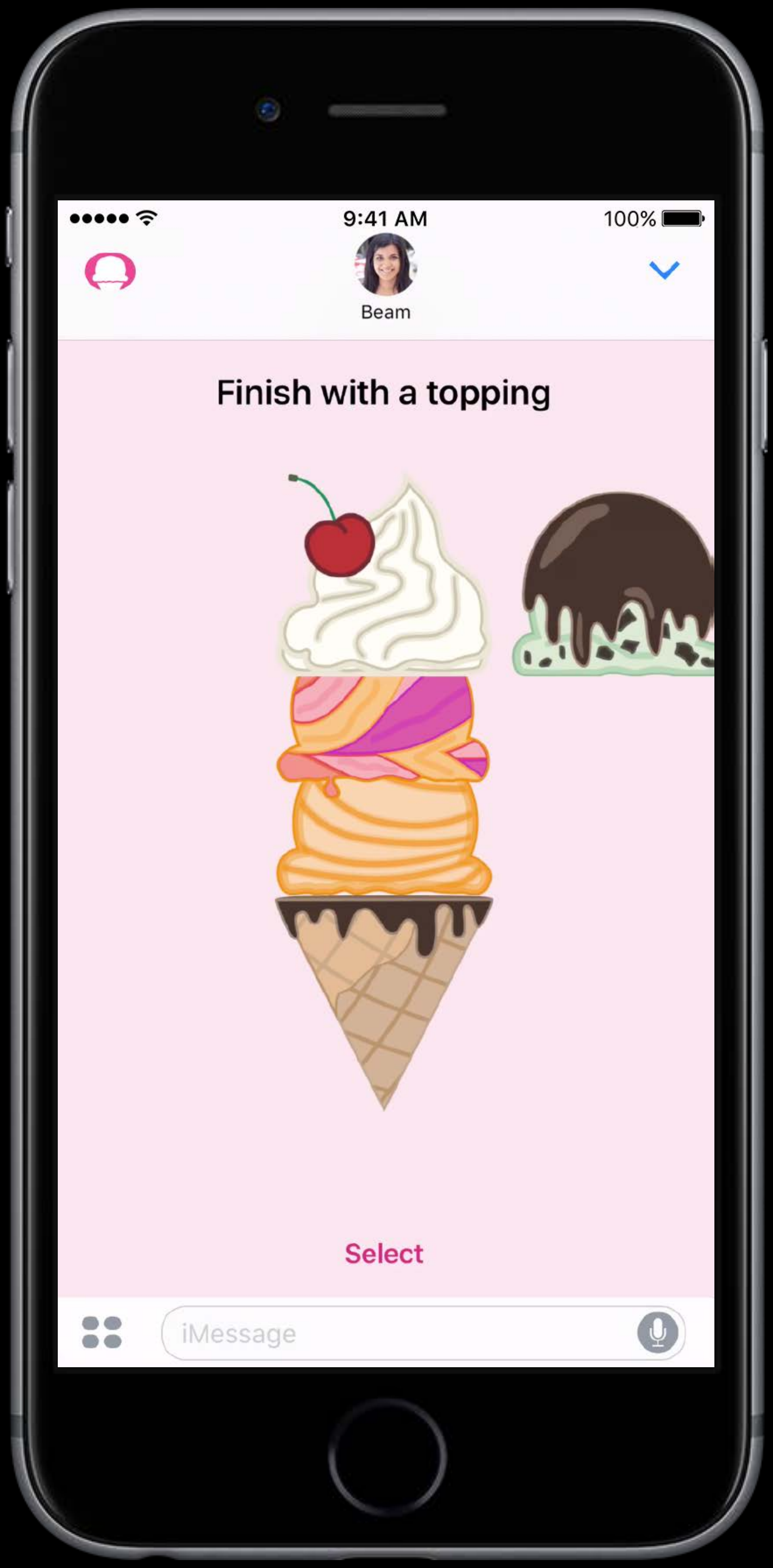
Expanded

Presentation Style

Overview



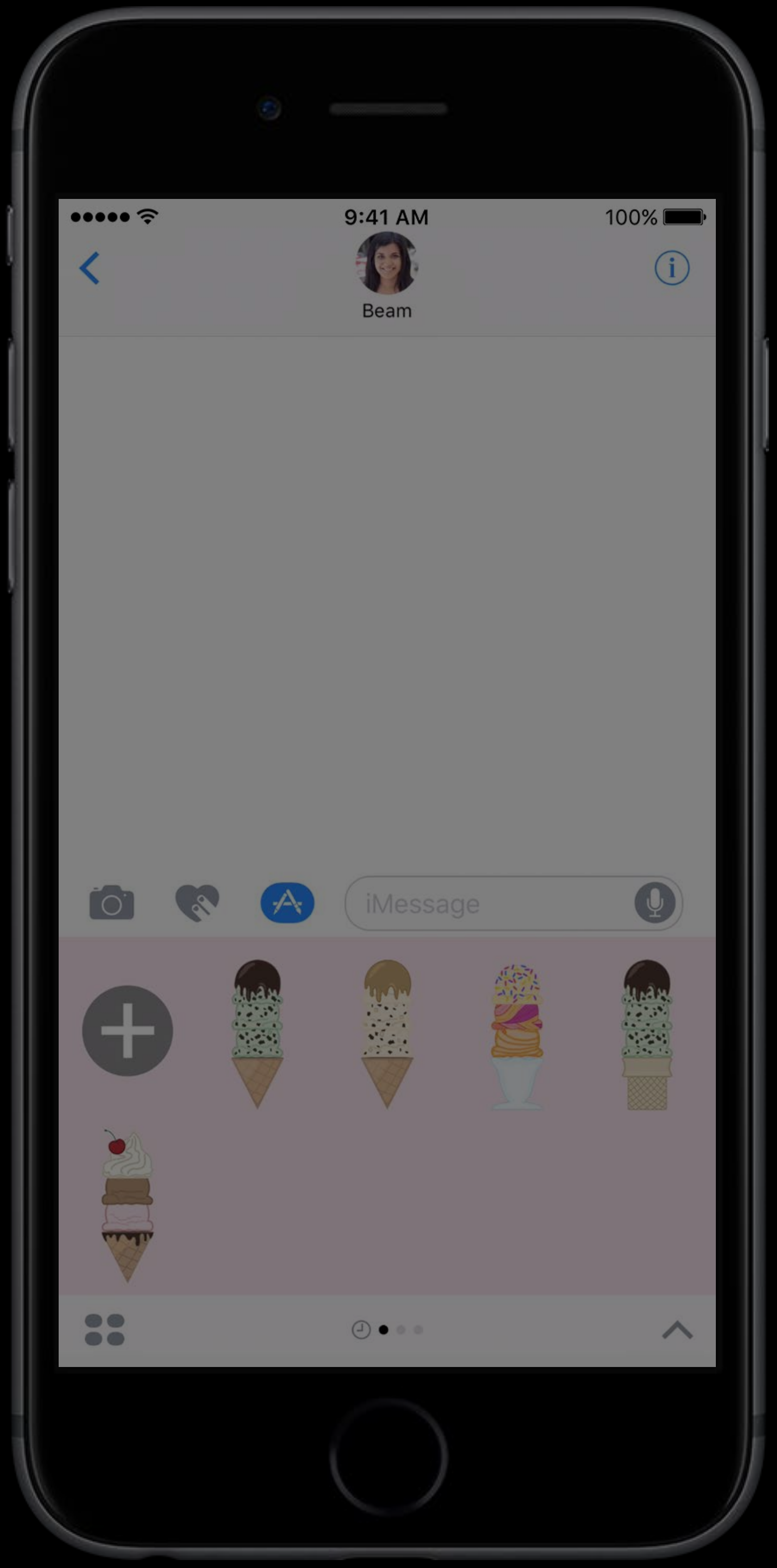
Compact



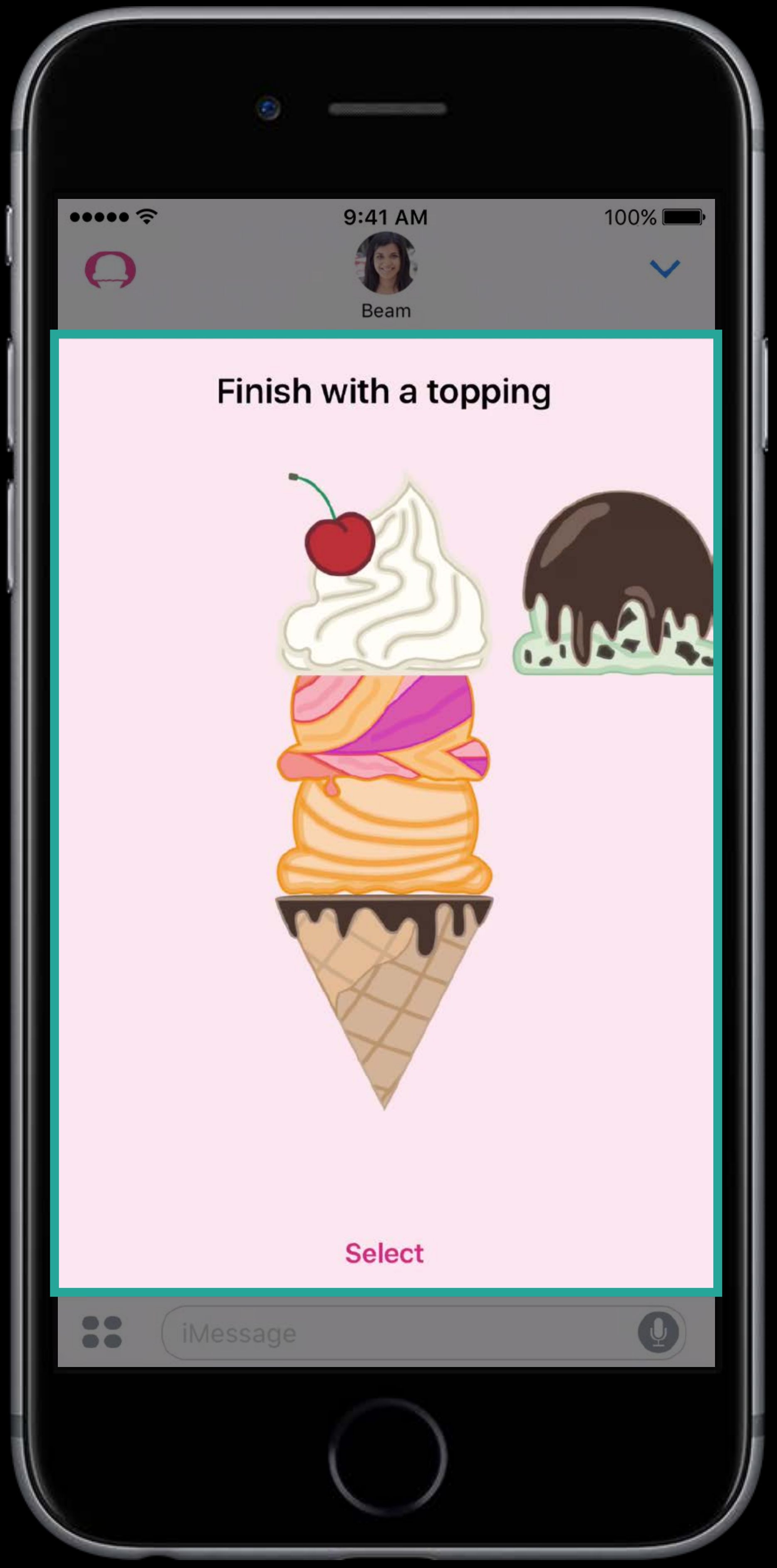
Expanded

Presentation Style

Overview



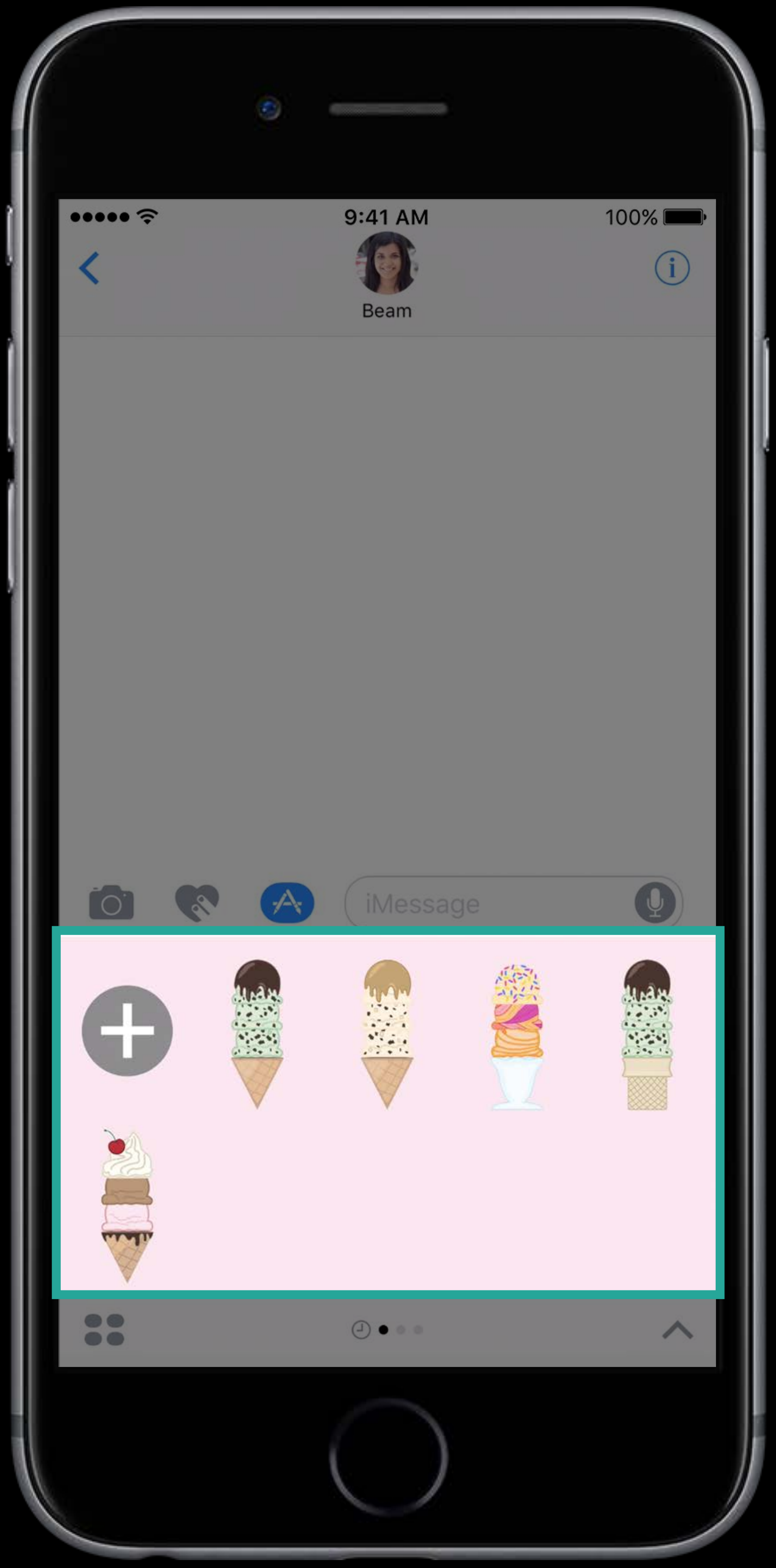
Compact



Expanded

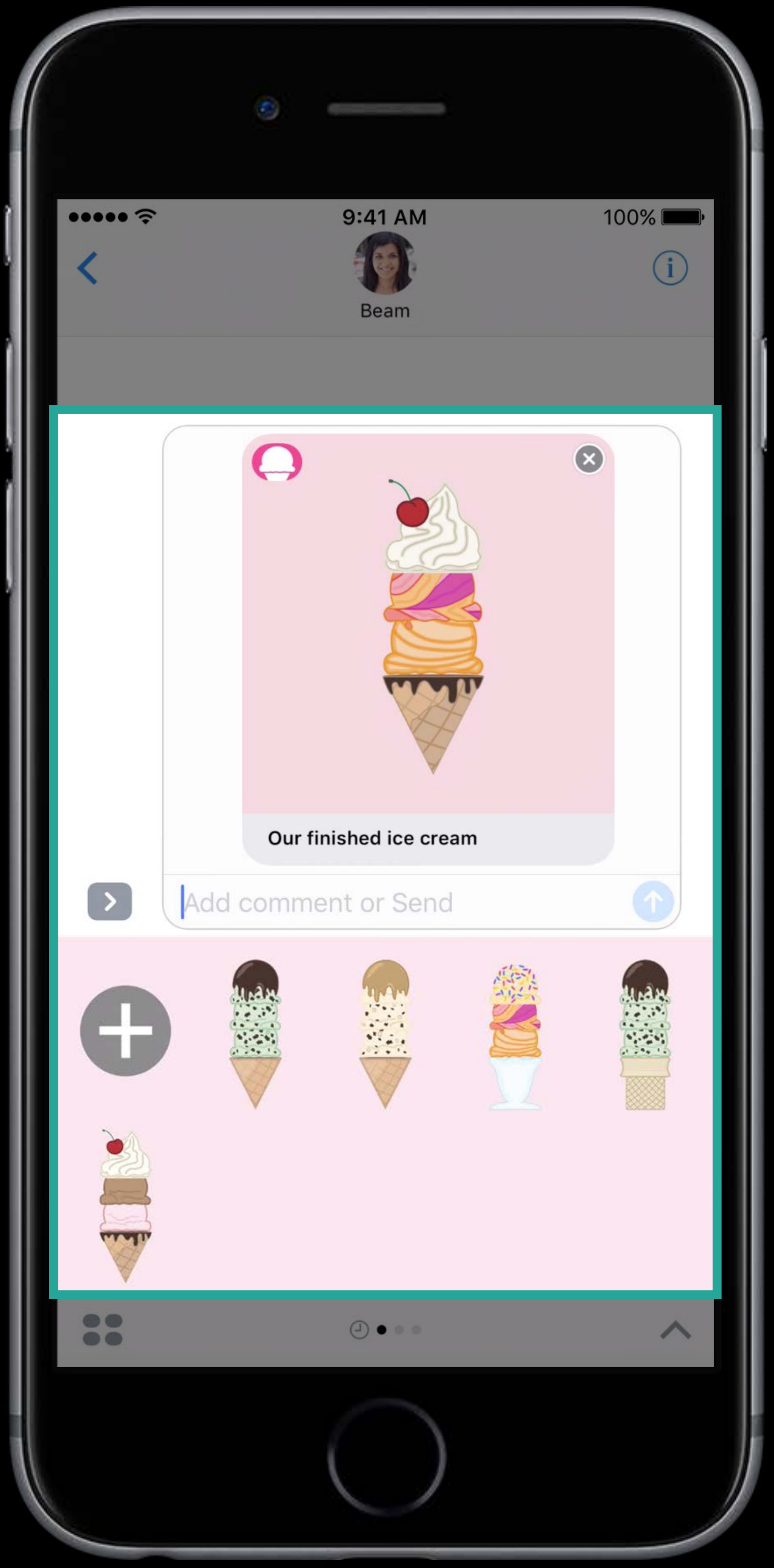
Presentation Style

Compact



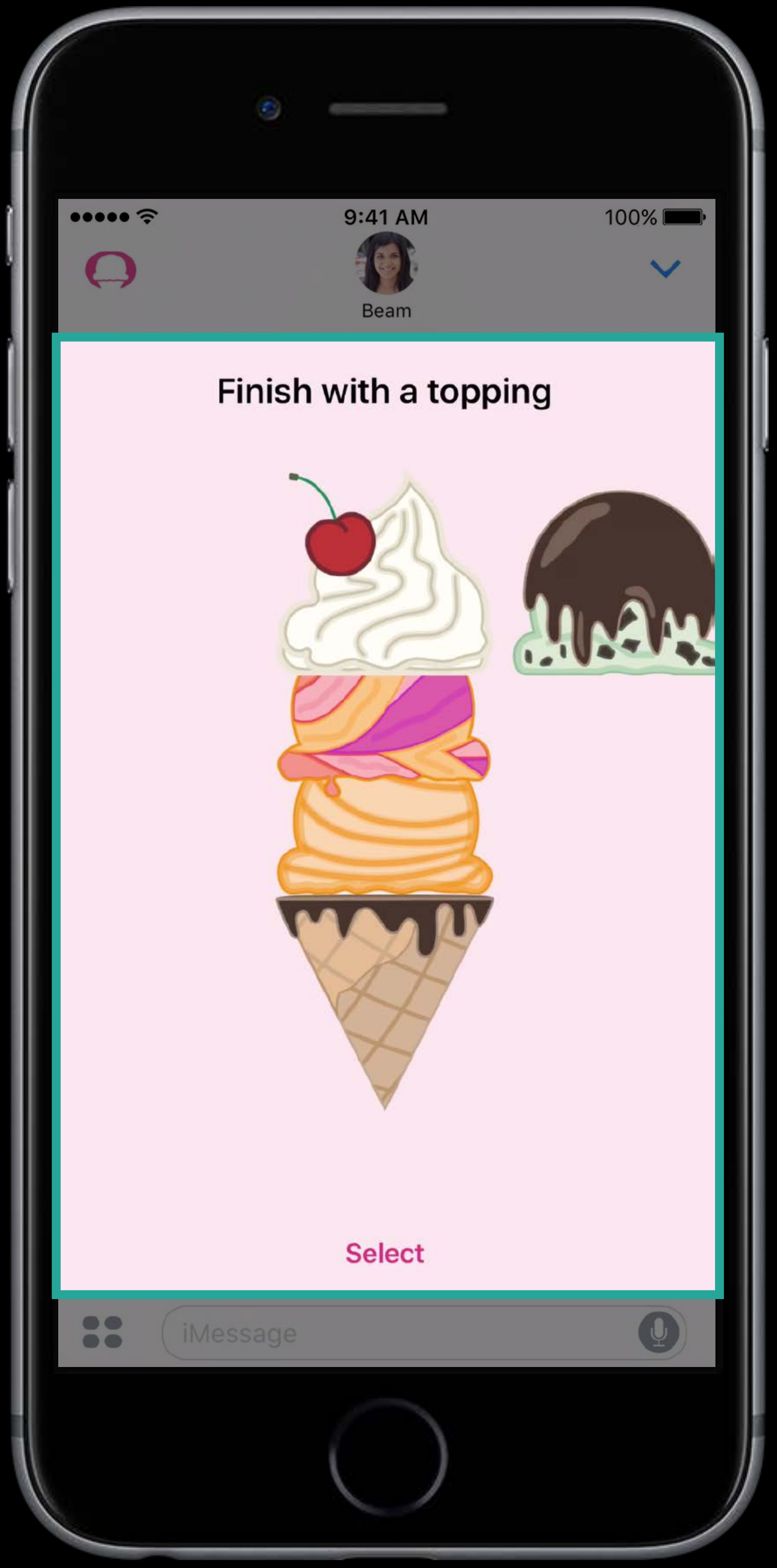
Presentation Style

Compact



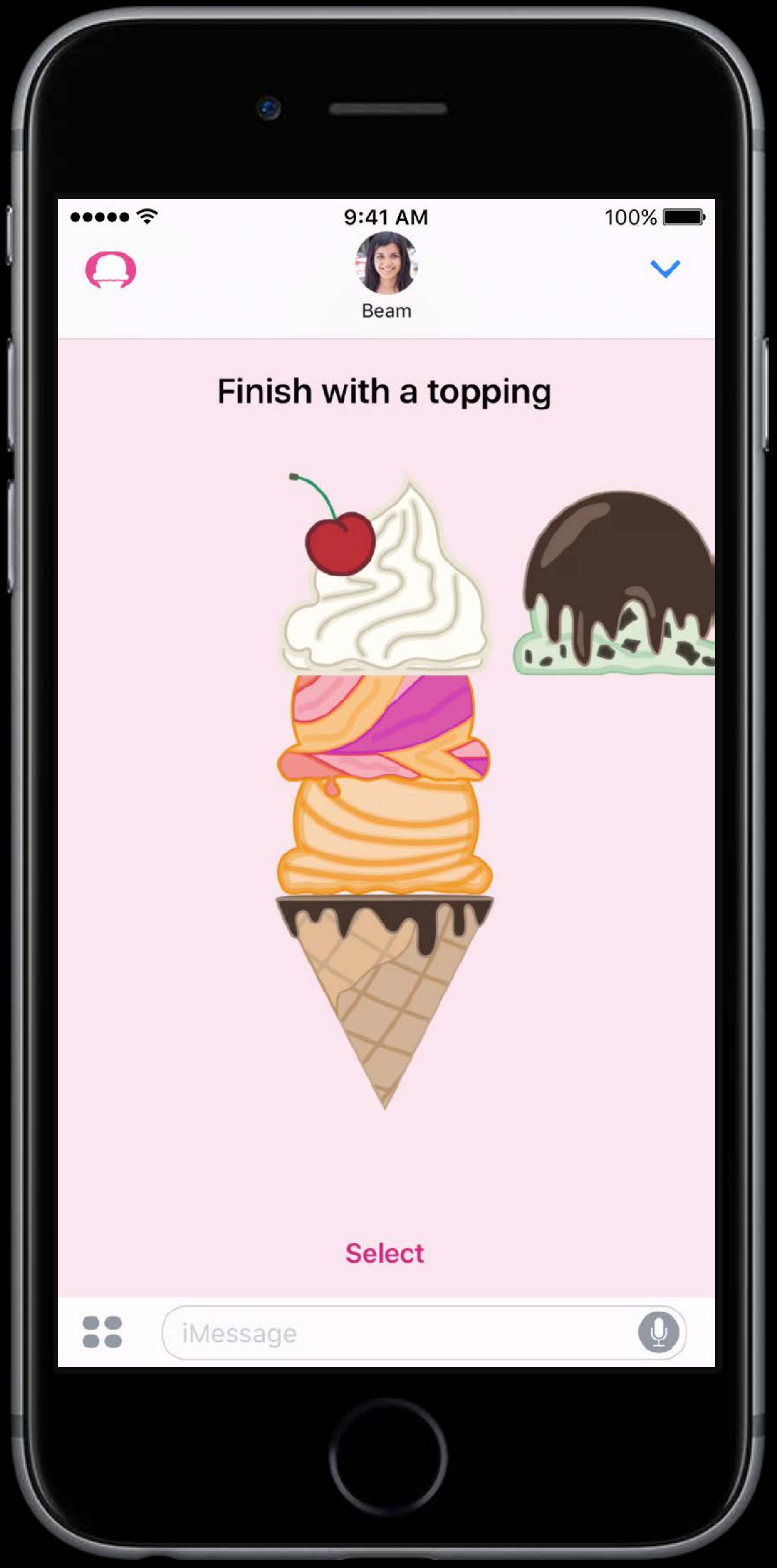
Presentation Style

Expanded



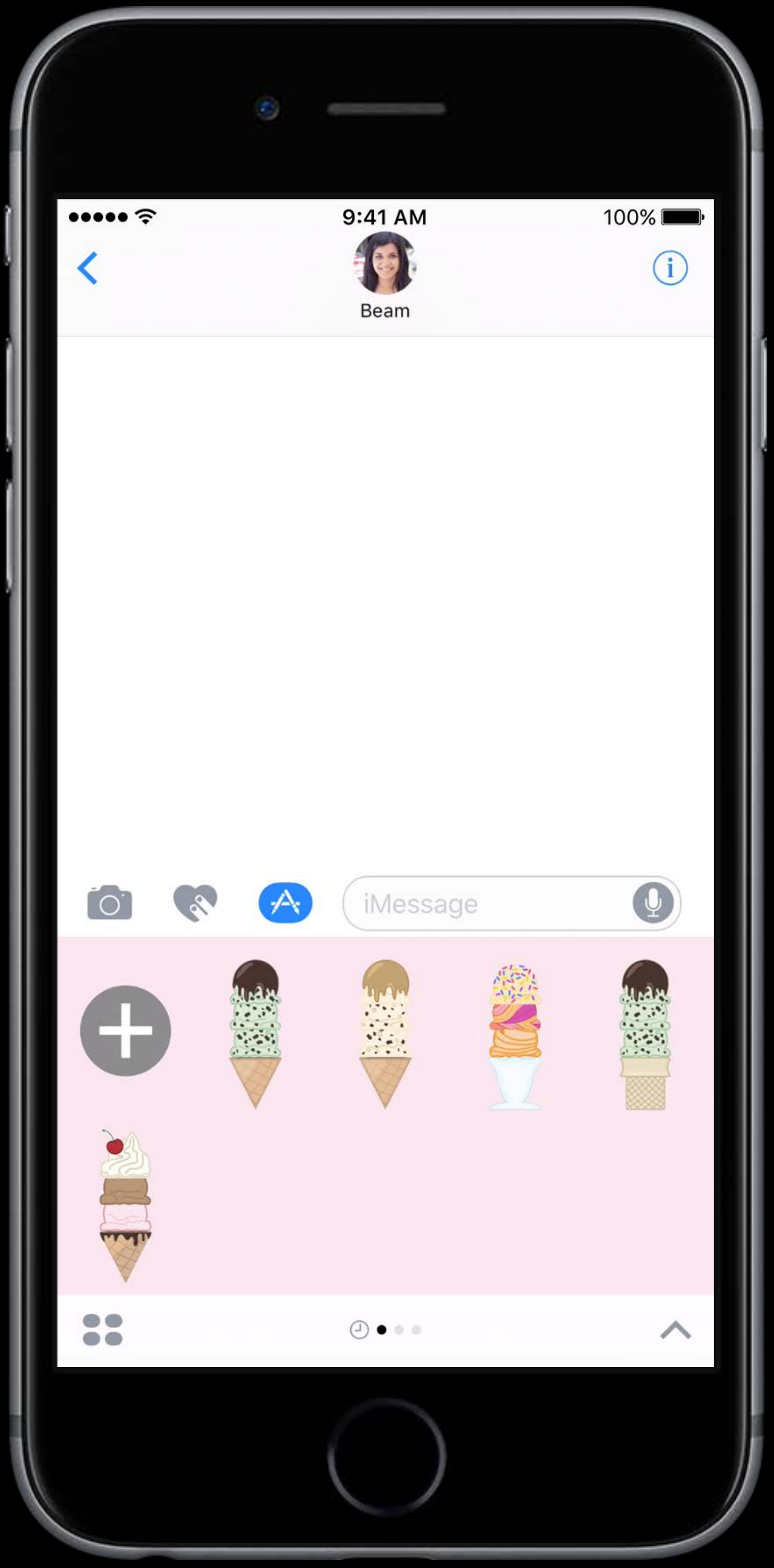
Presentation Style

Transition



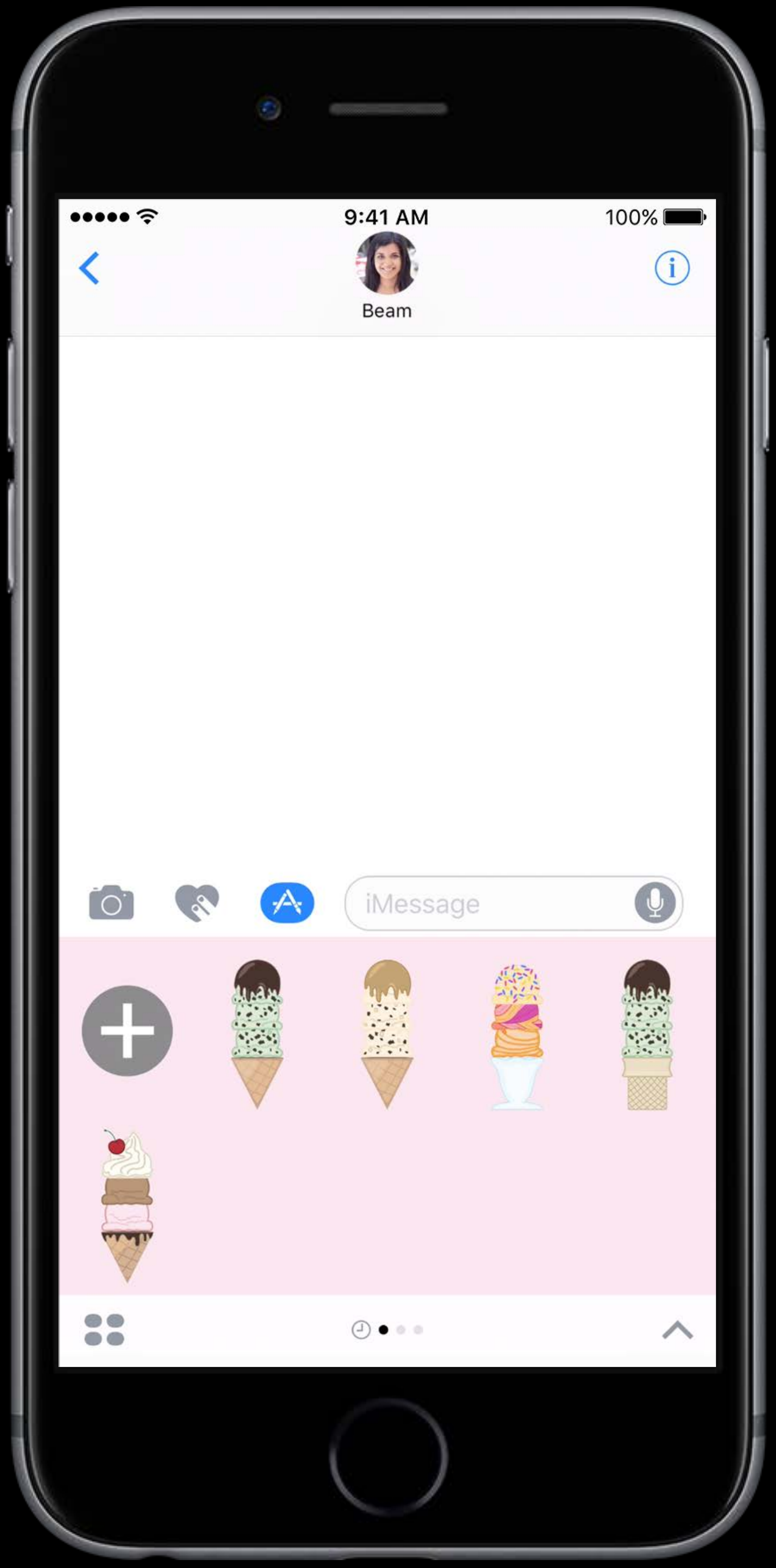
Presentation Style

Transition



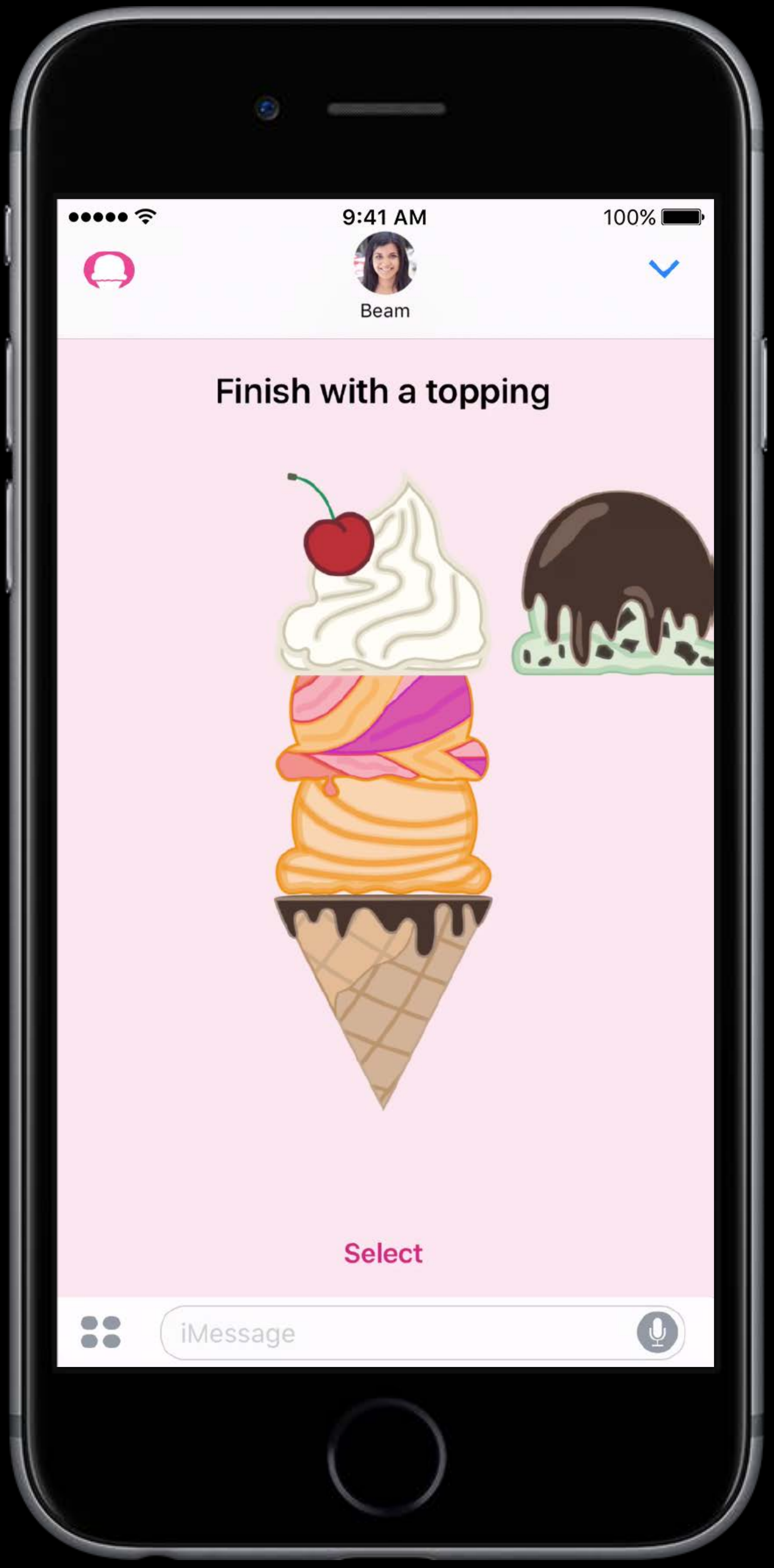
Presentation Style

Transition



Presentation Style

Transition



// Presentation Style

```
// Presentation Style
```

```
override func willTransition(to presentationStyle: MSMessagesAppPresentationStyle) {
    super.willTransition(to: presentationStyle)
}
```

```swift
// Presentation Style



override func willTransition(to presentationStyle: MSMessagesAppPresentationStyle) {
    super.willTransition(to: presentationStyle)
}

override func didTransition(to presentationStyle: MSMessagesAppPresentationStyle) {
    super.didTransition(to: presentationStyle)
}
```

```swift
// Presentation Style



override func willTransition(to presentationStyle: MSMessagesAppPresentationStyle) {
    super.willTransition(to: presentationStyle)
}

override func didTransition(to presentationStyle: MSMessagesAppPresentationStyle) {
    super.didTransition(to: presentationStyle)
}

self.requestPresentationStyle(.expanded)
```

```
// Presentation Style



override func willTransition(to presentationStyle: MSMessagesAppPresentationStyle) {
    super.willTransition(to: presentationStyle)
}

override func didTransition(to presentationStyle: MSMessagesAppPresentationStyle) {
    super.didTransition(to: presentationStyle)
}
```

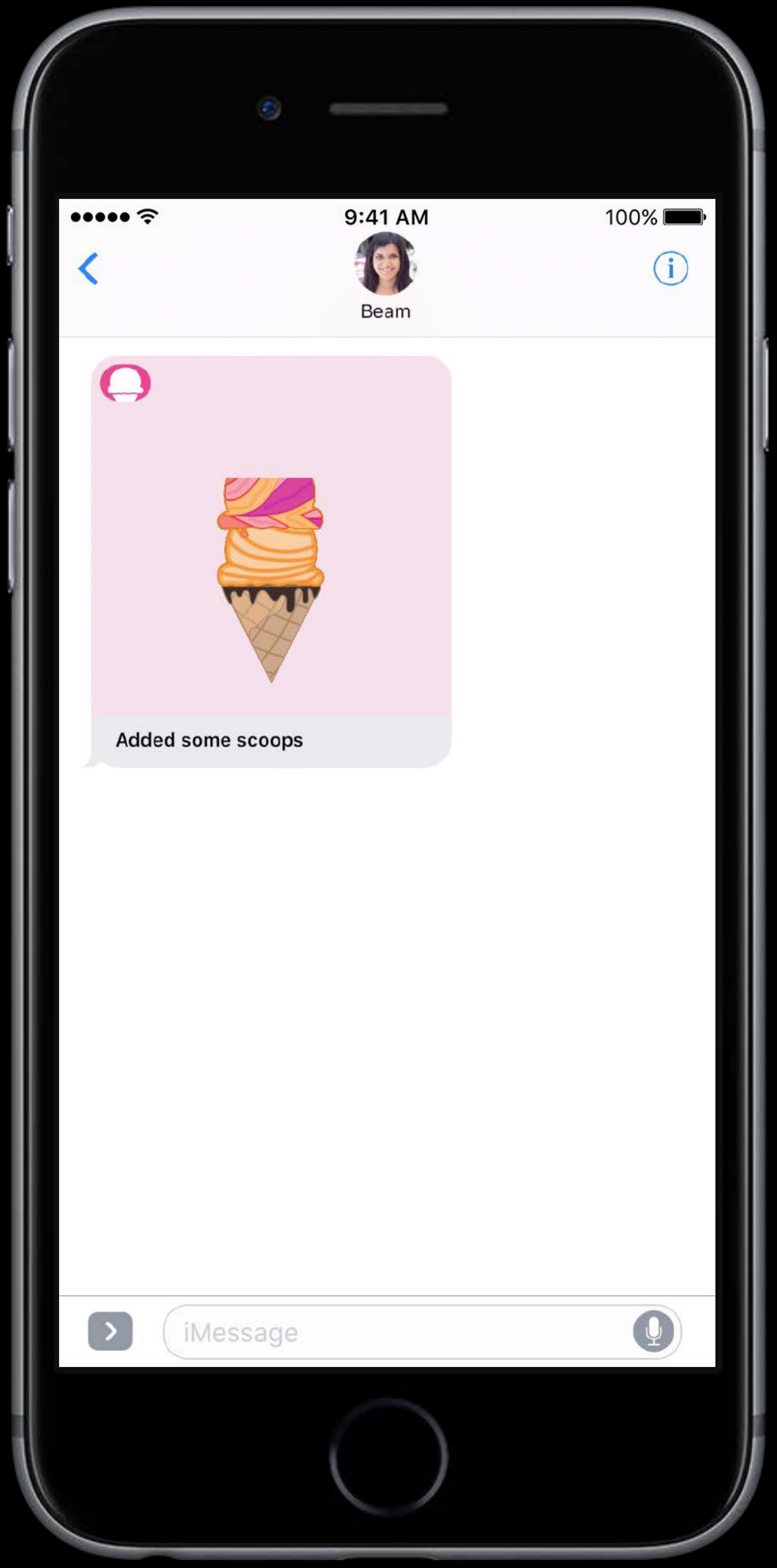
```
self.requestPresentationStyle(.compact)
```

```
// Presentation Style



override func willTransition(to presentationStyle: MSMessagesAppPresentationStyle) {
   super.willTransition(to: presentationStyle)
}

override func didTransition(to presentationStyle: MSMessagesAppPresentationStyle) {
   super.didTransition(to: presentationStyle)
}

self.requestPresentationStyle(.compact)

self.dismiss()
```

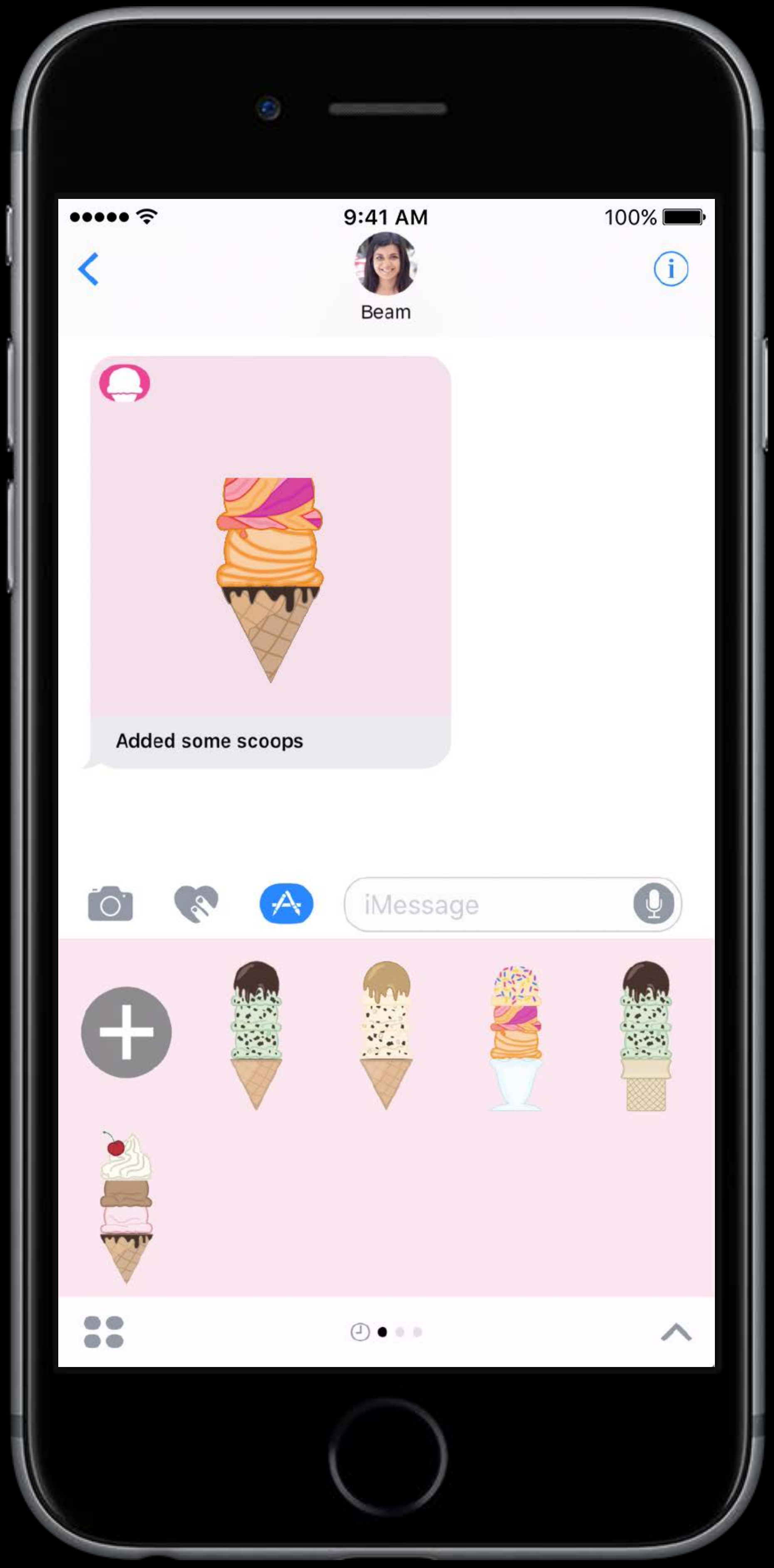
Replying to a Message

Replying to a Message

Two cases



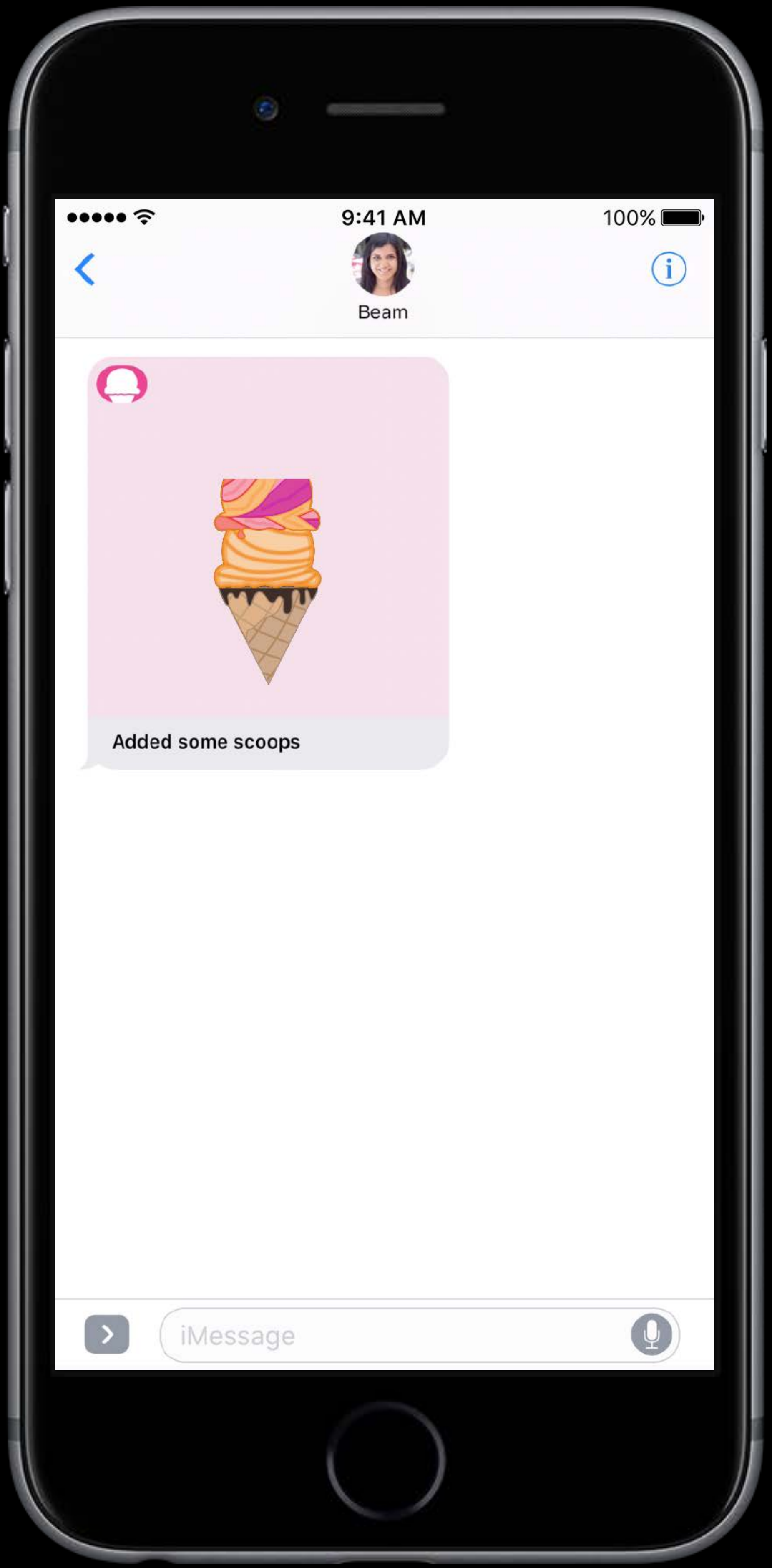
Extension is inactive



Extension is active

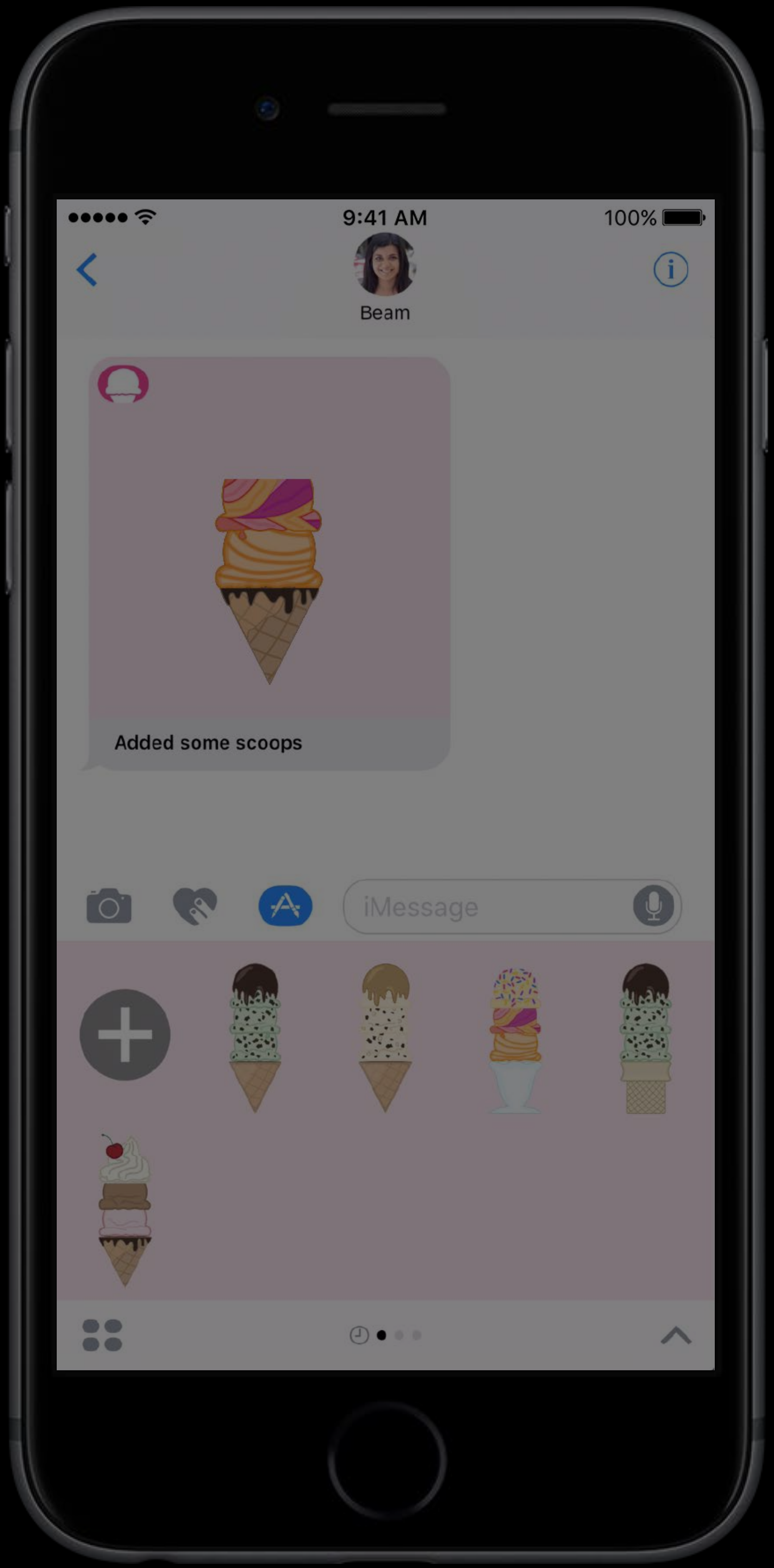
Replying to a Message

Two cases



Added some scoops

Extension is inactive



Added some scoops

Extension is active

Replying to a Message

Extension is inactive

Replying to a Message

Extension is inactive

Bubble Tapped

Replying to a Message

Extension is inactive

Bubble Tapped

Process Launched

Replying to a Message

Extension is inactive

Bubble Tapped

Process Launched

```
func didBecomeActive(with conversation: MSConversation)
```

Replying to a Message

Extension is inactive

Bubble Tapped

Process Launched

```
func didBecomeActive(with conversation: MSConversation)
```

```
func viewWillAppear(_ animated: Bool)
```

Replying to a Message

Extension is inactive

Bubble Tapped

Process Launched

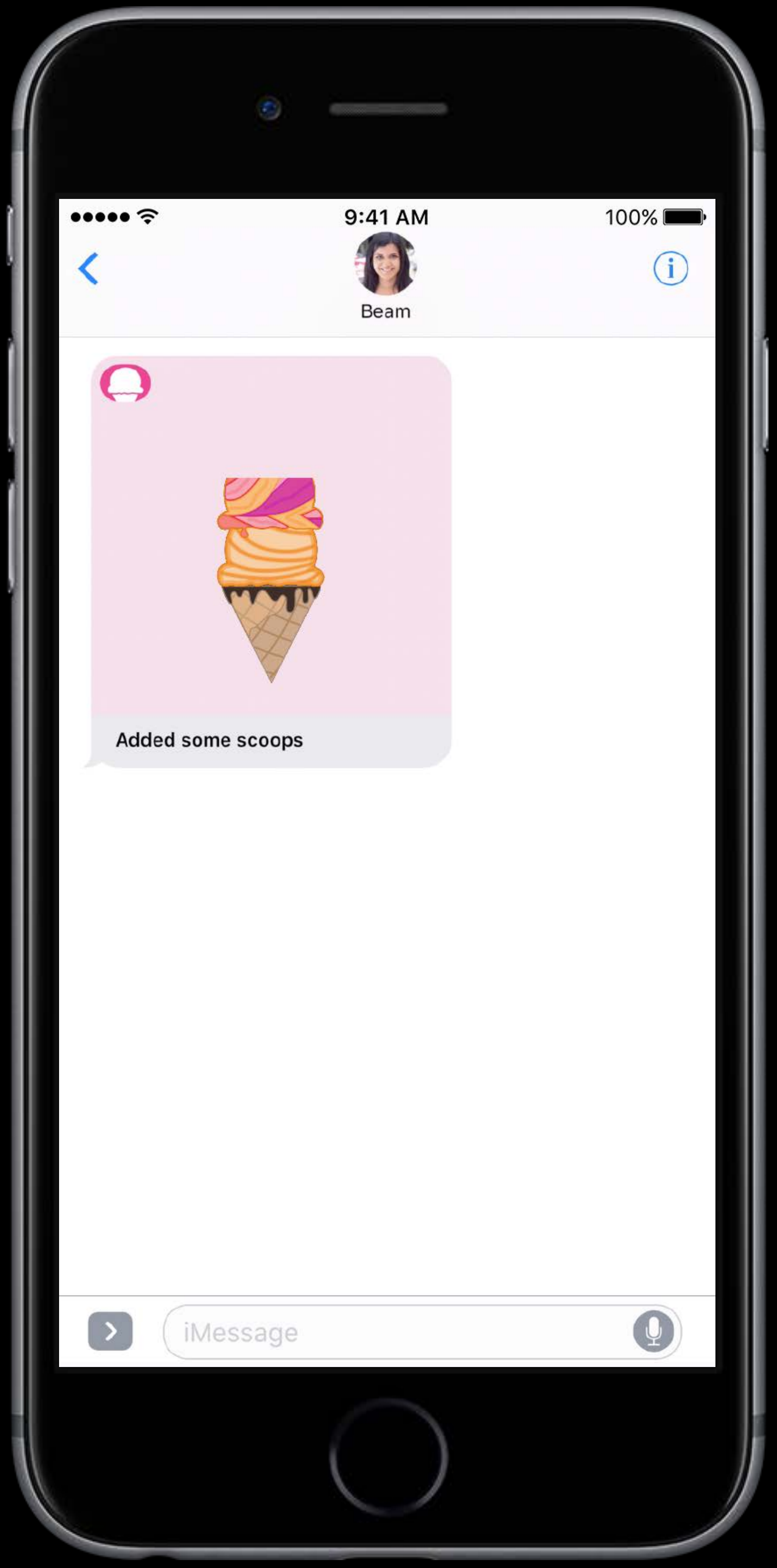
```
func didBecomeActive(with conversation: MSConversation)
```

```
func viewWillAppear(_ animated: Bool)
```

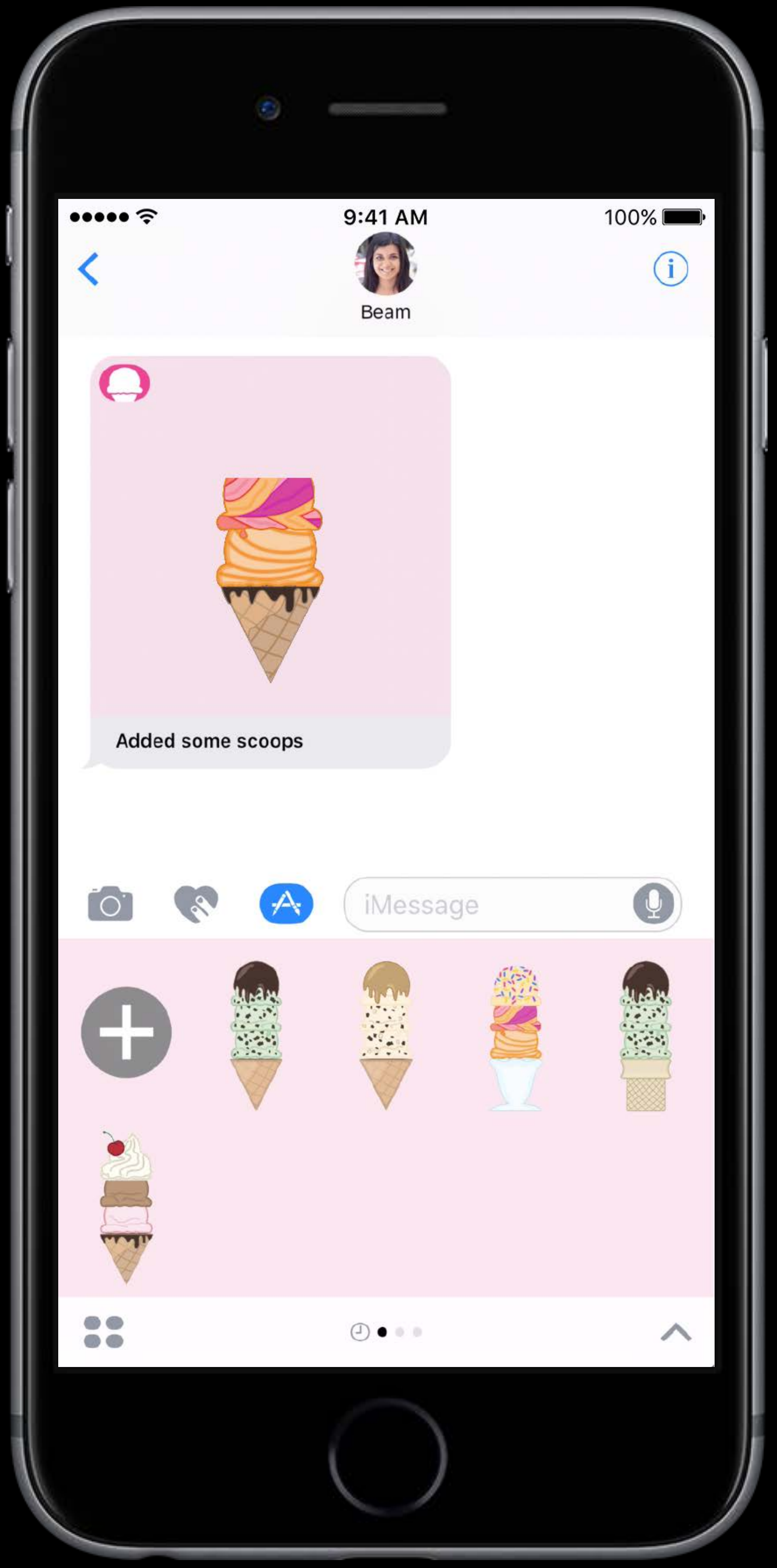
```
func viewDidAppear(_ animated: Bool)
```

Replying to a Message

Two cases



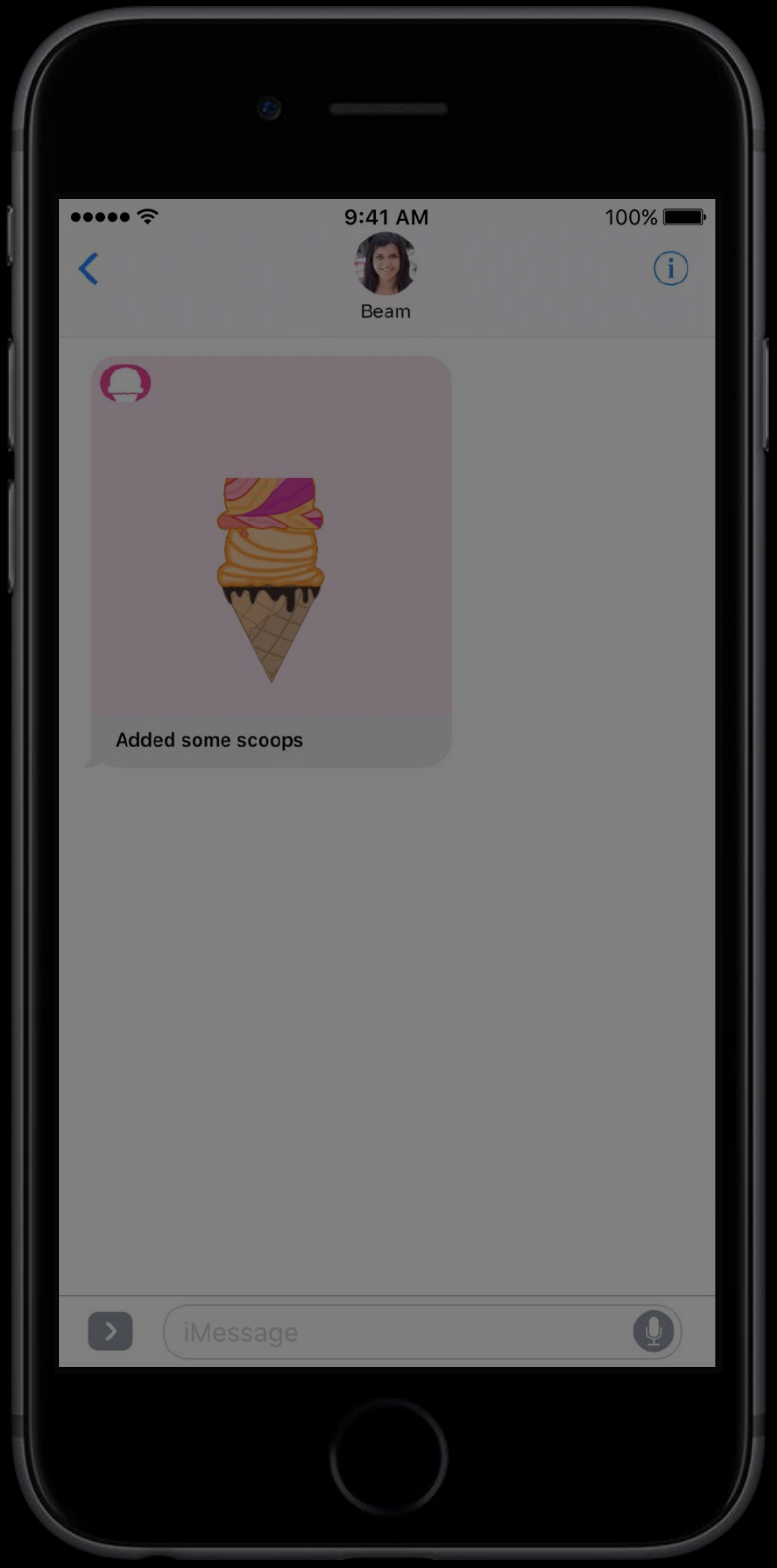
Extension is inactive



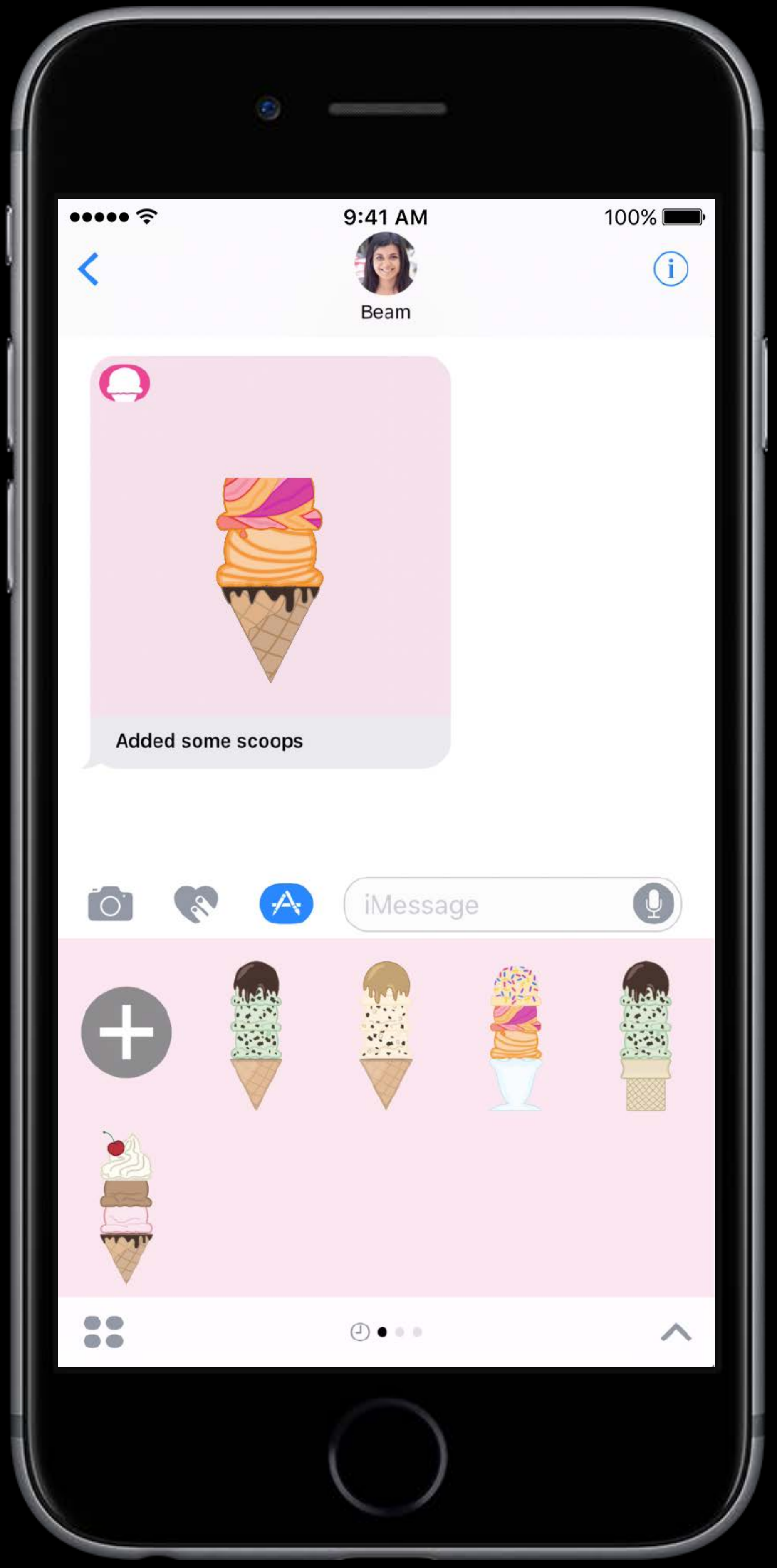
Extension is active

Replying to a Message

Two cases



Extension is inactive



Extension is active

Replying to a Message

Extension is active

Replying to a Message

Extension is active

Bubble Tapped

Replying to a Message

Extension is active

```
func willTransition(to presentationStyle: MSMessagesAppPresentationStyle)
```

Bubble Tapped

Replying to a Message

Extension is active

```
func willTransition(to presentationStyle: MSMessagesAppPresentationStyle)
```

Bubble Tapped

```
func didSelect(_ message: MSMessage, conversation: MSConversation)
```

Replying to a Message

Extension is active

```
func willTransition(to presentationStyle: MSMessagesAppPresentationStyle)
```

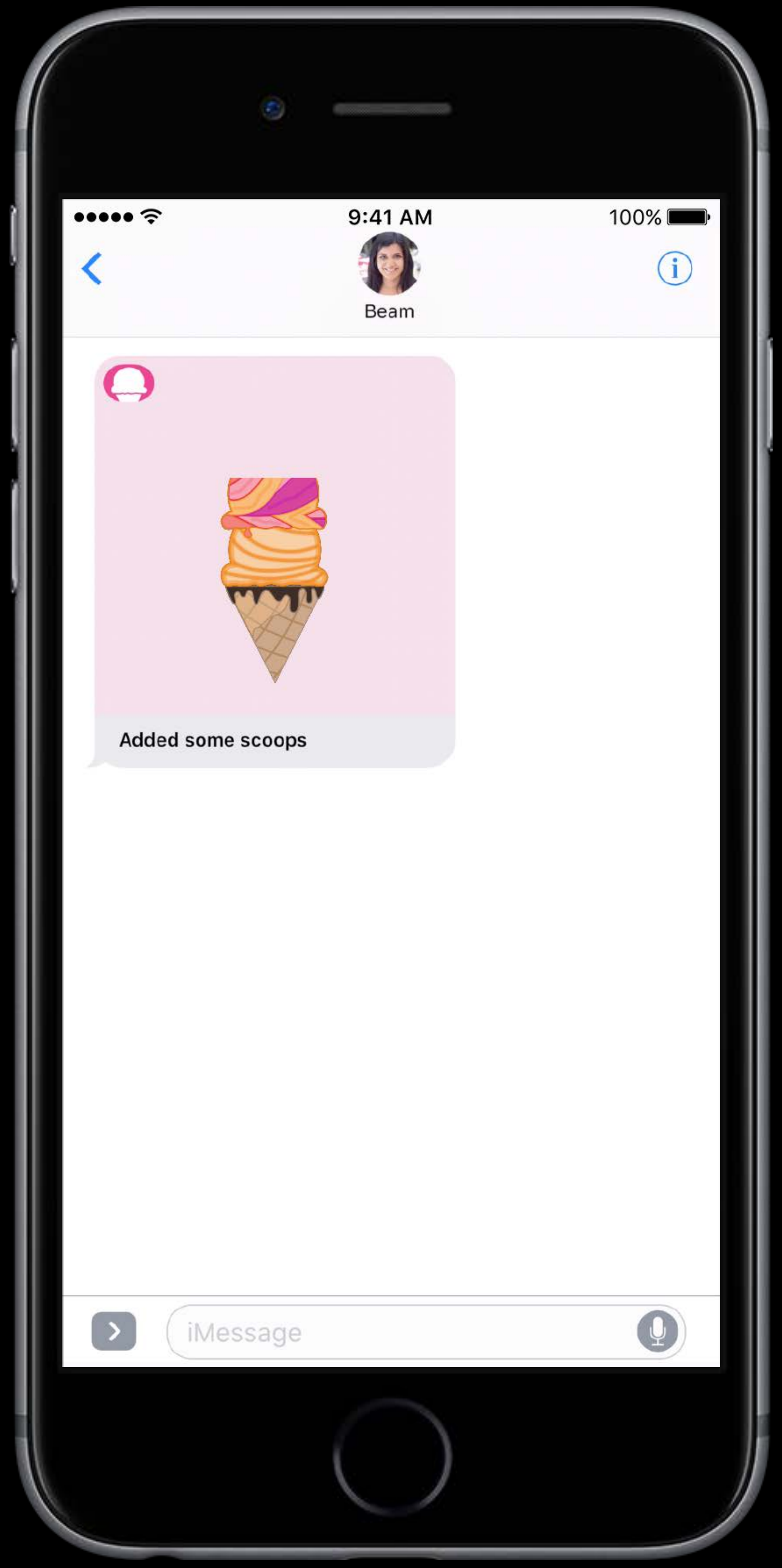
Bubble Tapped

```
func didSelect(_ message: MSMessage, conversation: MSConversation)
```

```
func didTransition(to presentationStyle: MSMessagesAppPresentationStyle)
```

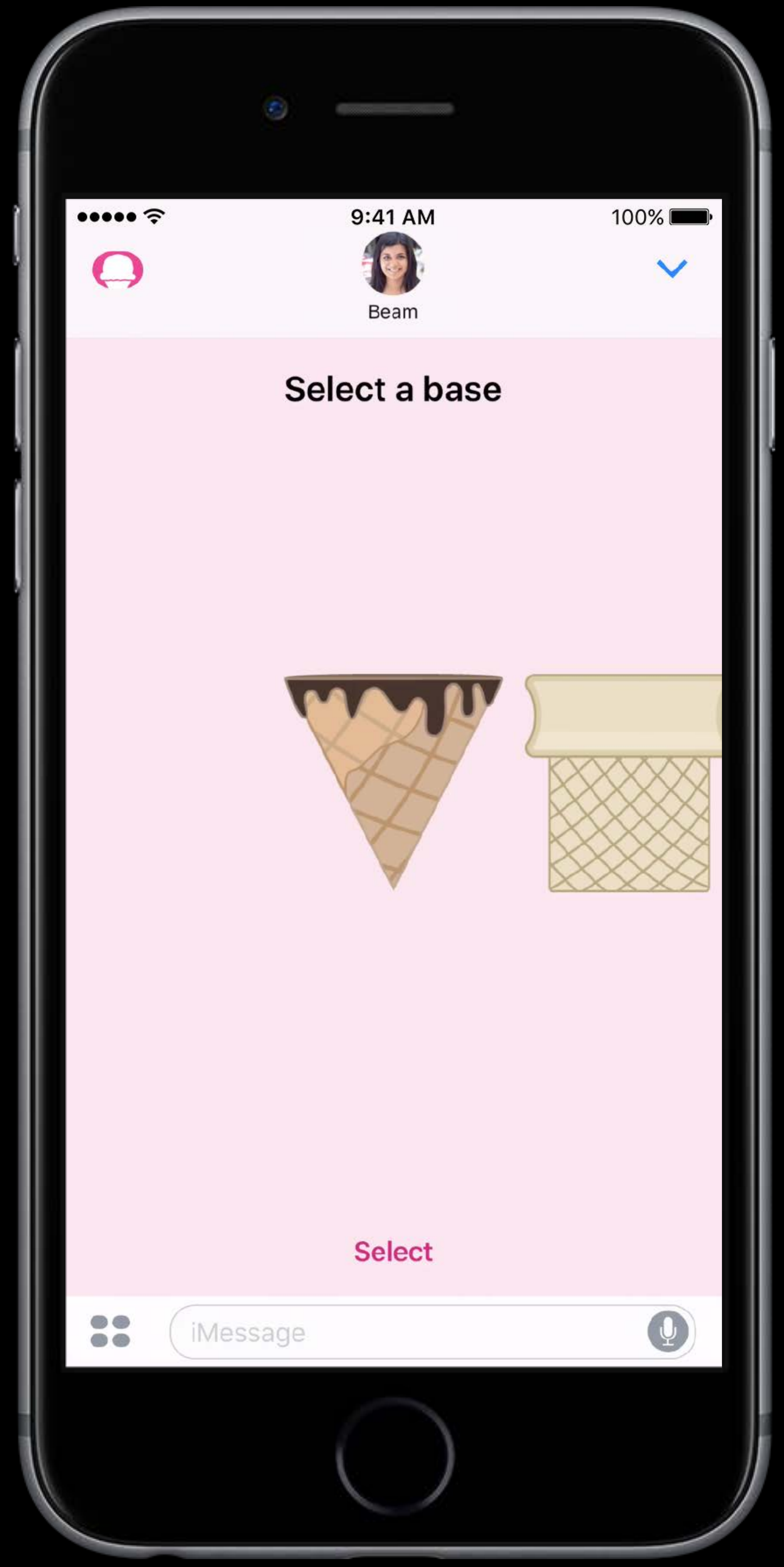
Replying to a Message

Selected message



Replying to a Message

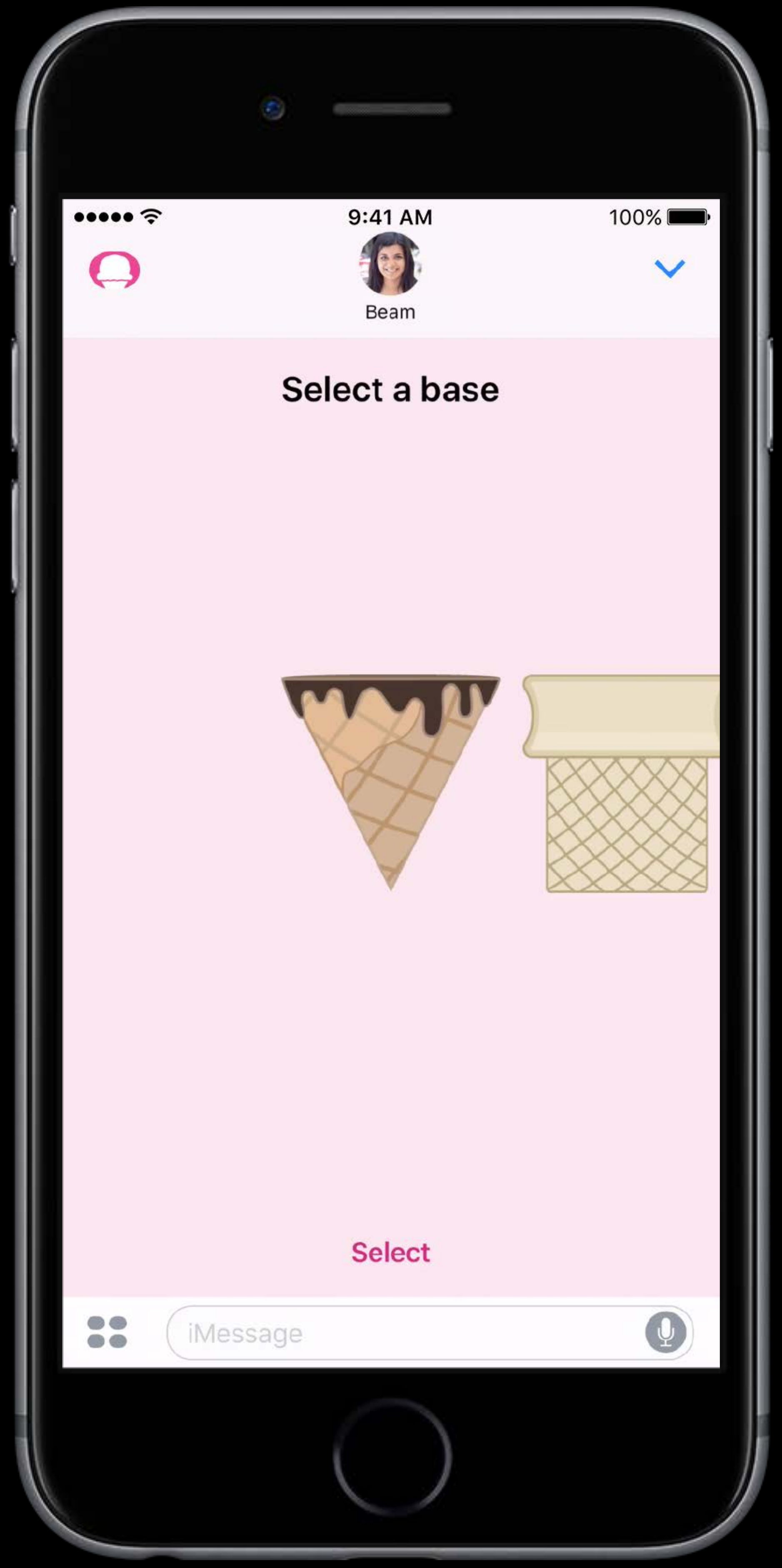
Selected message



Replying to a Message

Selected message

Check MSConversation's `selectedMessage`

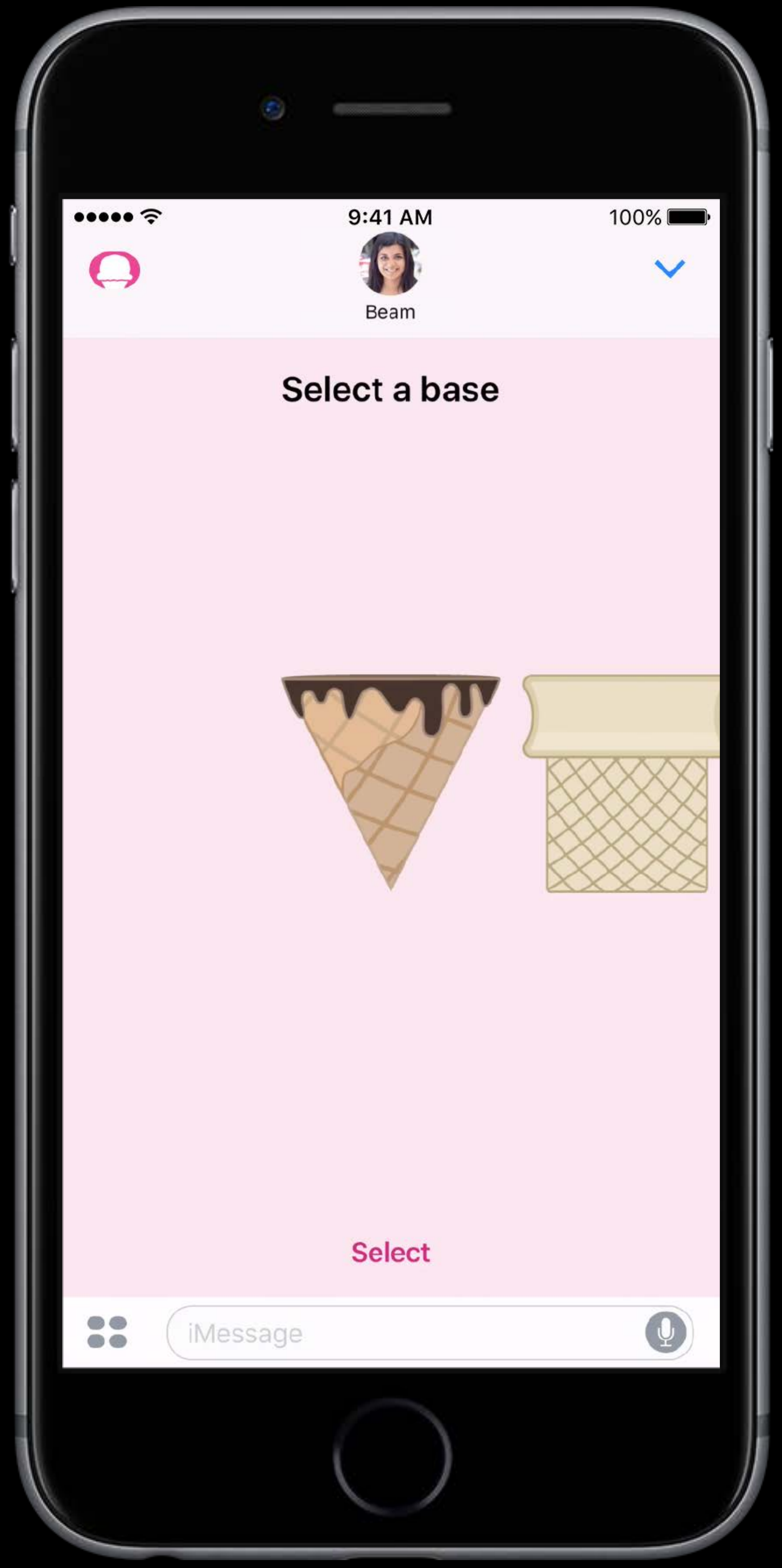


Replying to a Message

Selected message

Check MSConversation's `selectedMessage`

Show selected message

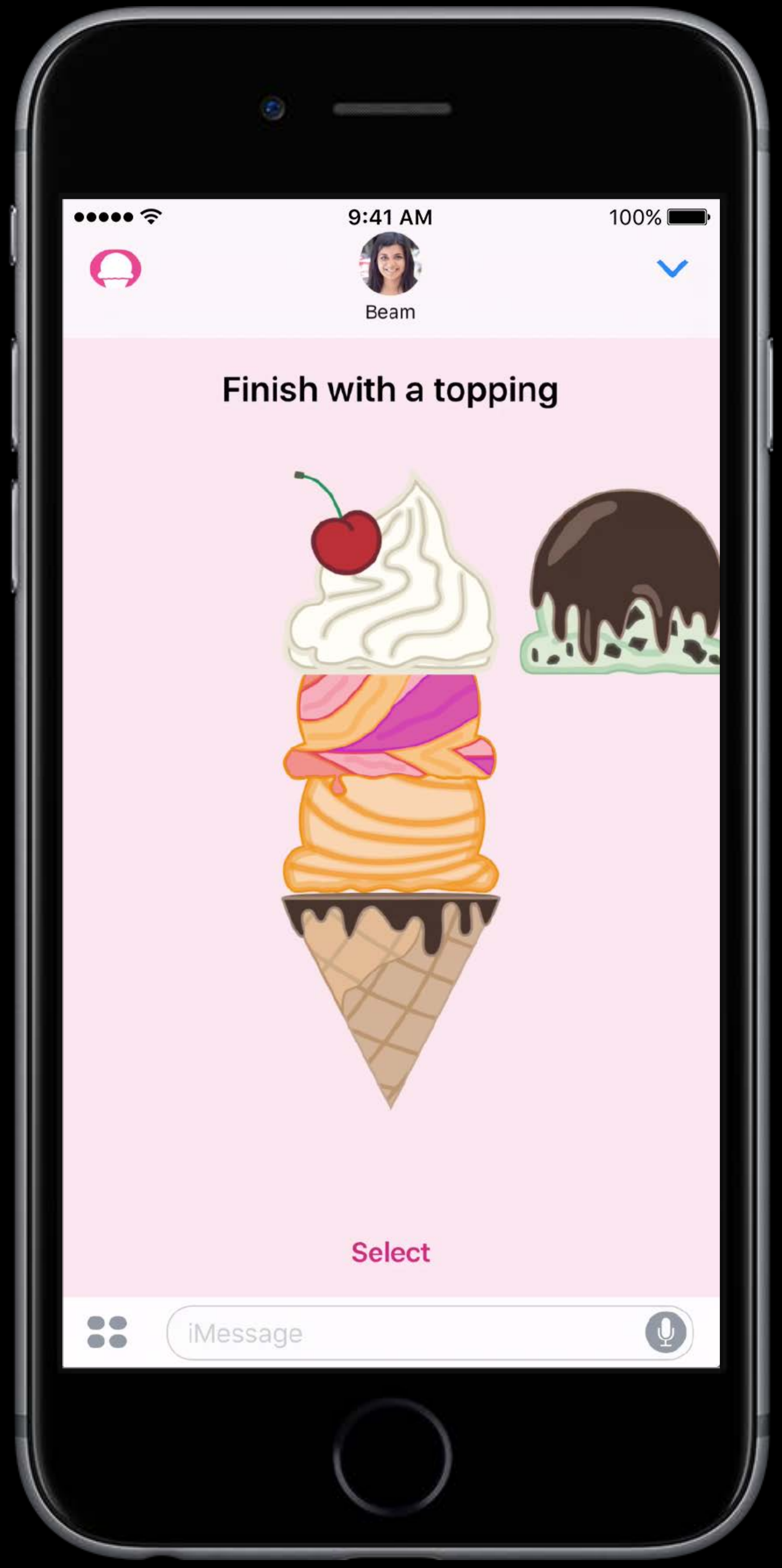


Replying to a Message

Selected message

Check MSConversation's `selectedMessage`

Show selected message



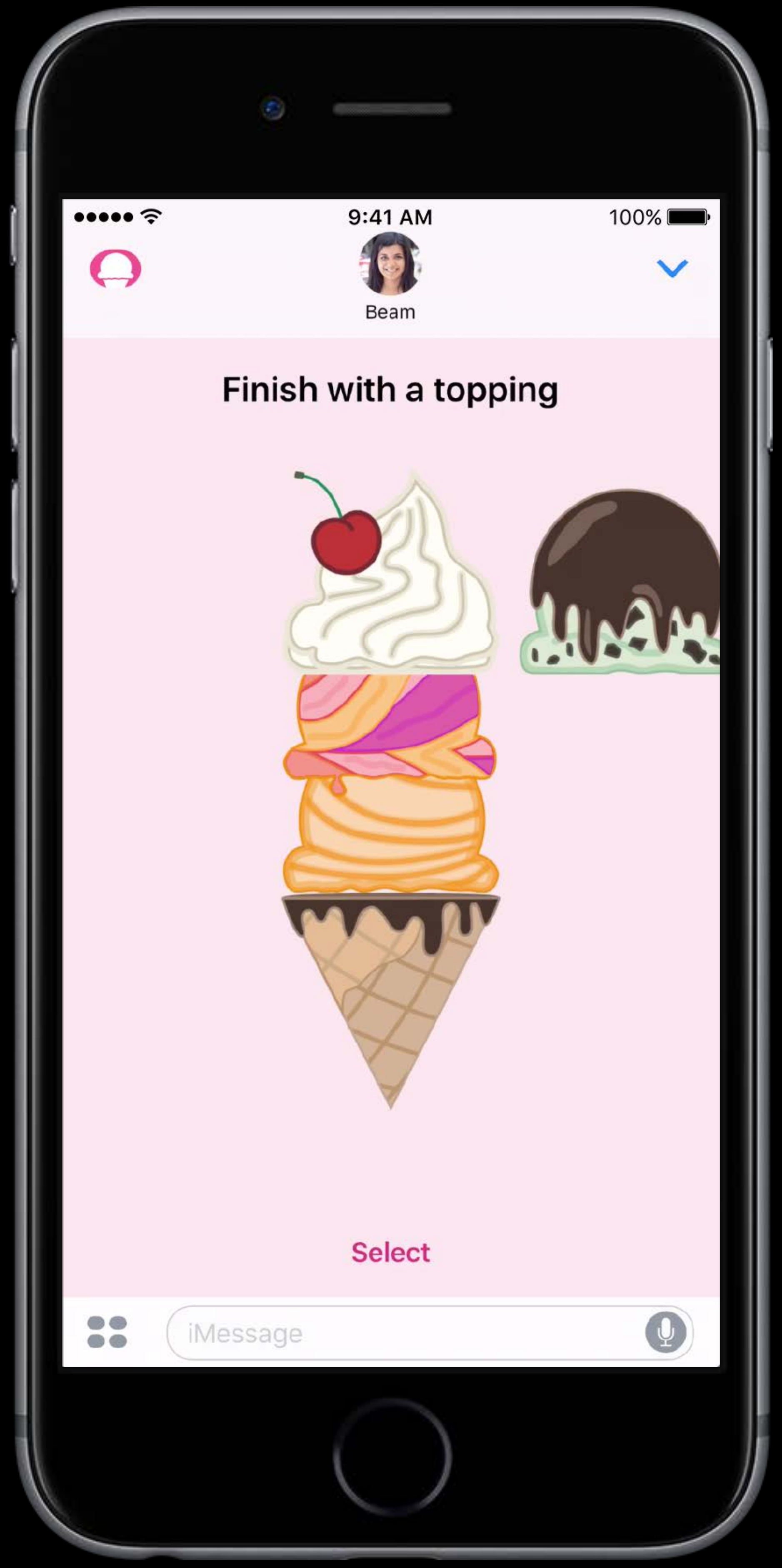
Replying to a Message

Selected message

Check MSConversation's `selectedMessage`

Show selected message

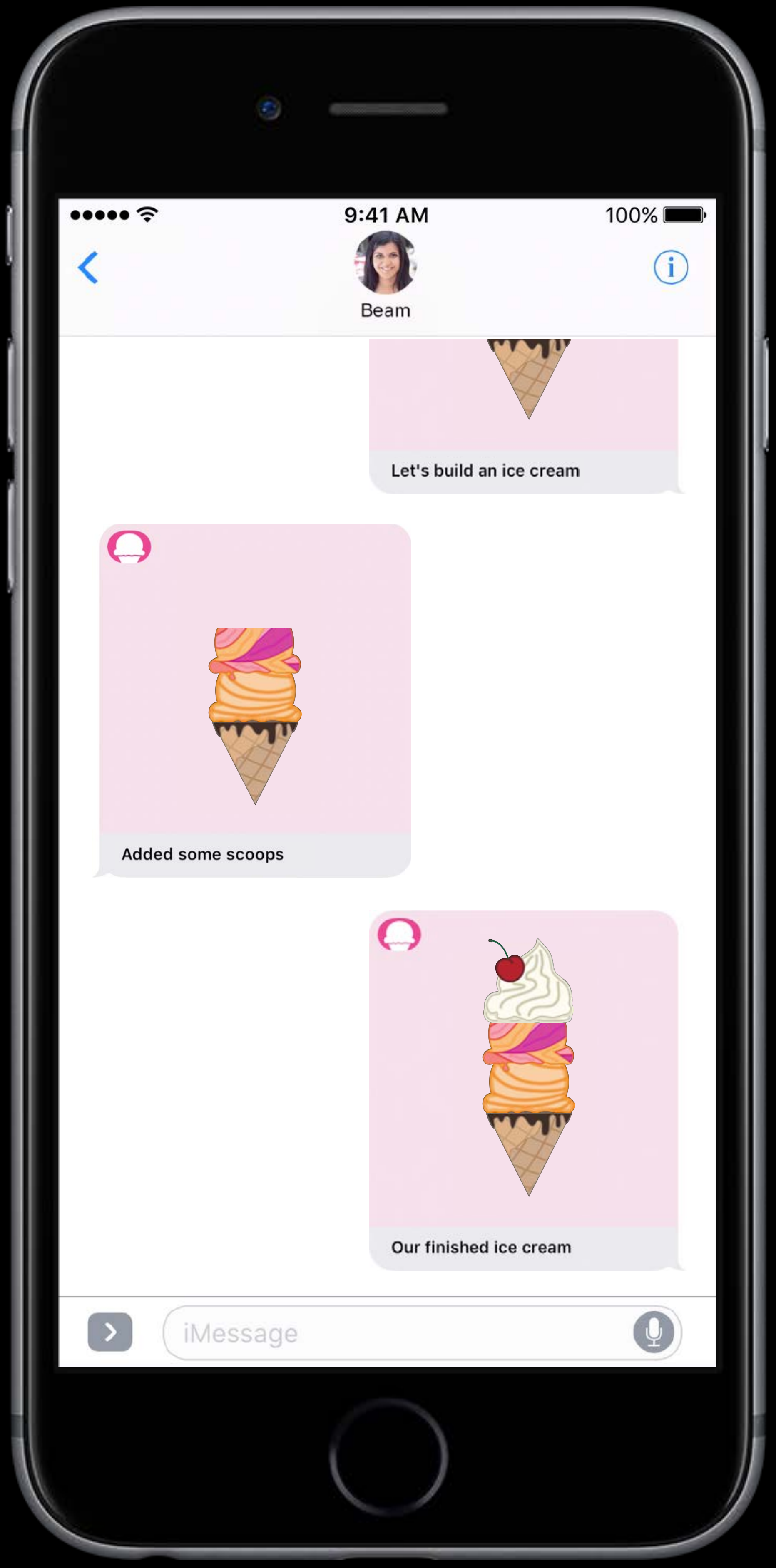
Compose a response



Demo

Composing a reply

Session Messages

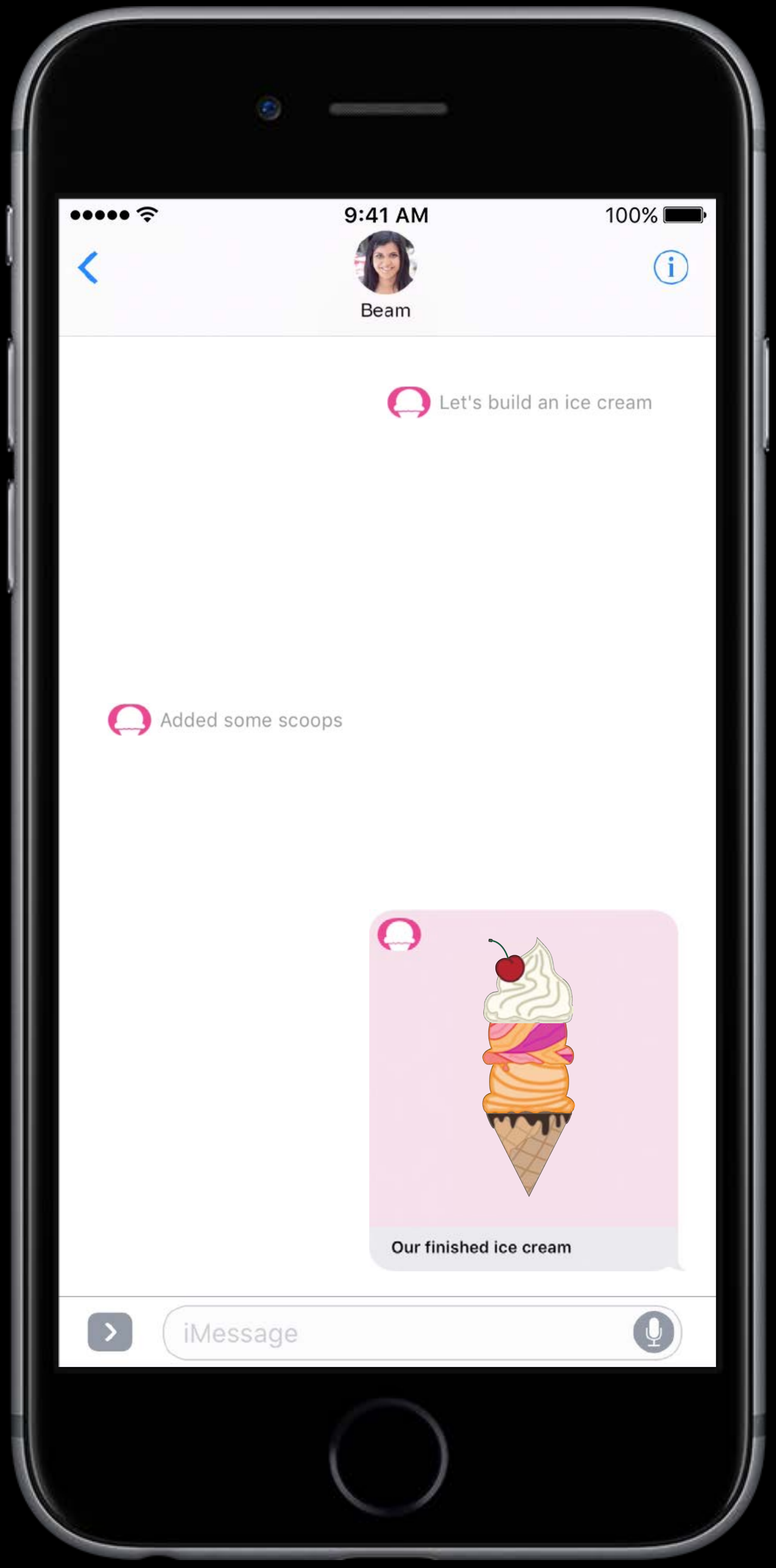


Let's build an ice cream

Added some scoops

Our finished ice cream

Session Messages

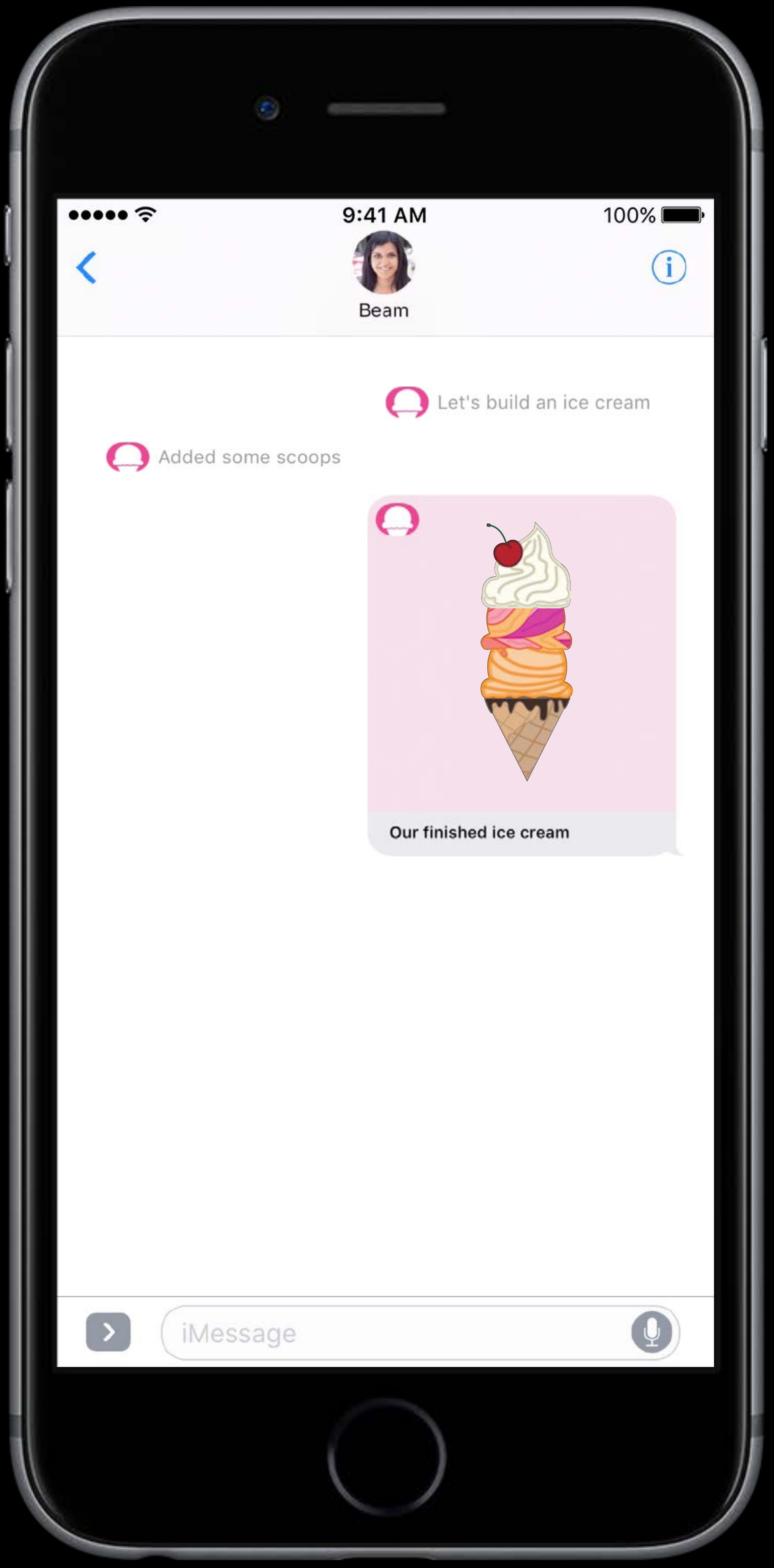


Let's build an ice cream

Added some scoops

Our finished ice cream

Session Messages



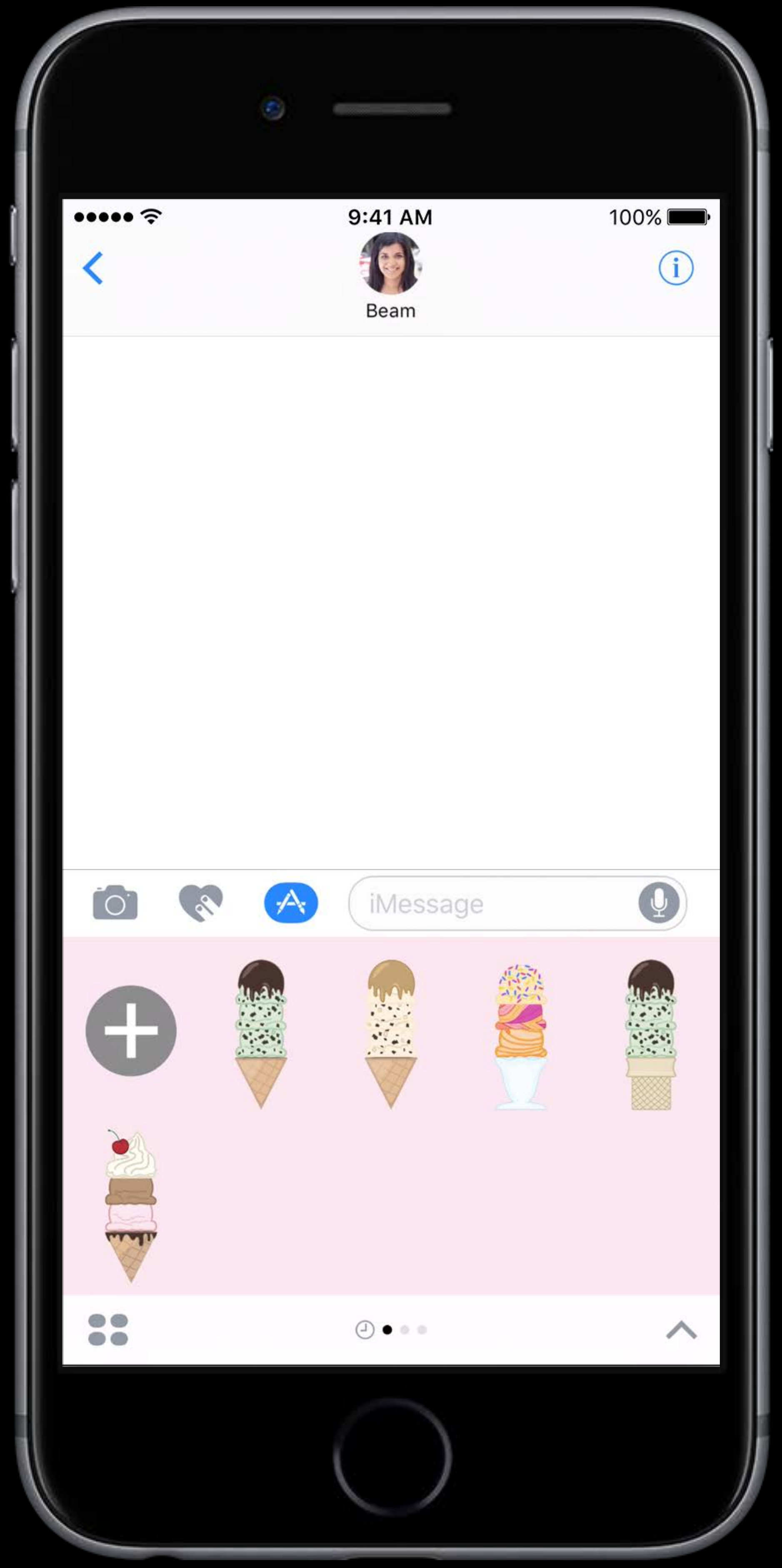
Let's build an ice cream

Added some scoops

Our finished ice cream

Session Messages

```
let session = MSSession()
```

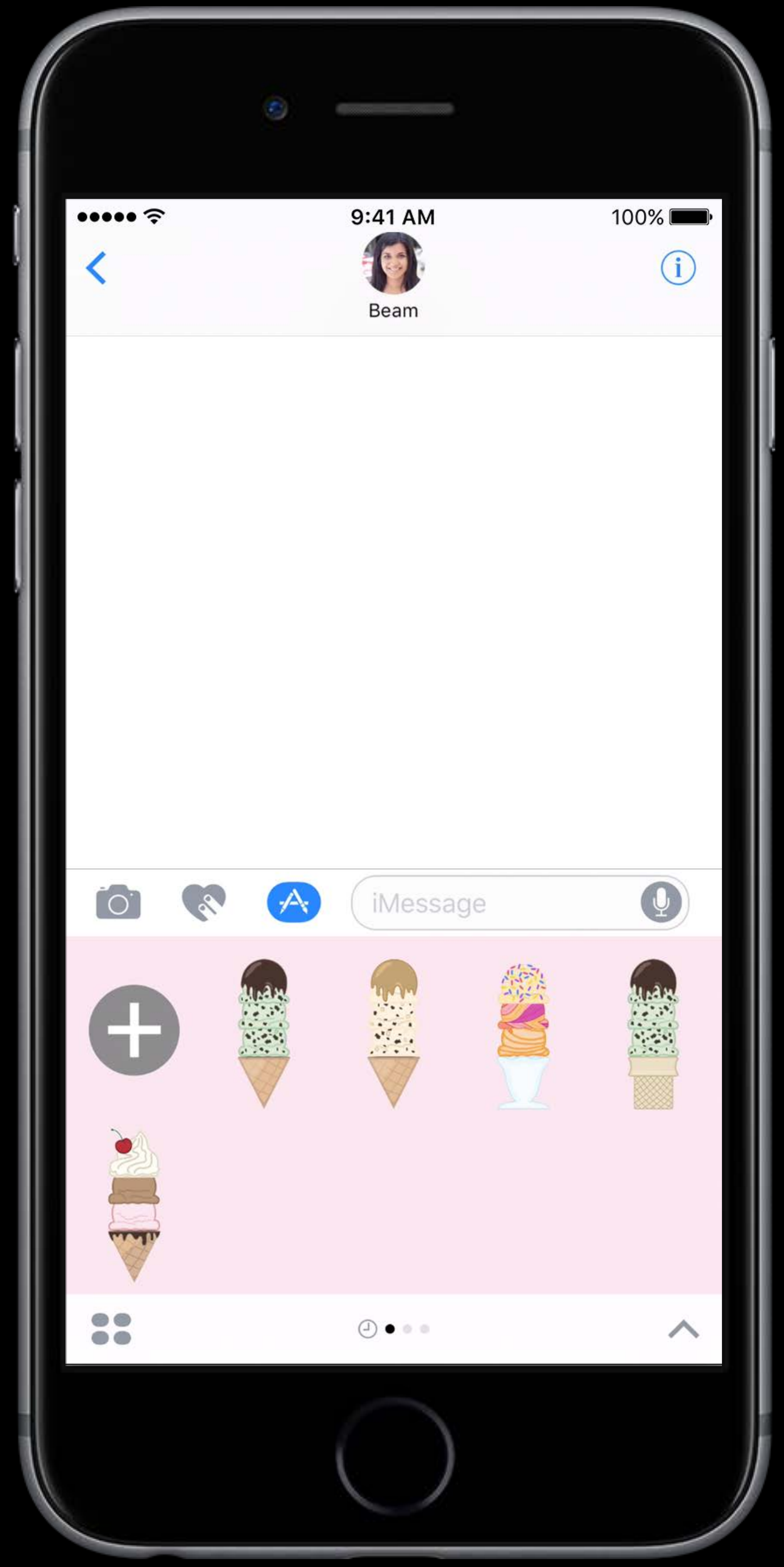


Session Messages

```swift
let session = MSSession()
let message = MSMessage(session: session)
```

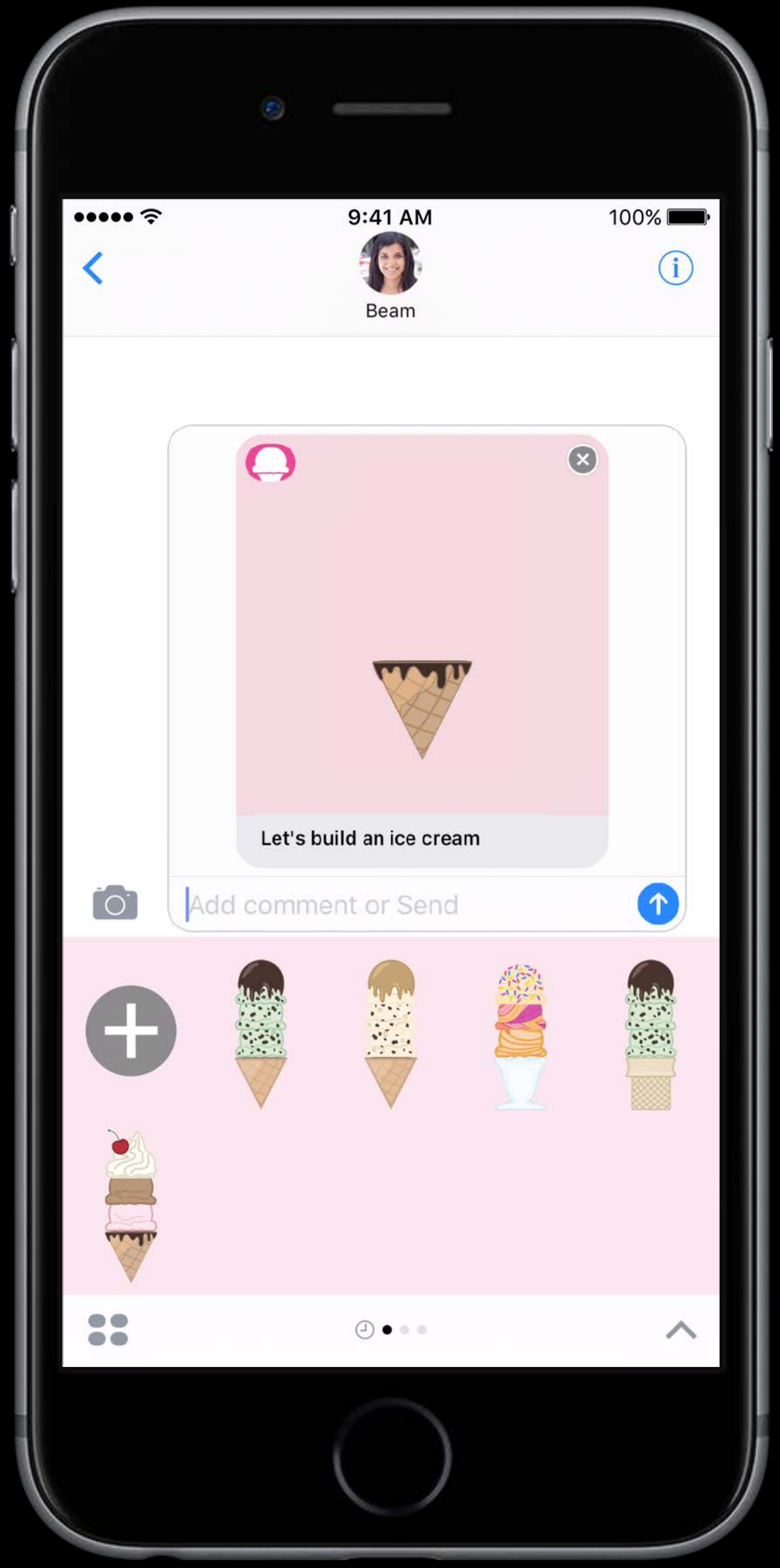
Session Messages

```
let session = MSSession()
let message = MSMessage(session: session)
   // ...
message.summaryText = "Let's build an ice cream"
```



Session Messages

```
let session = MSSession()
let message = MSMessage(session: session)
   // ...
message.summaryText = "Let's build an ice cream"

let conversation = self.activeConversation
conversation?.insert(message) { error in
   // TODO: Check for an error
}
```

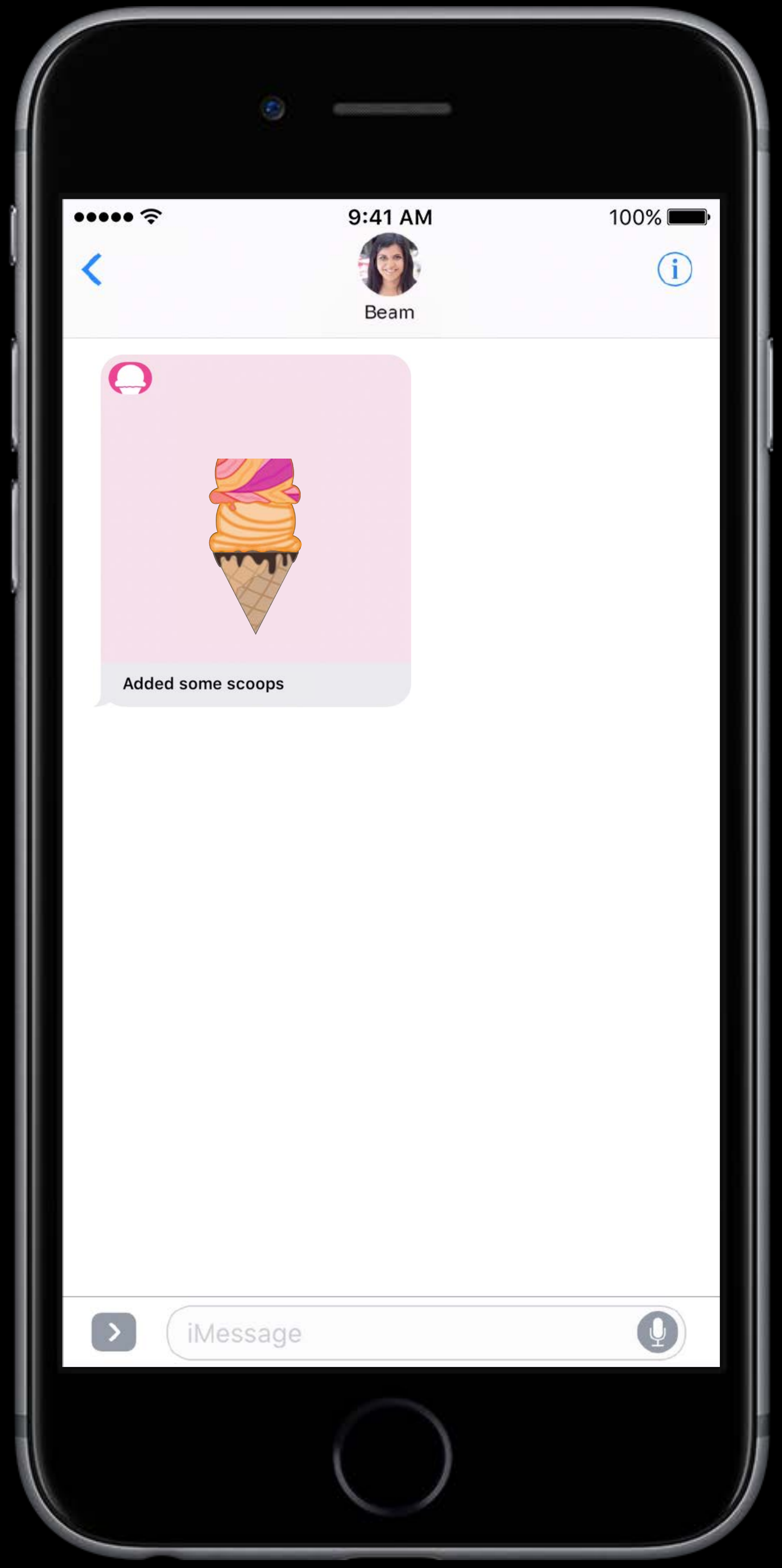


Let's build an ice cream

Add comment or Send

Session Messages

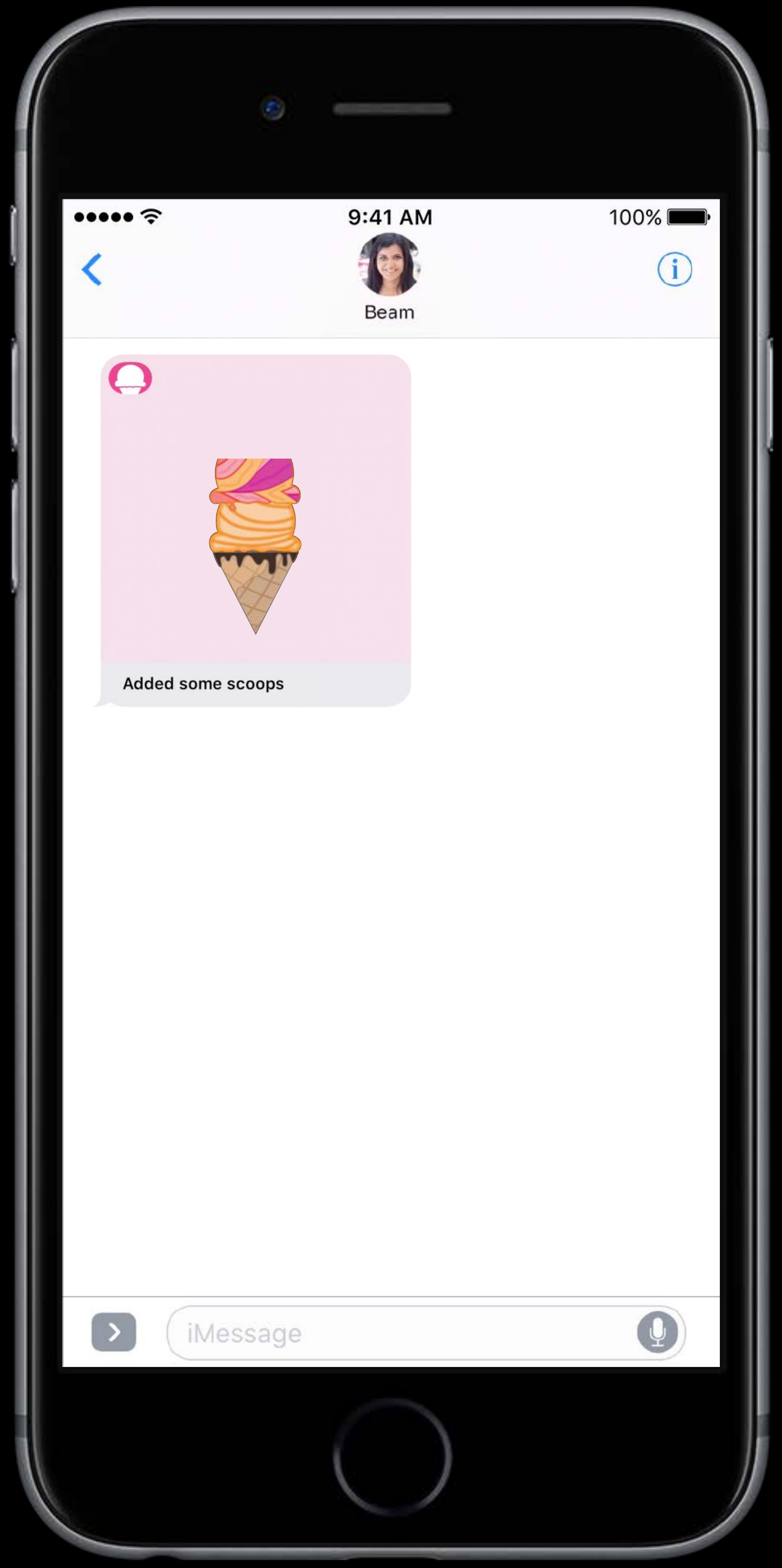
```
let conversation = self.activeConversation
let session = conversation?.selectedMessage?.session
let message = MSMessage(session: session)
   // ...
message.summaryText = "Our finished ice cream”

conversation?.insert(message) { error in
   // TODO: Check for an error
}
```



Added some scoops

Session Messages

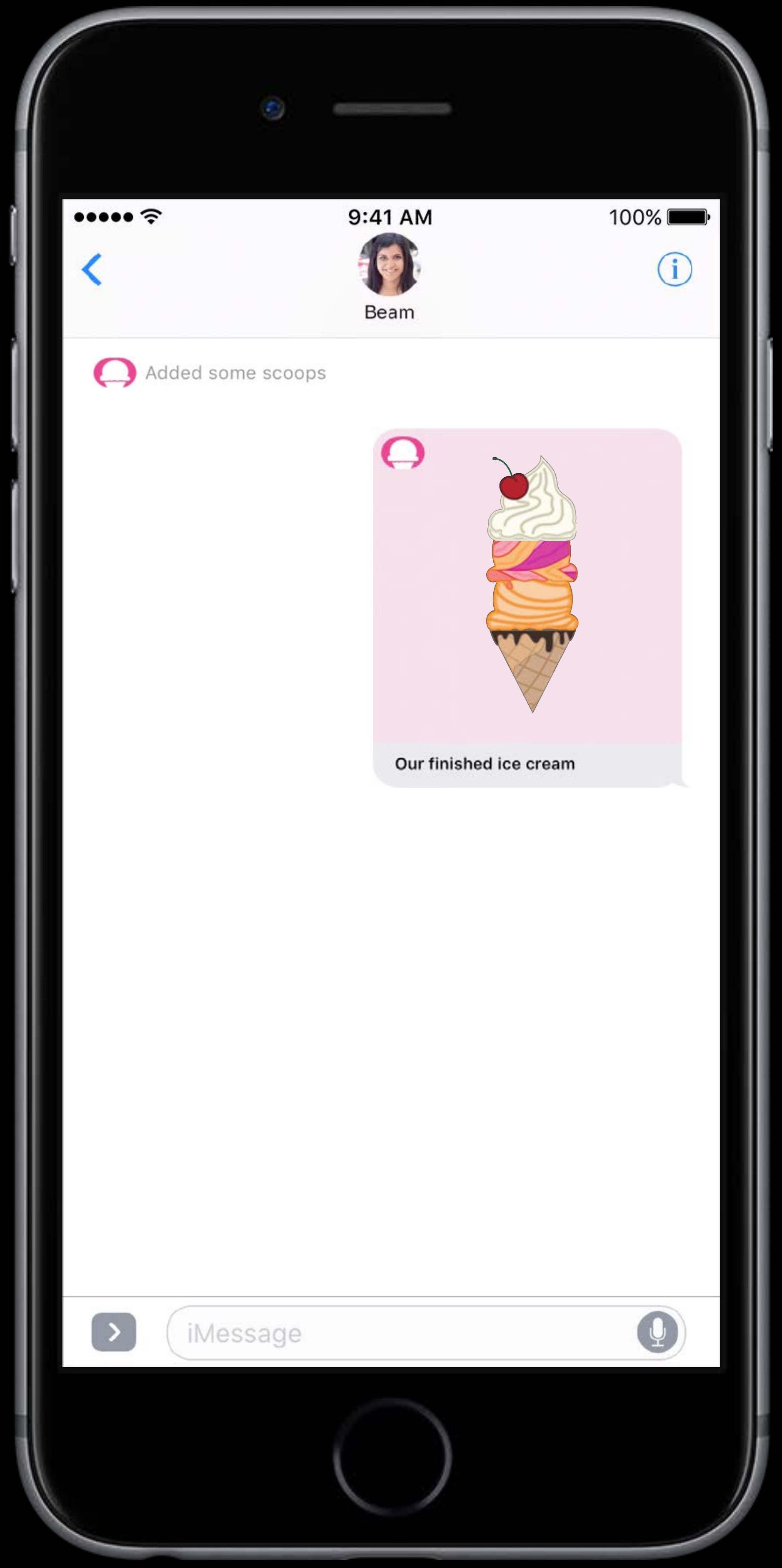
```
let conversation = self.activeConversation
let session = conversation?.selectedMessage?.session
let message = MSMessage(session: session)
   // ...
message.summaryText = "Our finished ice cream”

conversation?.insert(message) { error in
   // TODO: Check for an error
}
```



Added some scoops

Session Messages

```
let conversation = self.activeConversation
let session = conversation?.selectedMessage?.session
let message = MSMessage(session: session)
   // ...
message.summaryText = "Our finished ice cream”

conversation?.insert(message) { error in
   // TODO: Check for an error
}
```

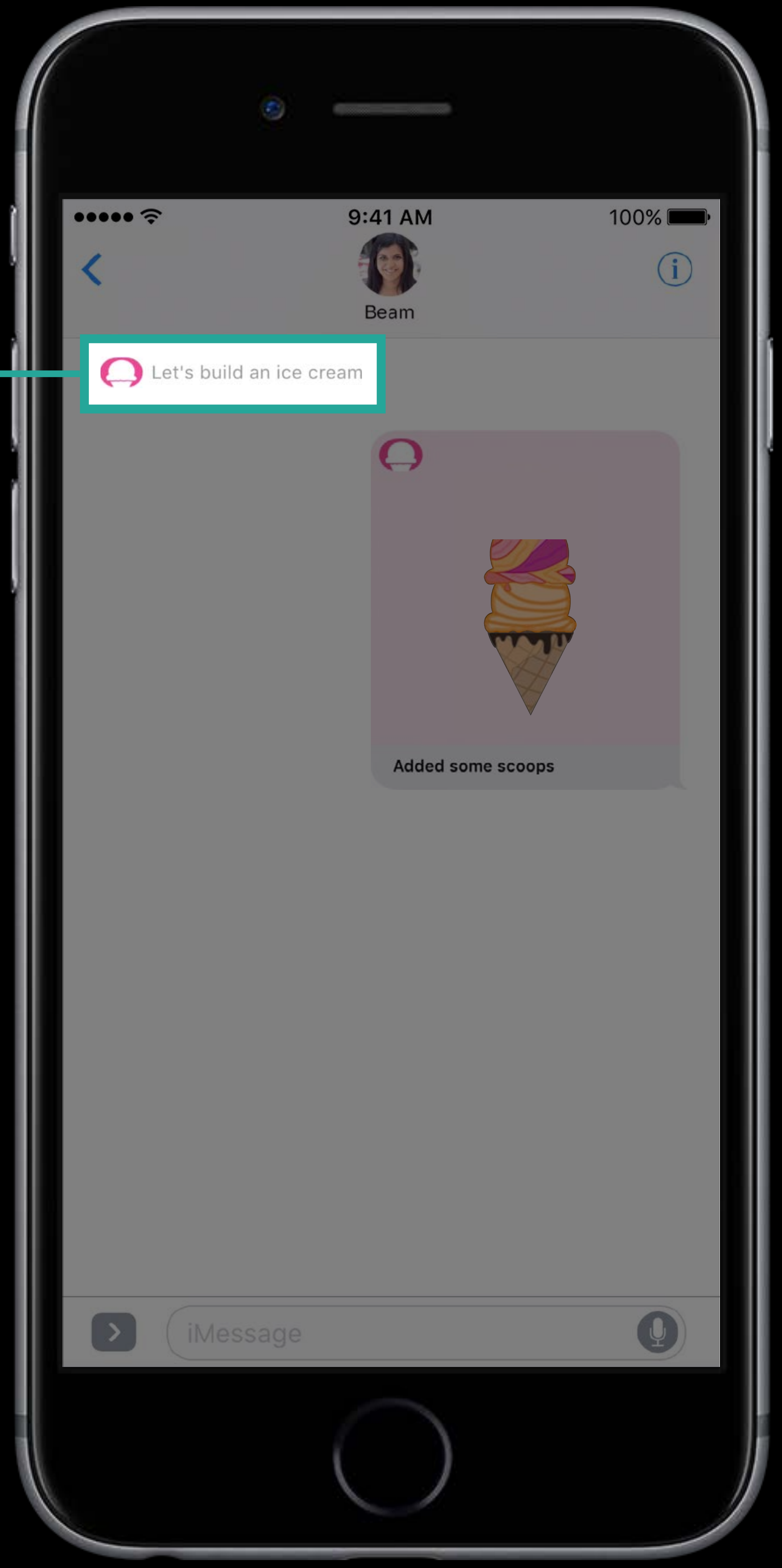


Added some scoops

Our finished ice cream

Session Messages

```swift
message.summaryText = "Let's build an ice cream"
```

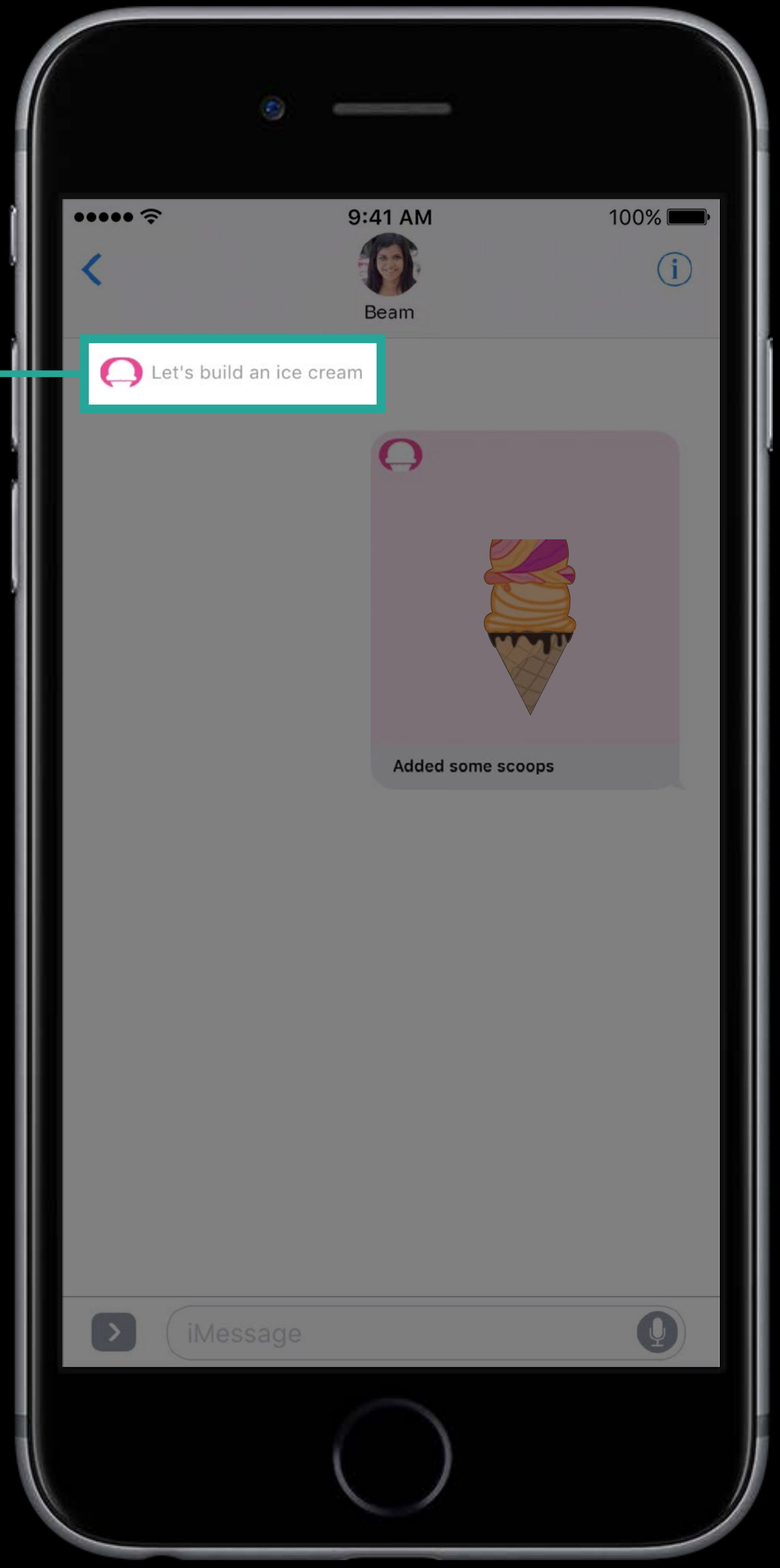


Let's build an ice cream

Added some scoops

Session Messages

```
message.summaryText = nil
```

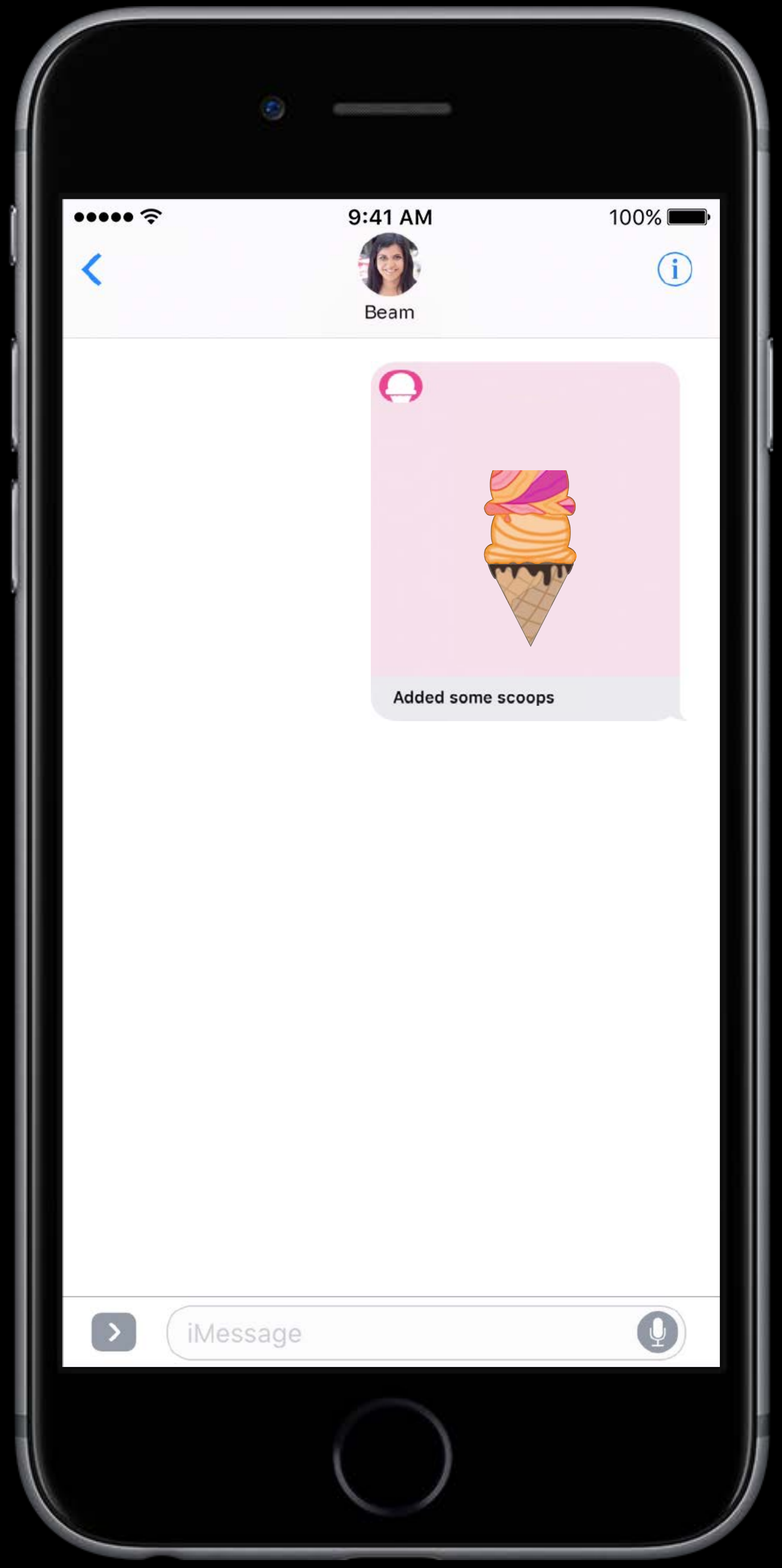


Let's build an ice cream

Added some scoops

Session Messages

```
message.summaryText = nil
```



NEW

iMessage Apps

Advanced Messages API

Advanced Messages API

Advanced Messages API

Override Methods

Advanced Messages API

Override Methods

Group Conversations

Advanced Messages API

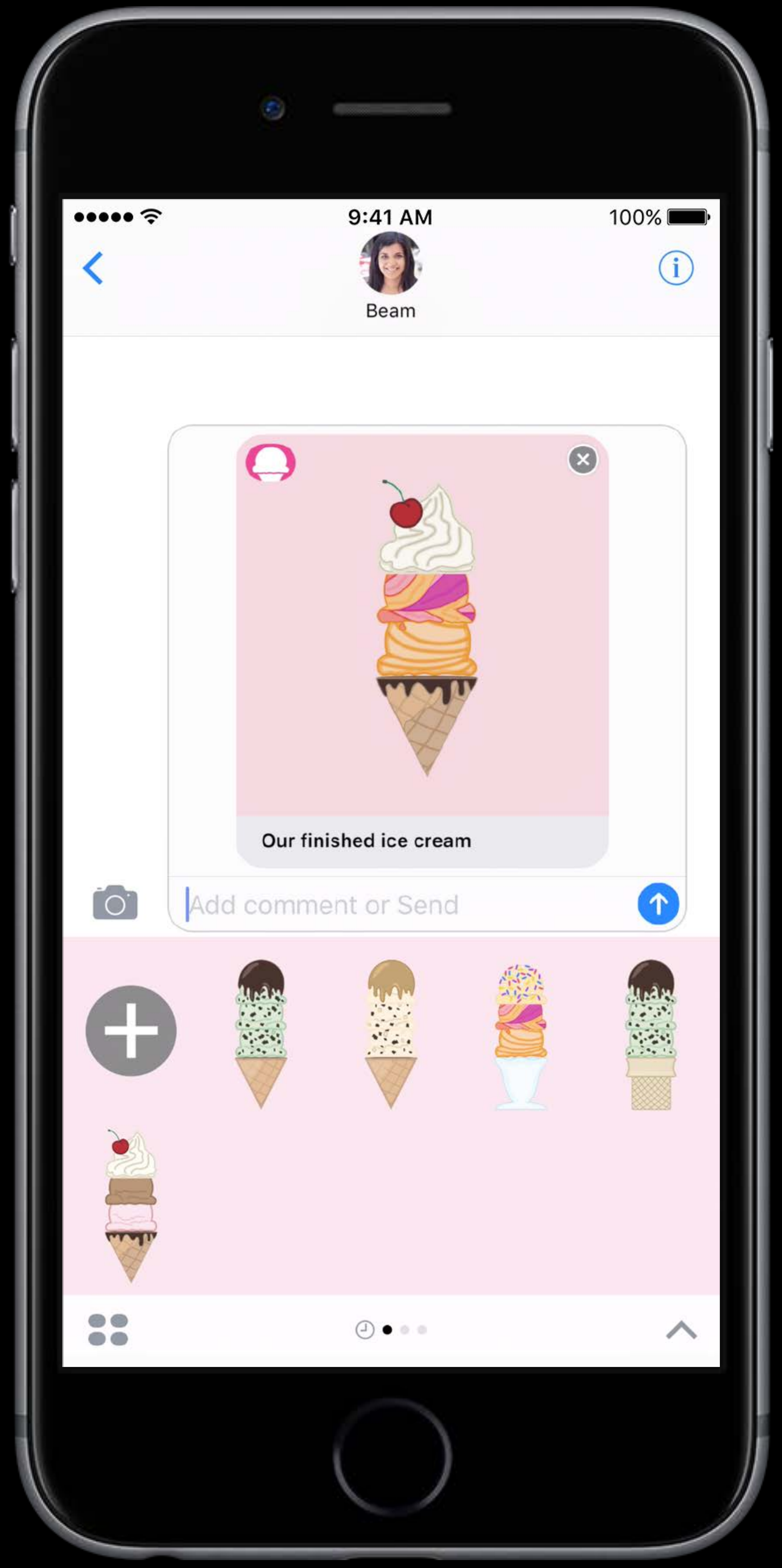
Override Methods

Group Conversations

Identifying the Sender

Override Methods

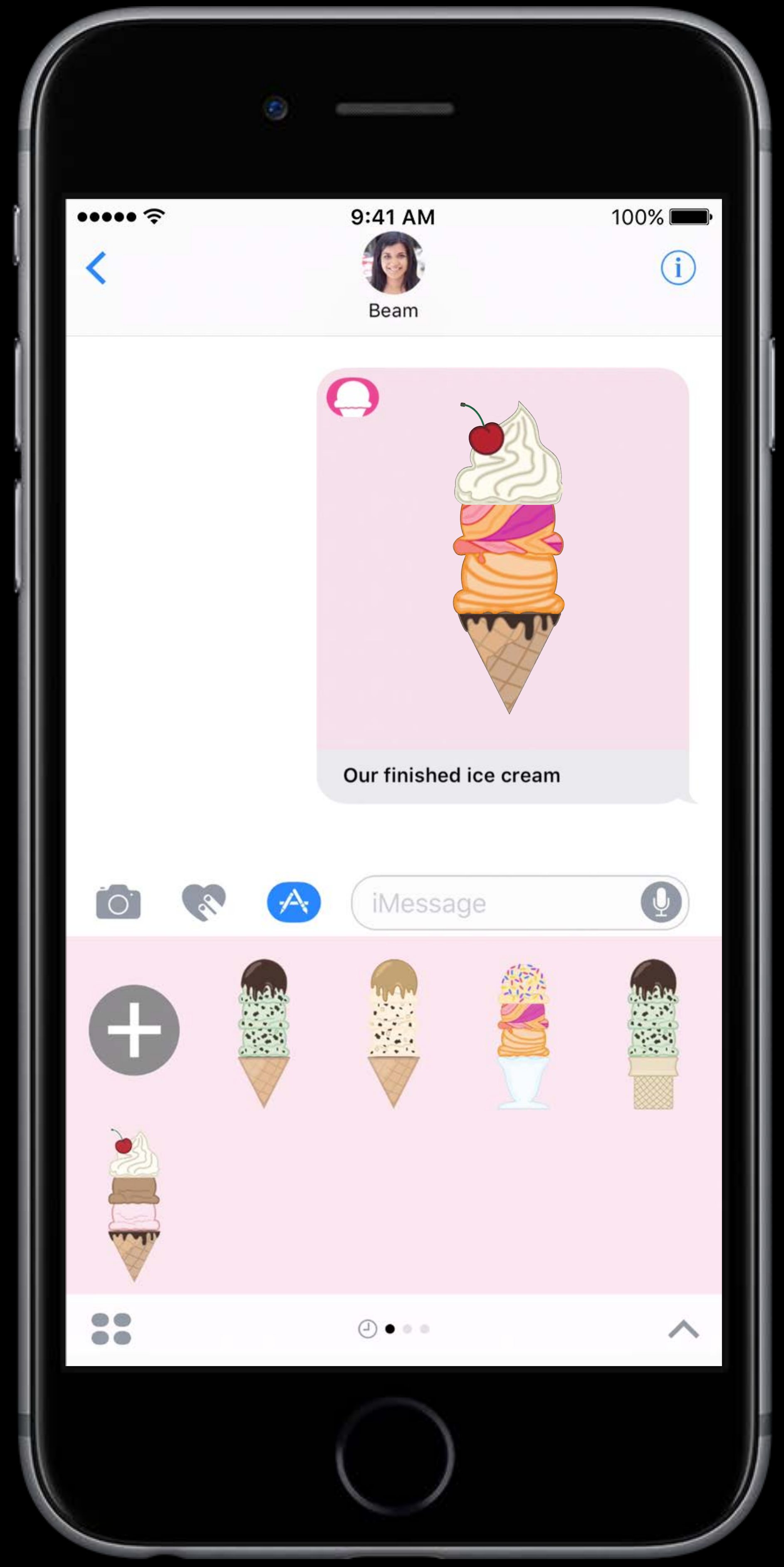
Did start sending



Override Methods

Did start sending

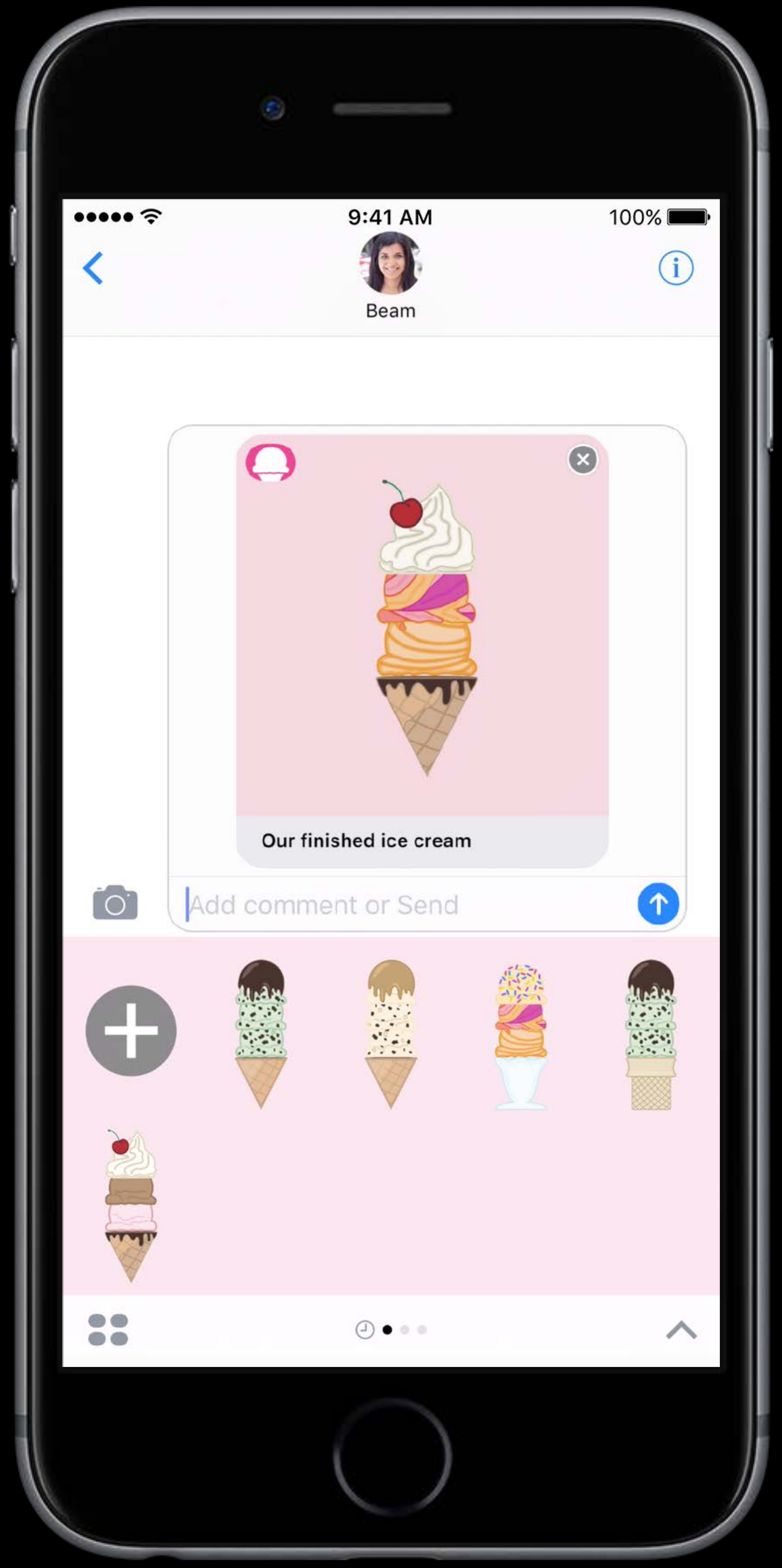
```
override func didStartSending(_ message:
MSMessage, conversation: MSConversation) {
   super.didStartSending(message, conversation:
      conversation)
}
```



Our finished ice cream

Override Methods

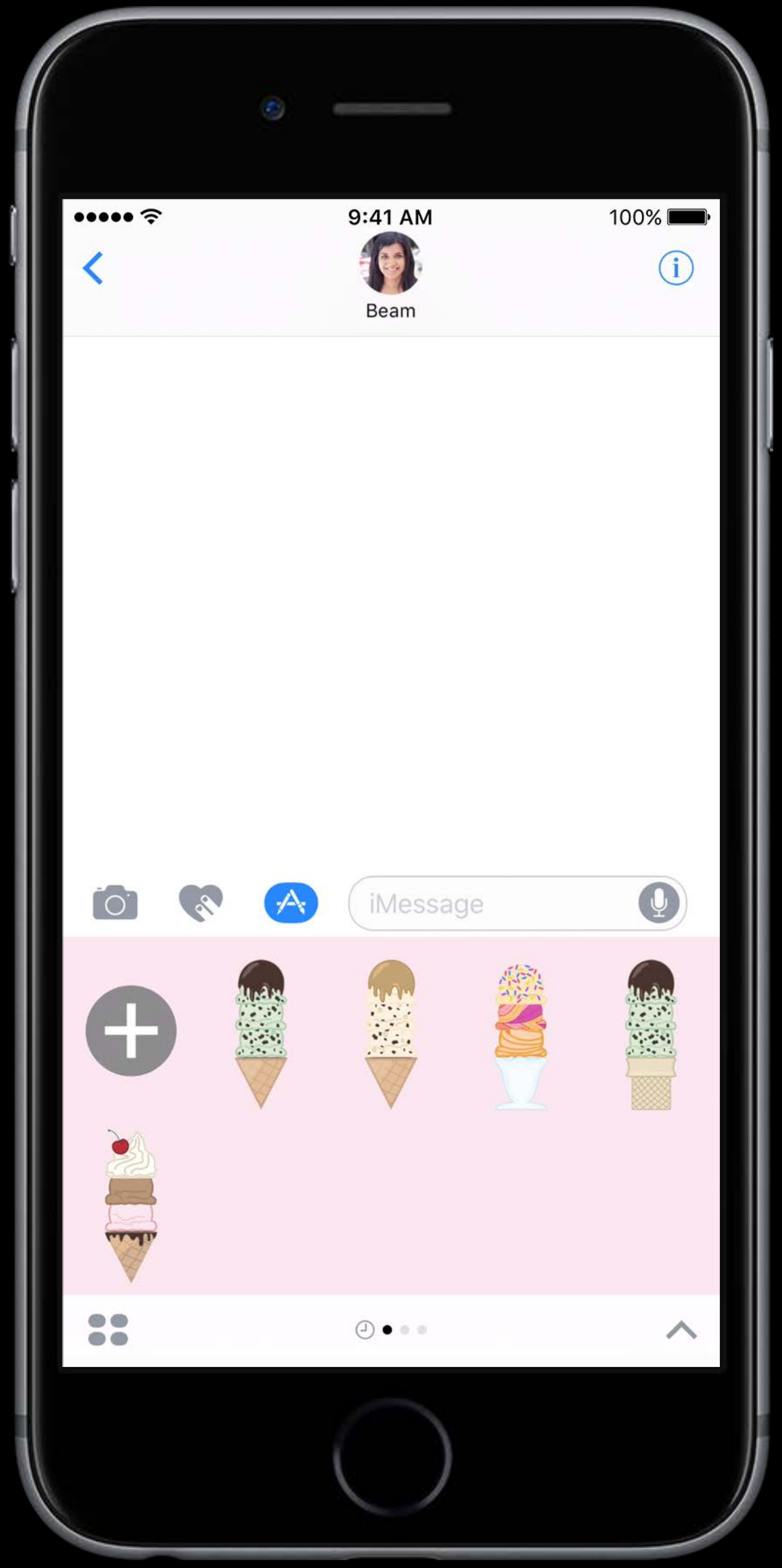
Did cancel sending



Override Methods

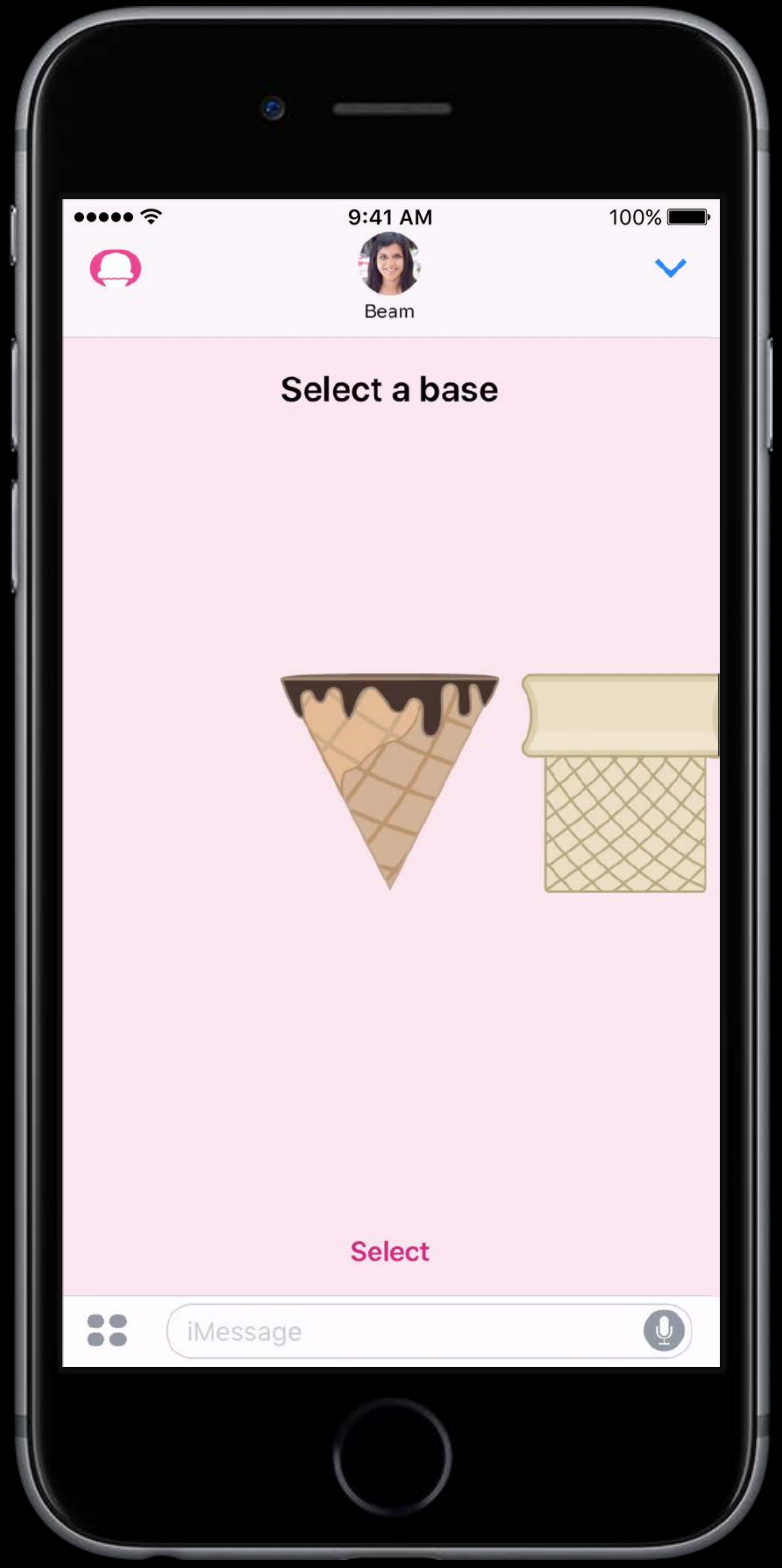
Did cancel sending

```
override func didCancelSending(_ message:
MSMessage, conversation: MSConversation) {
    super.didCancelSending(message, conversation:
        conversation)
}
```



Override Methods

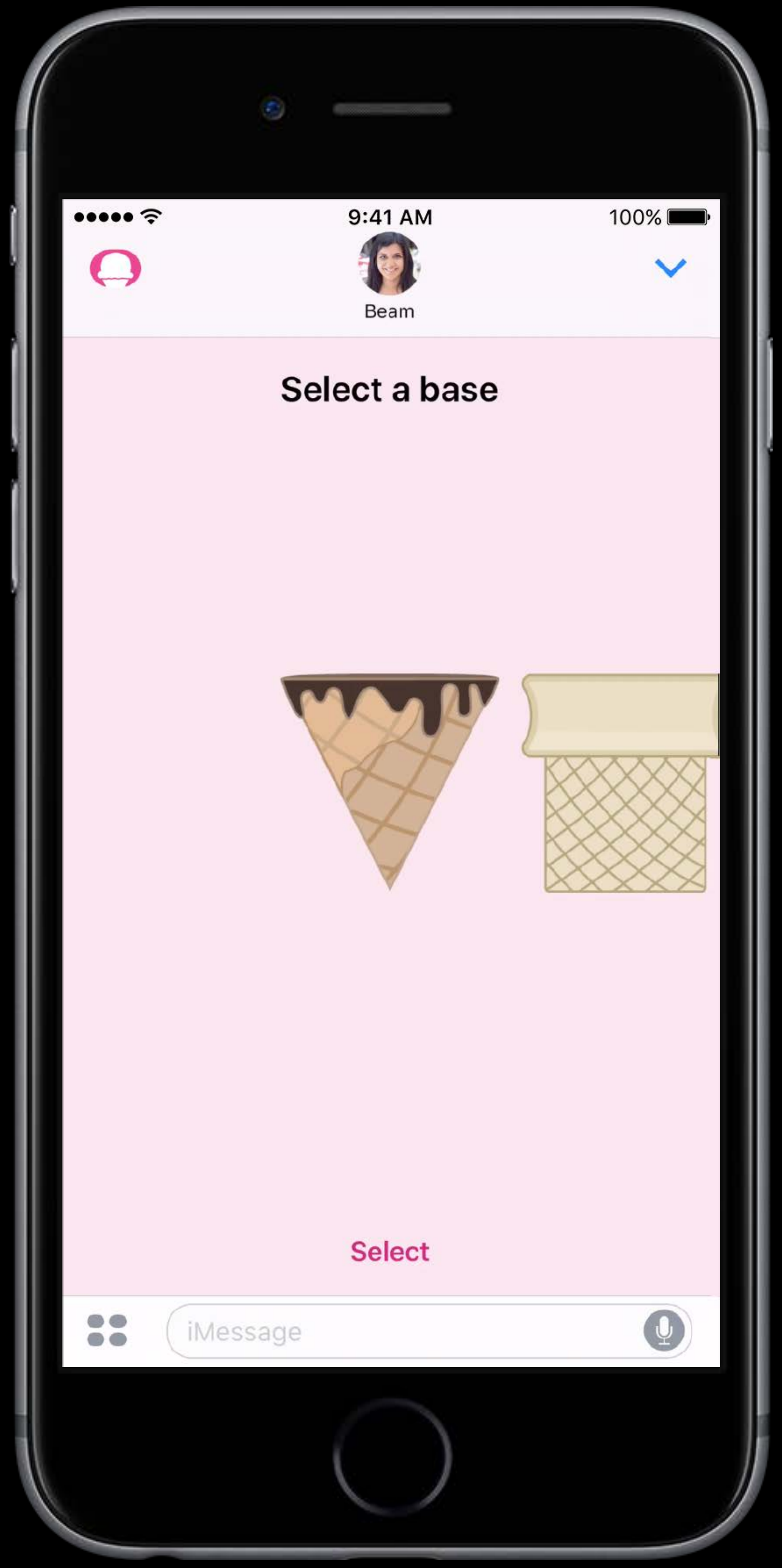
Did receive message



Override Methods

Did receive message

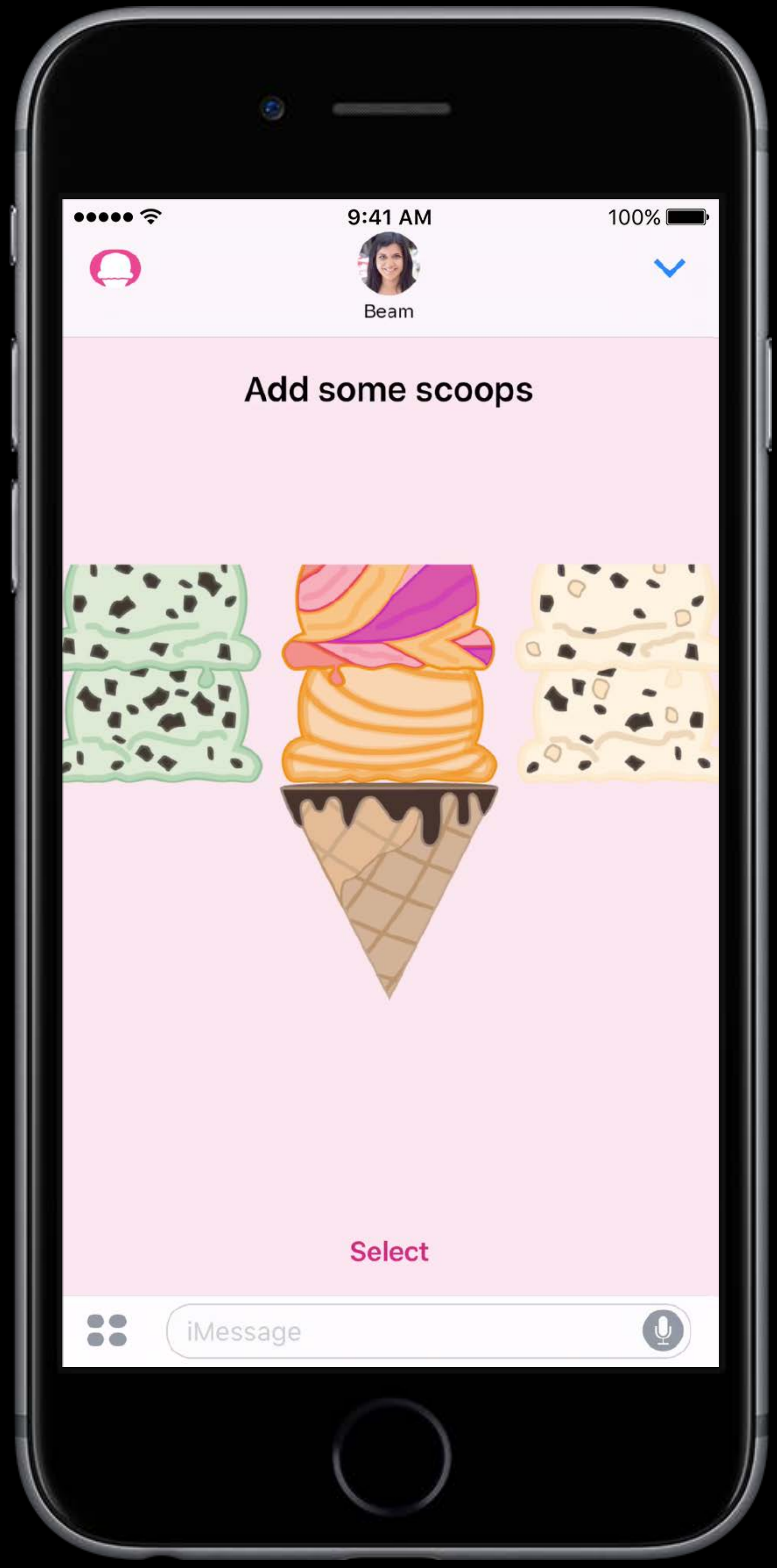
```
override func didReceive(_ message: MSMessage,
conversation: MSConversation) {
   super.didReceive(message, conversation:
      conversation)
}
```



Override Methods

Did receive message

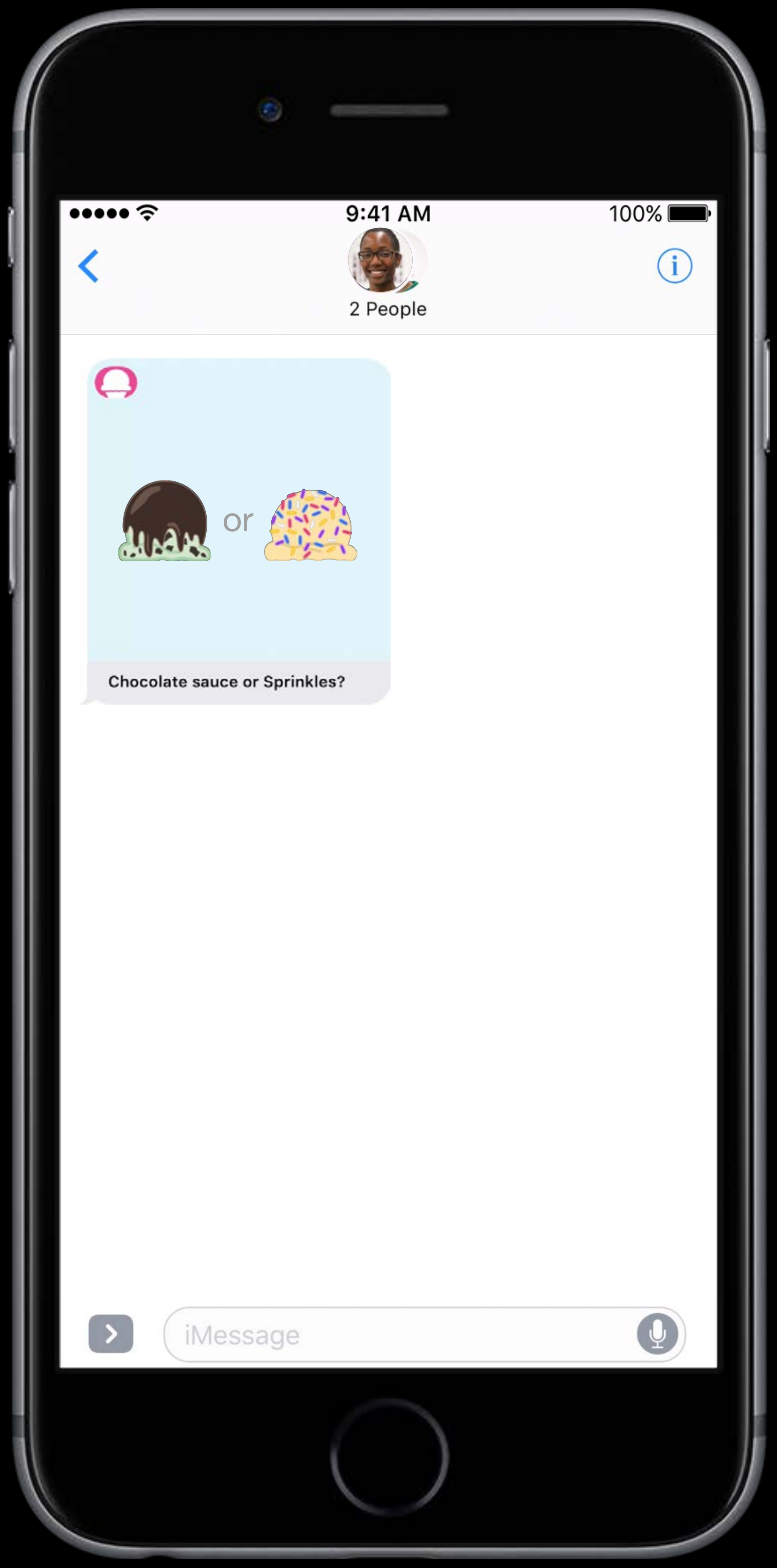
```
override func didReceive(_ message: MSMessage,
conversation: MSConversation) {
    super.didReceive(message, conversation:
        conversation)
}
```



Group Conversations

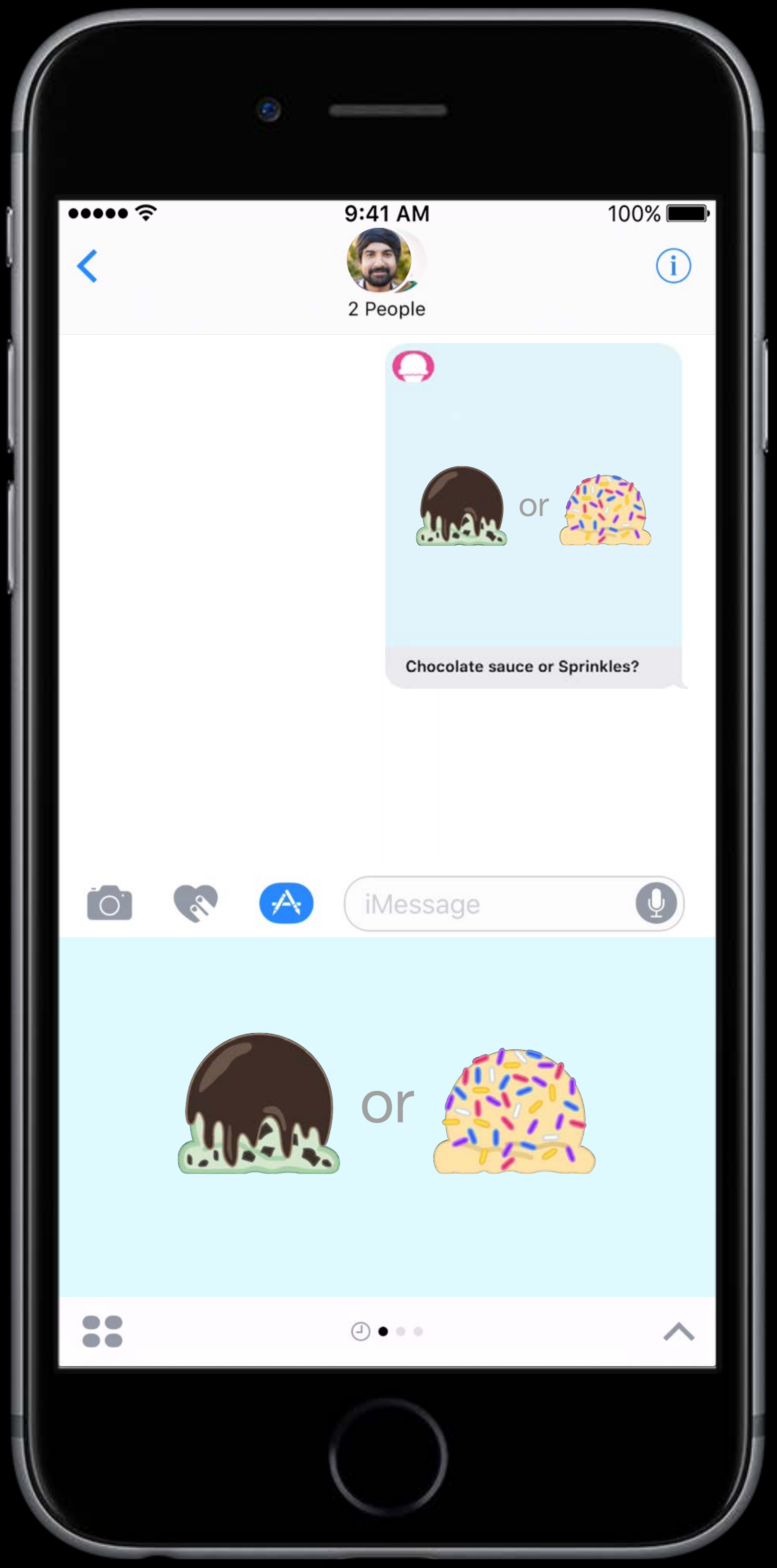
Group Conversations

Amber



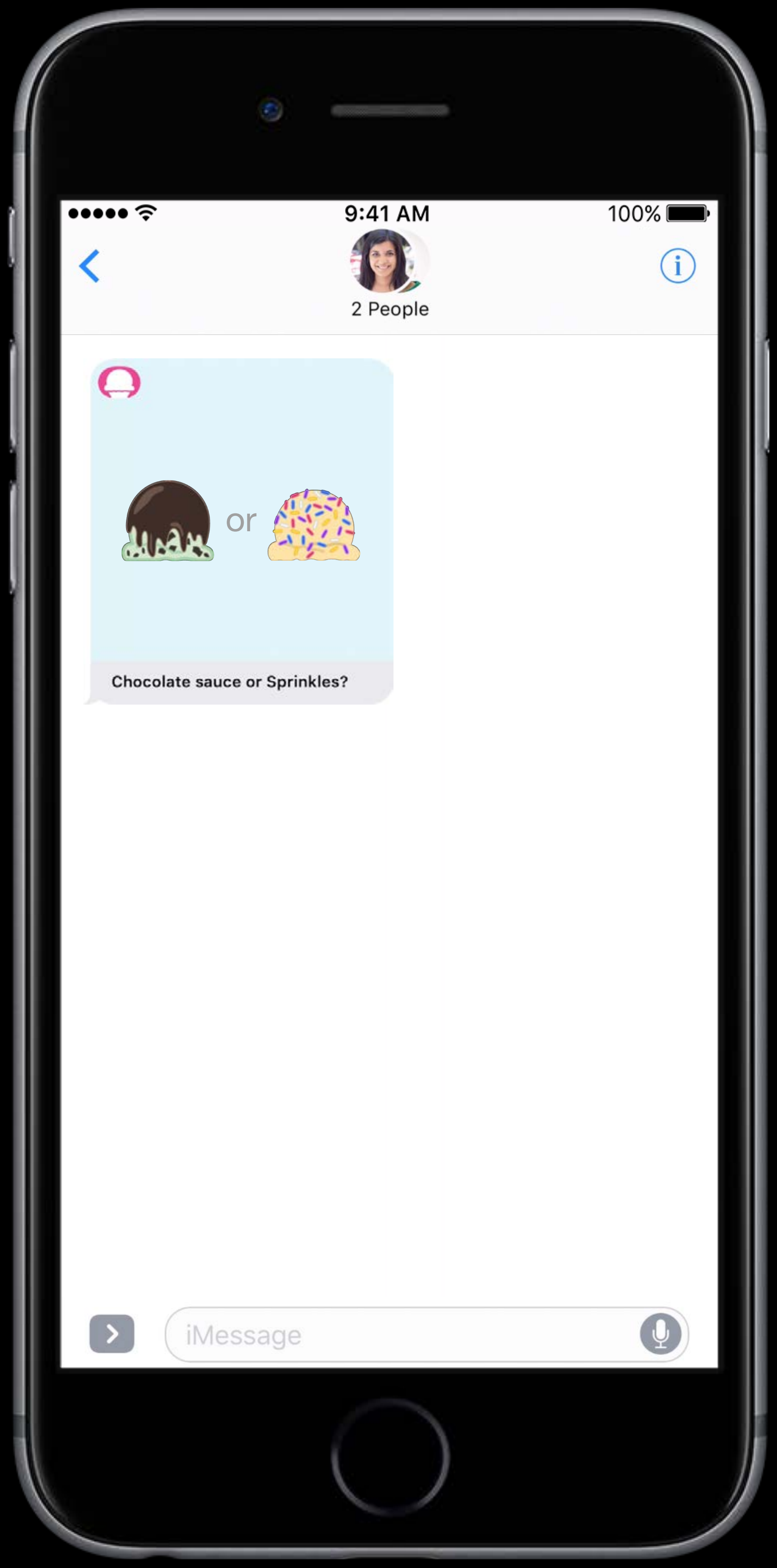
Chocolate sauce or Sprinkles?

Ben



Chocolate sauce or Sprinkles?

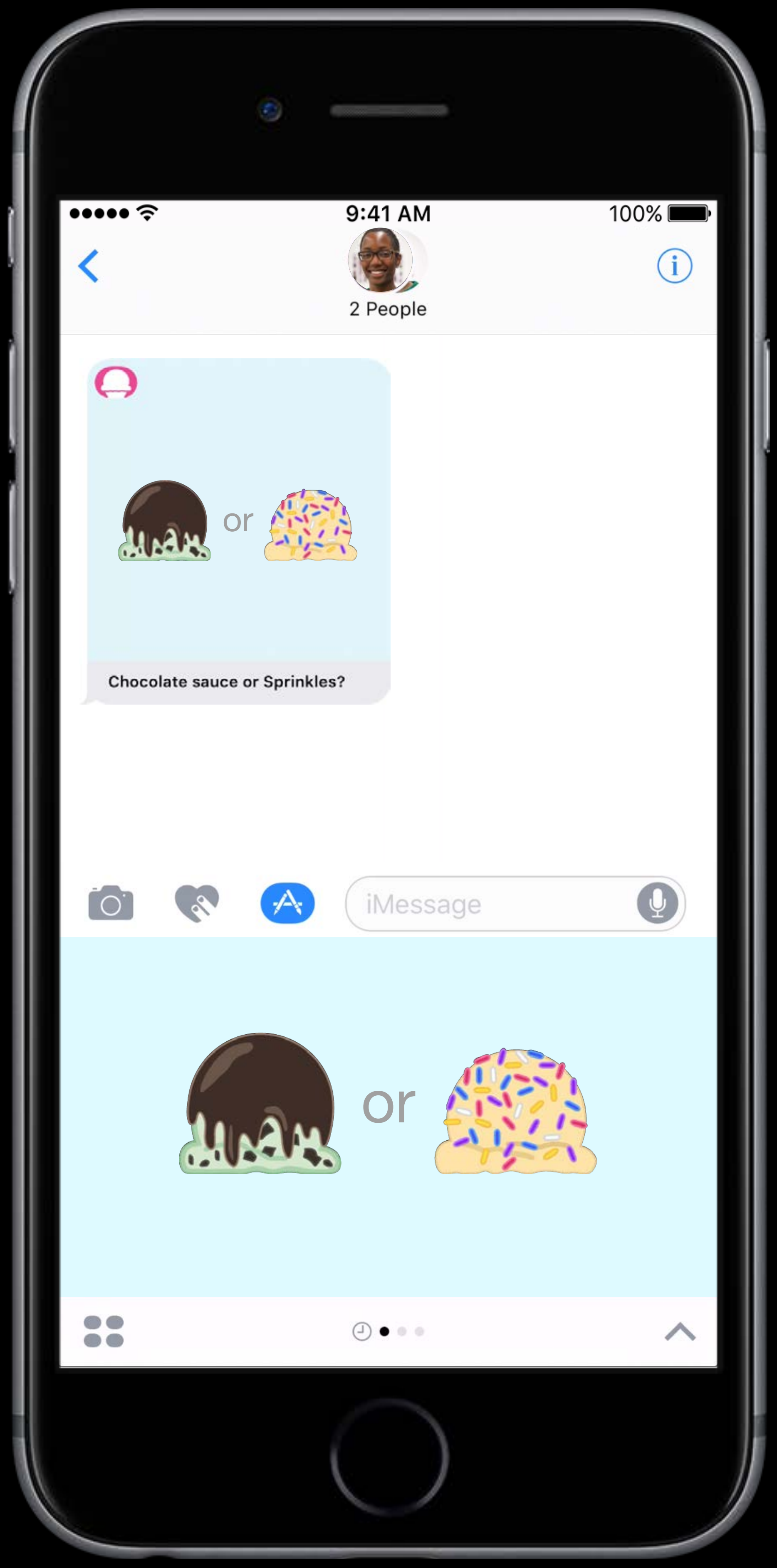
Chris



Chocolate sauce or Sprinkles?

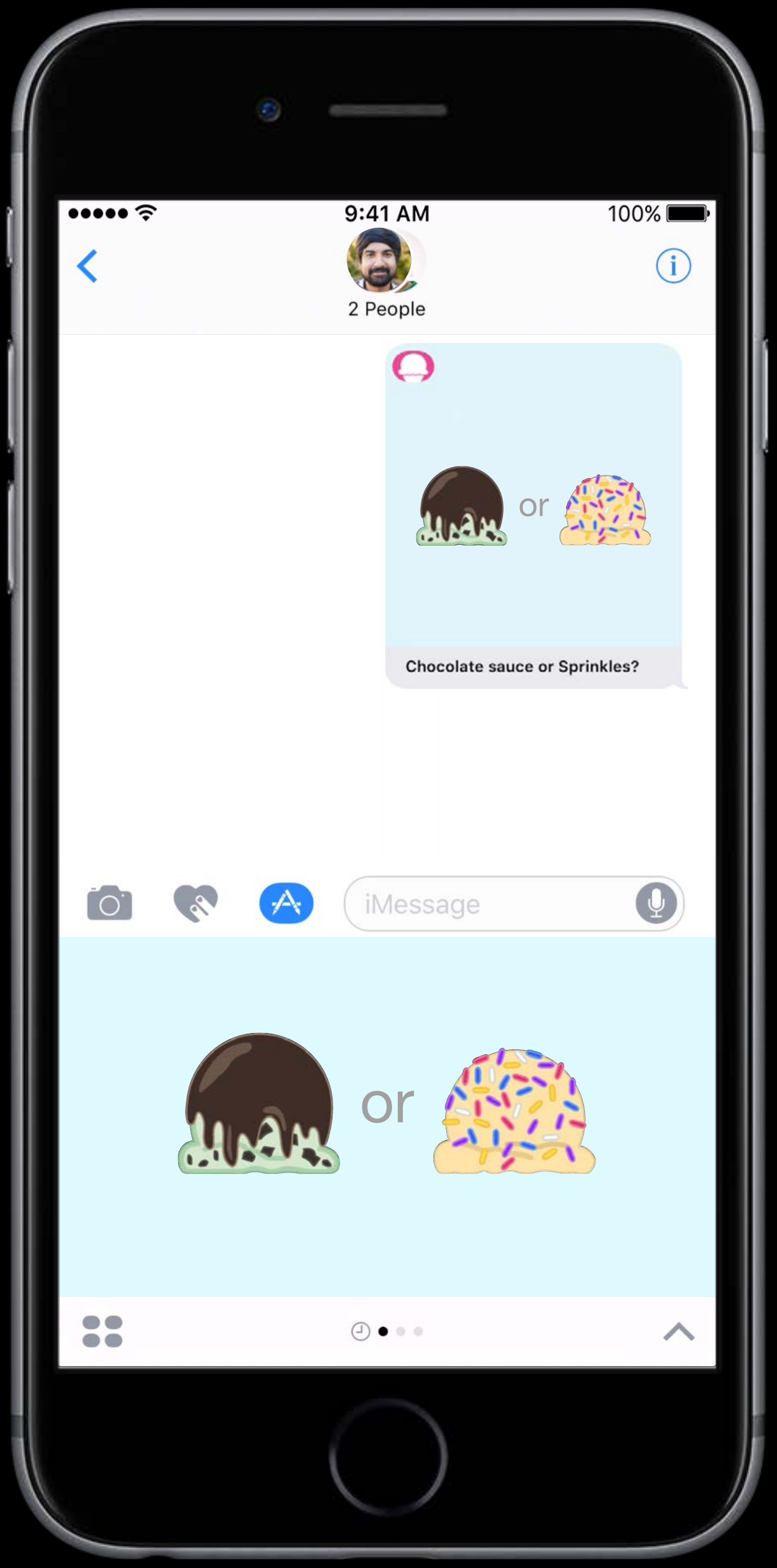
Group Conversations

Amber



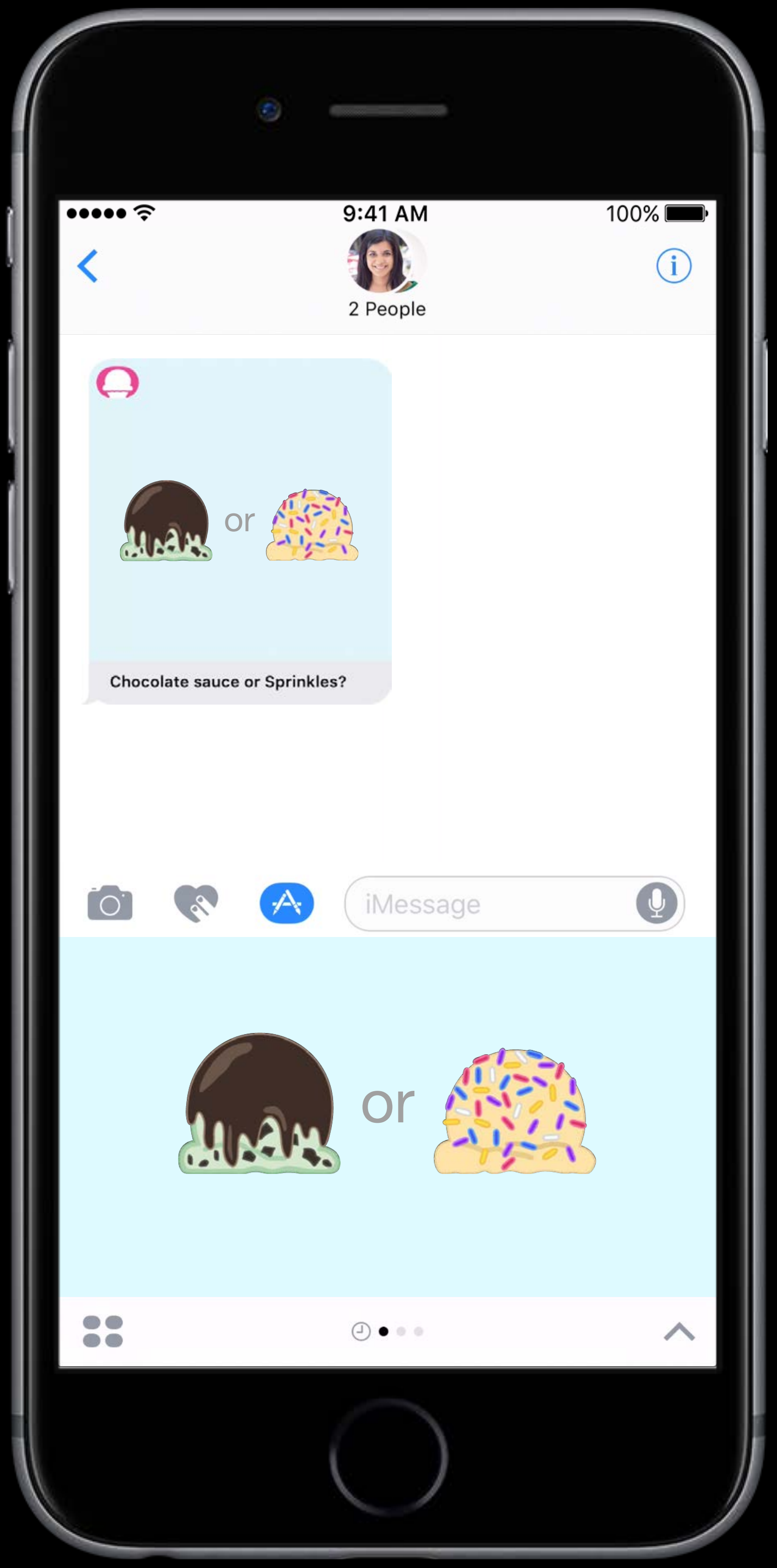
Chocolate sauce or Sprinkles?

Ben



Chocolate sauce or Sprinkles?

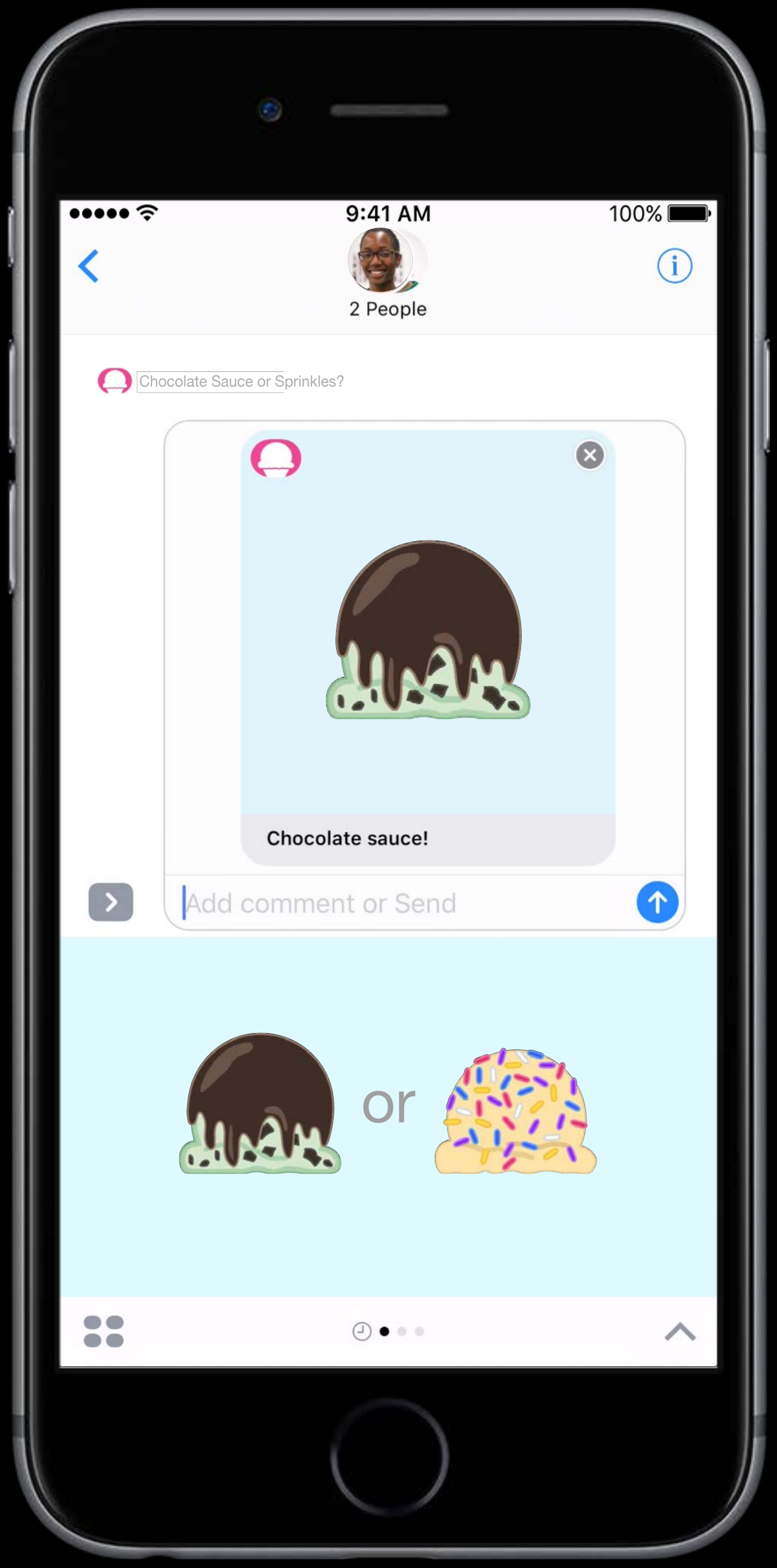
Chris



Chocolate sauce or Sprinkles?

Group Conversations

Amber

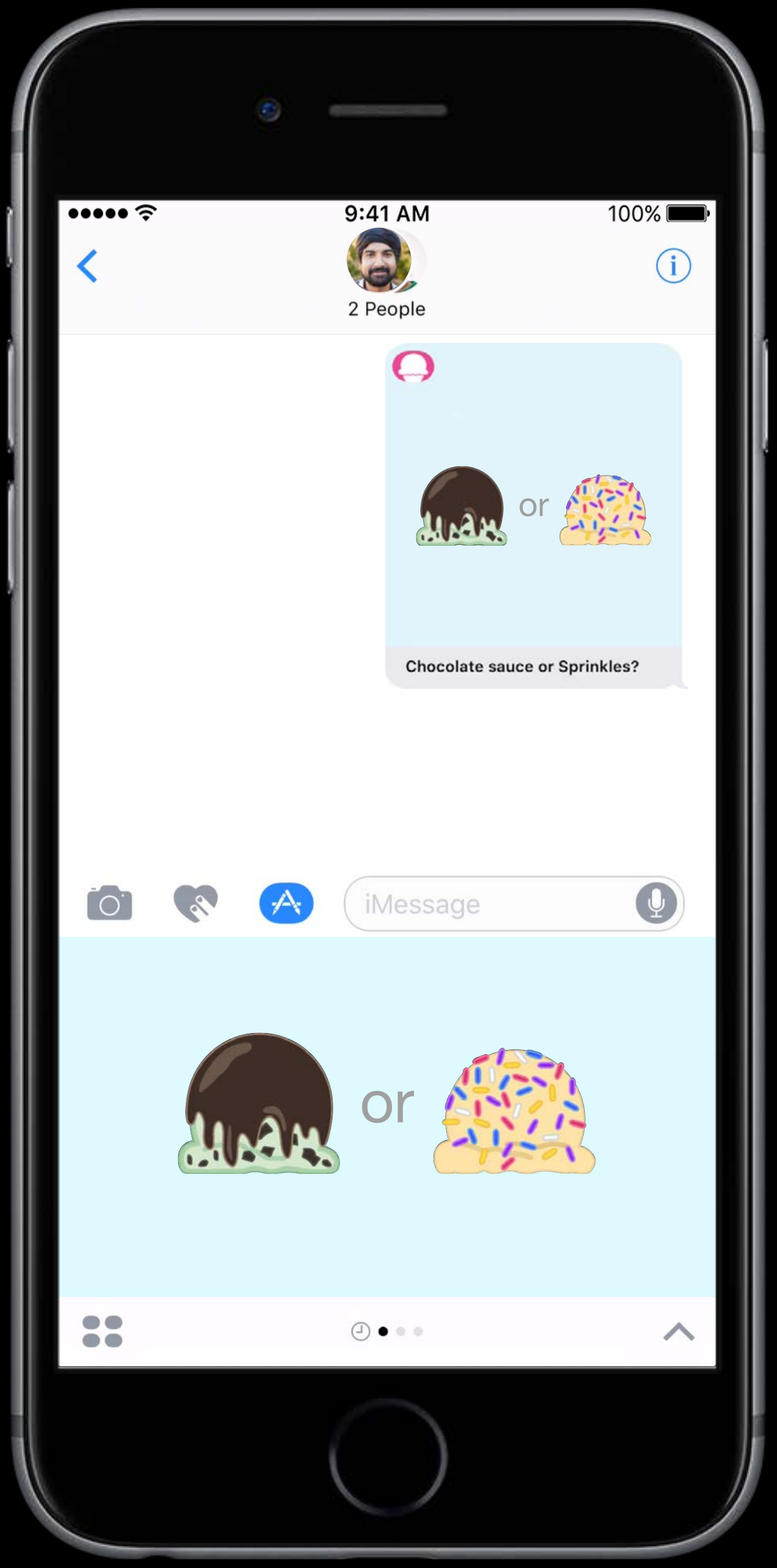


Chocolate Sauce or Sprinkles?

Chocolate sauce!

Add comment or Send

Ben



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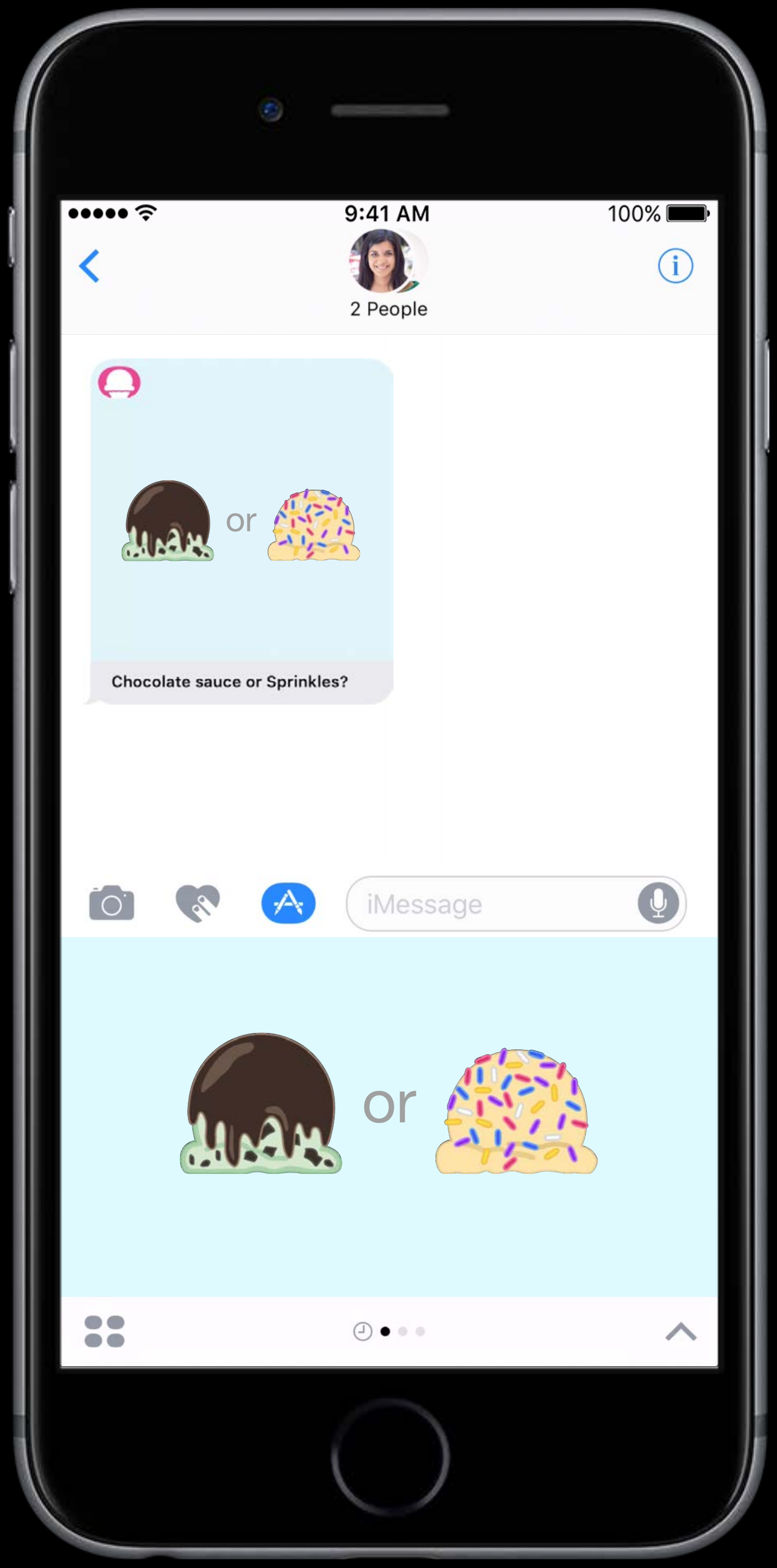
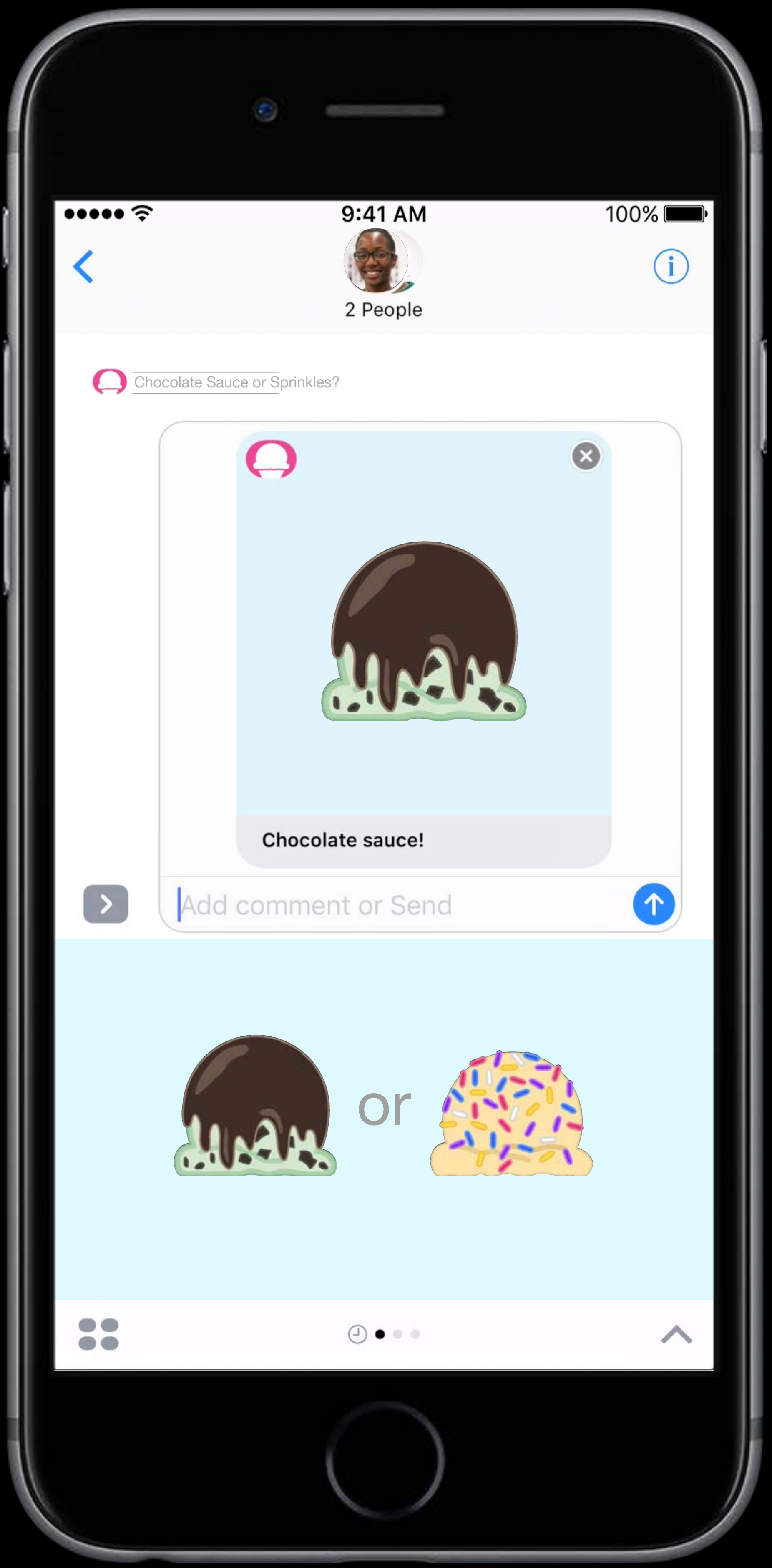


Chocolate sauce or Sprinkles?

Group Conversations

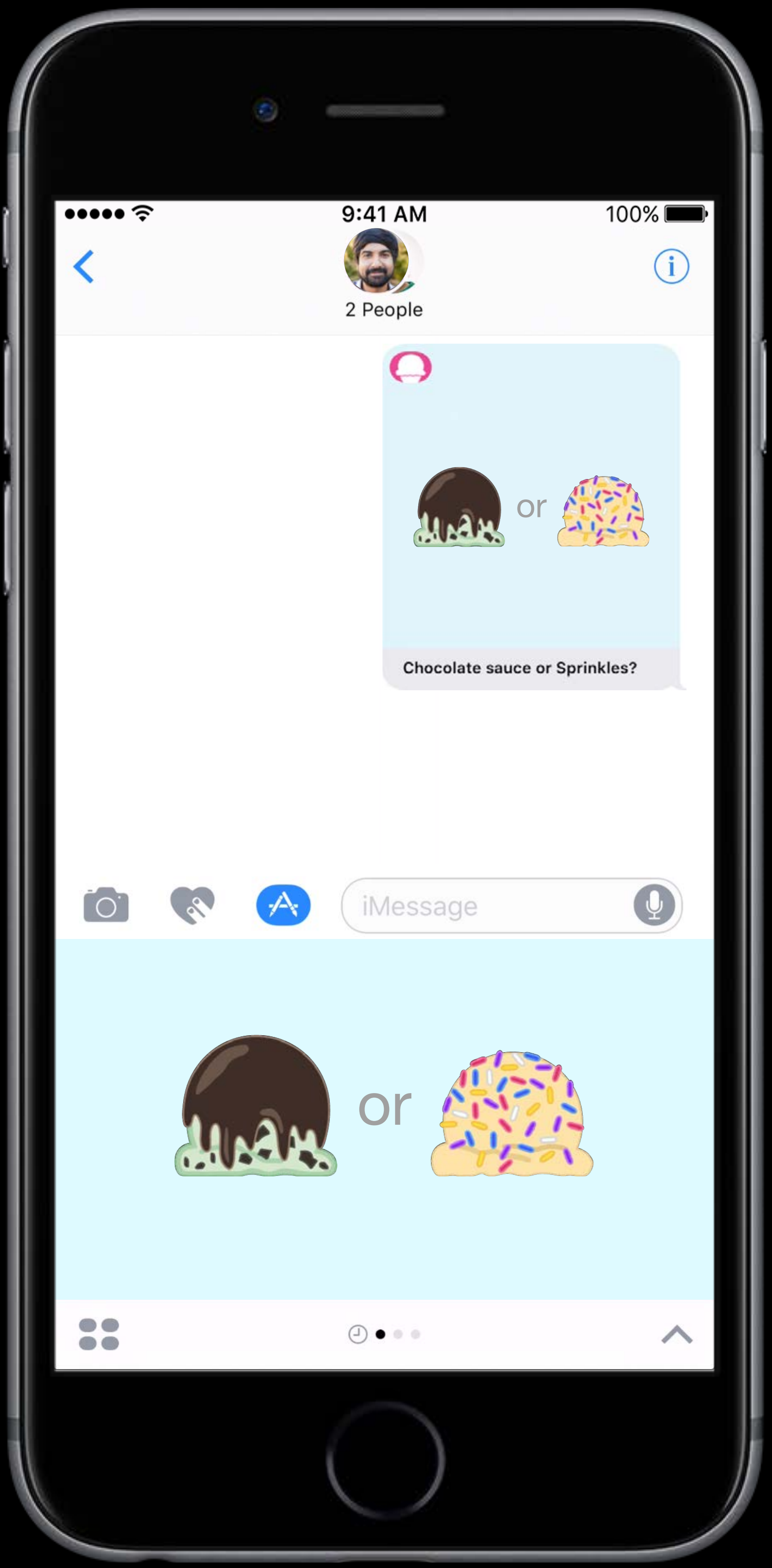
Amber



Chocolate Sauce or Sprinkles?

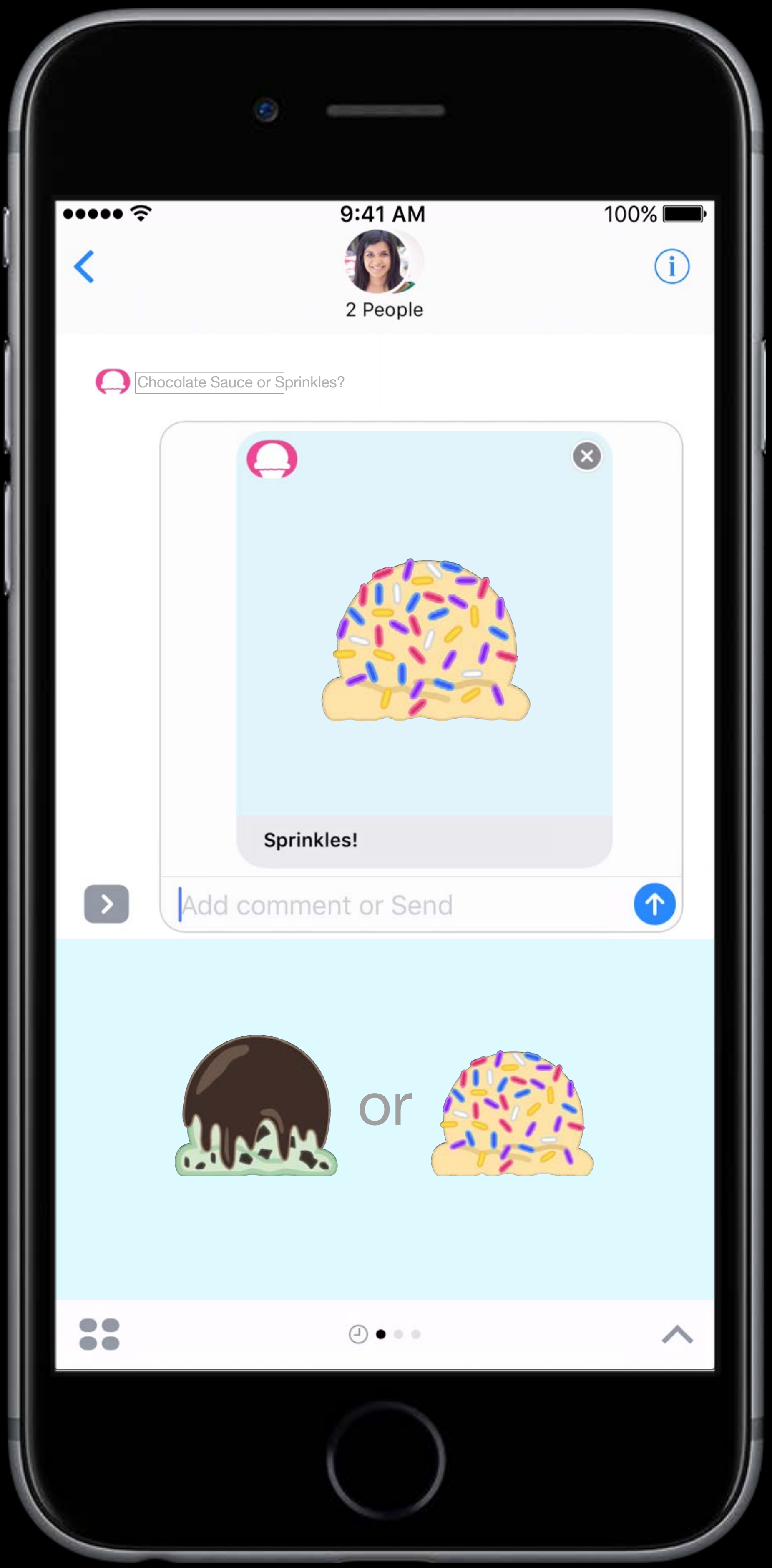
Chocolate sauce!

Ben



Chocolate sauce or Sprinkles?

Chris

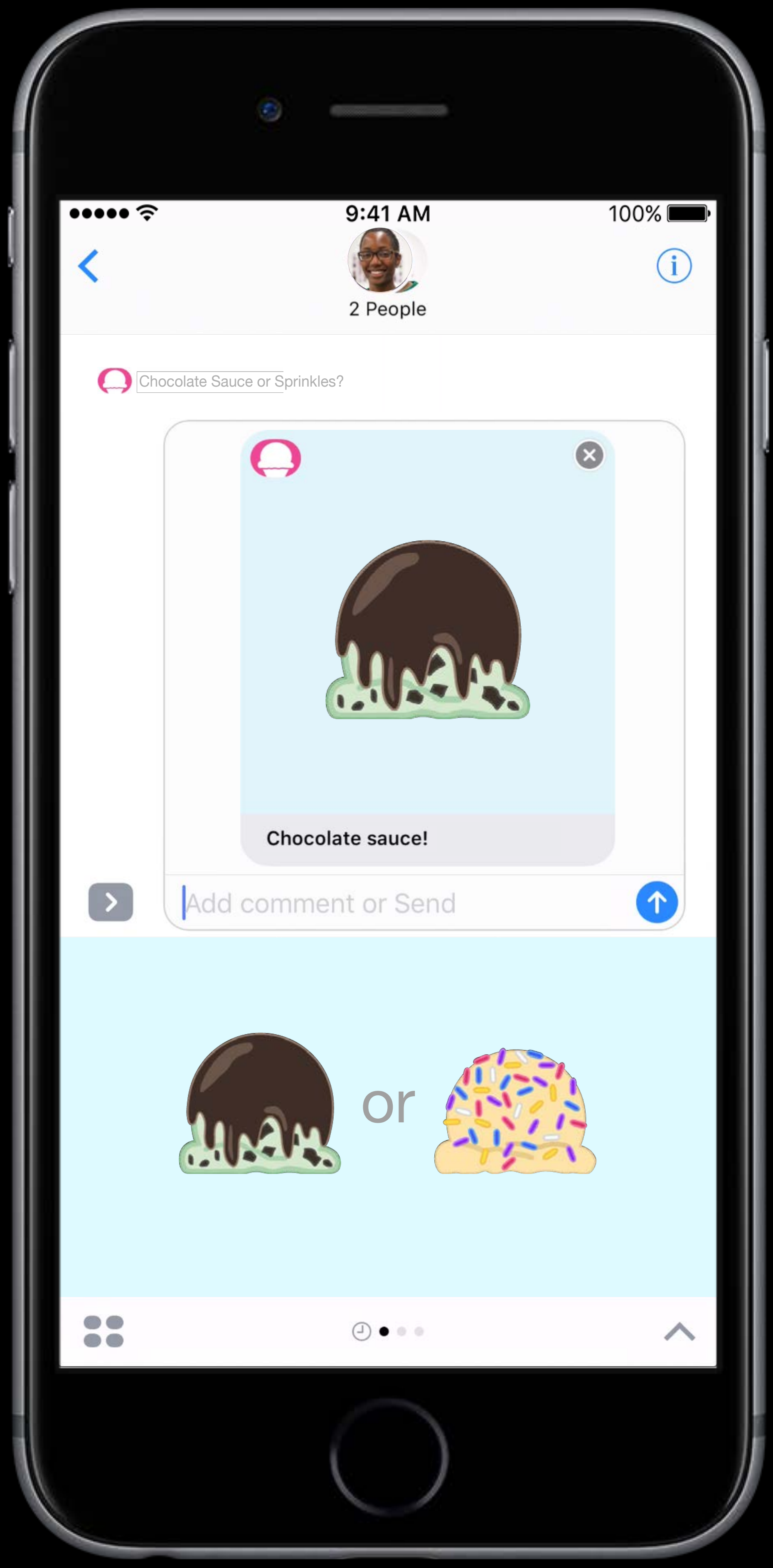


Chocolate Sauce or Sprinkles?

Sprinkles!

Group Conversations

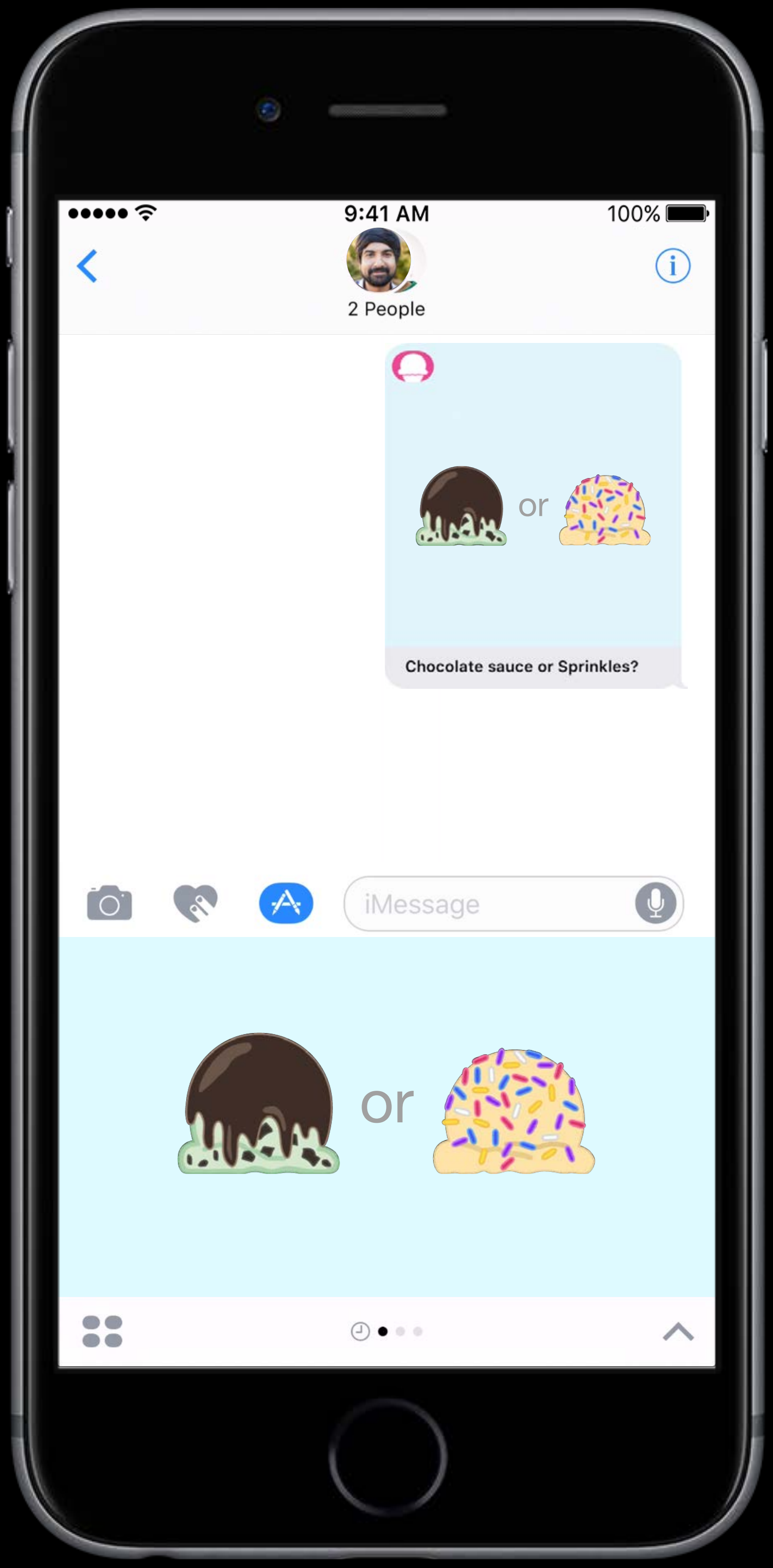
Amber



Chocolate Sauce or Sprinkles?

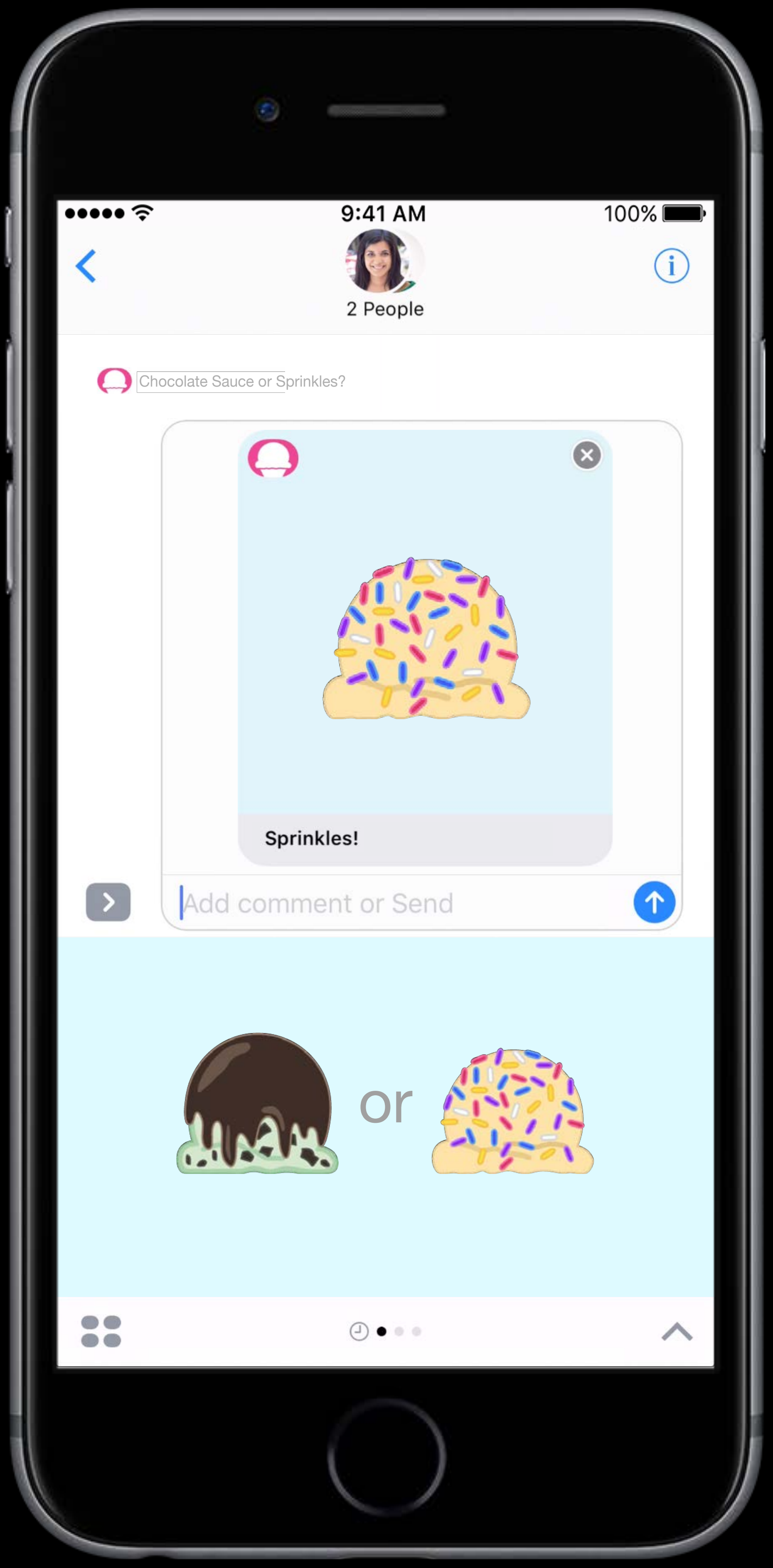
Chocolate sauce!

Ben



Chocolate sauce or Sprinkles?

Chris

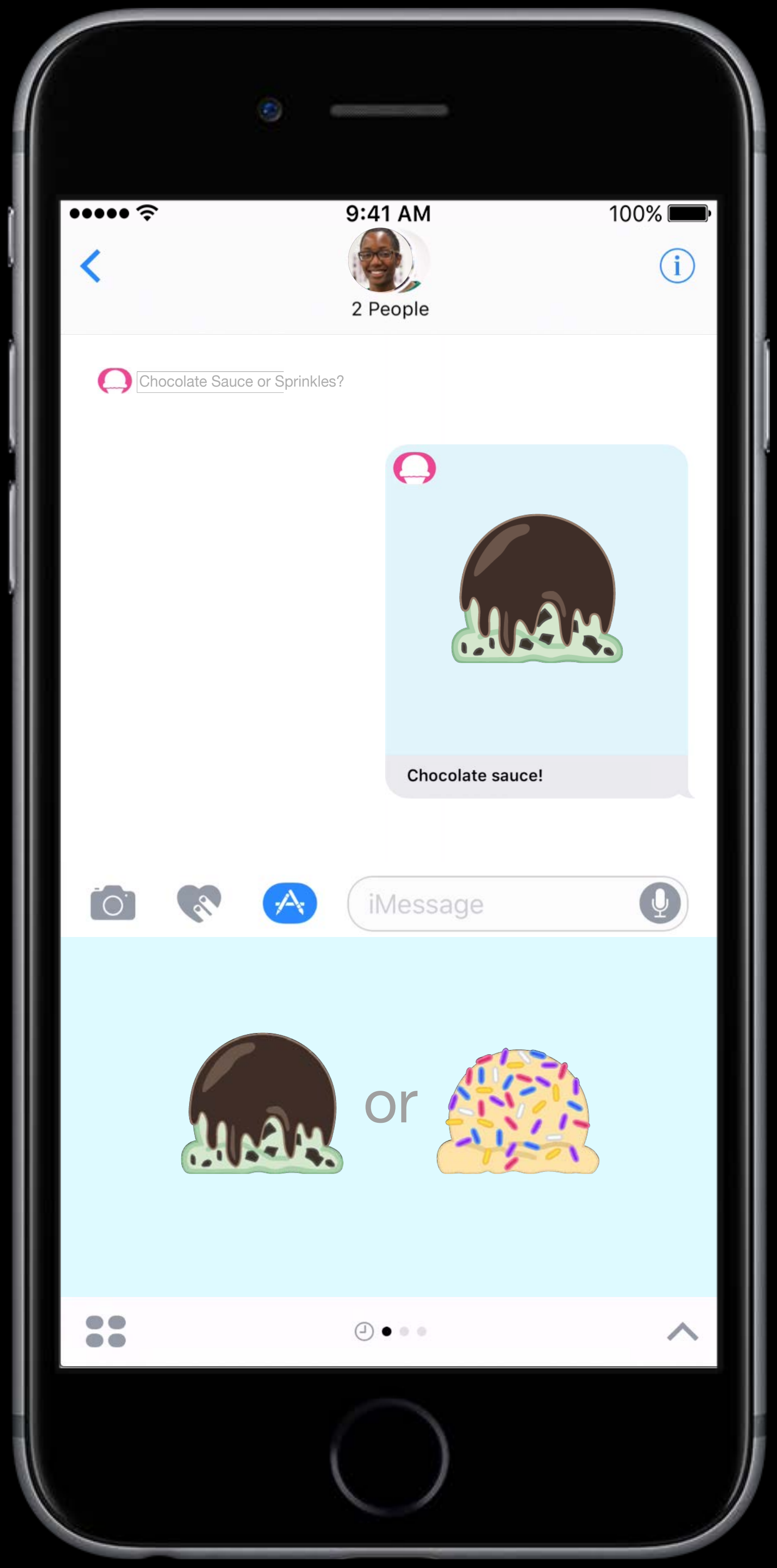


Chocolate Sauce or Sprinkles?

Sprinkles!

Group Conversations

Amber



Chocolate Sauce or Sprinkles?

Chocolate sauce!

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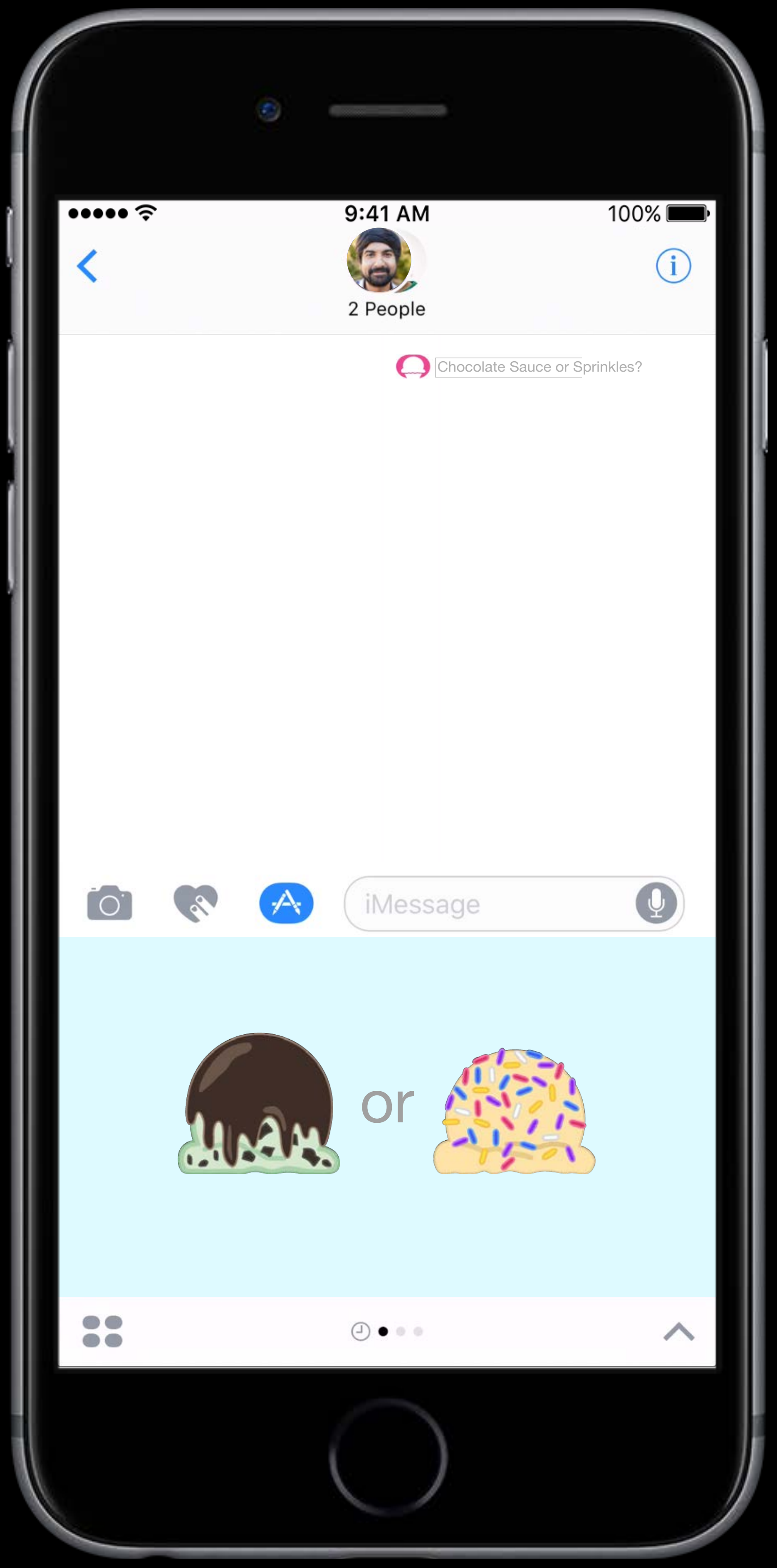

Chocolate Sauce or Sprinkles?

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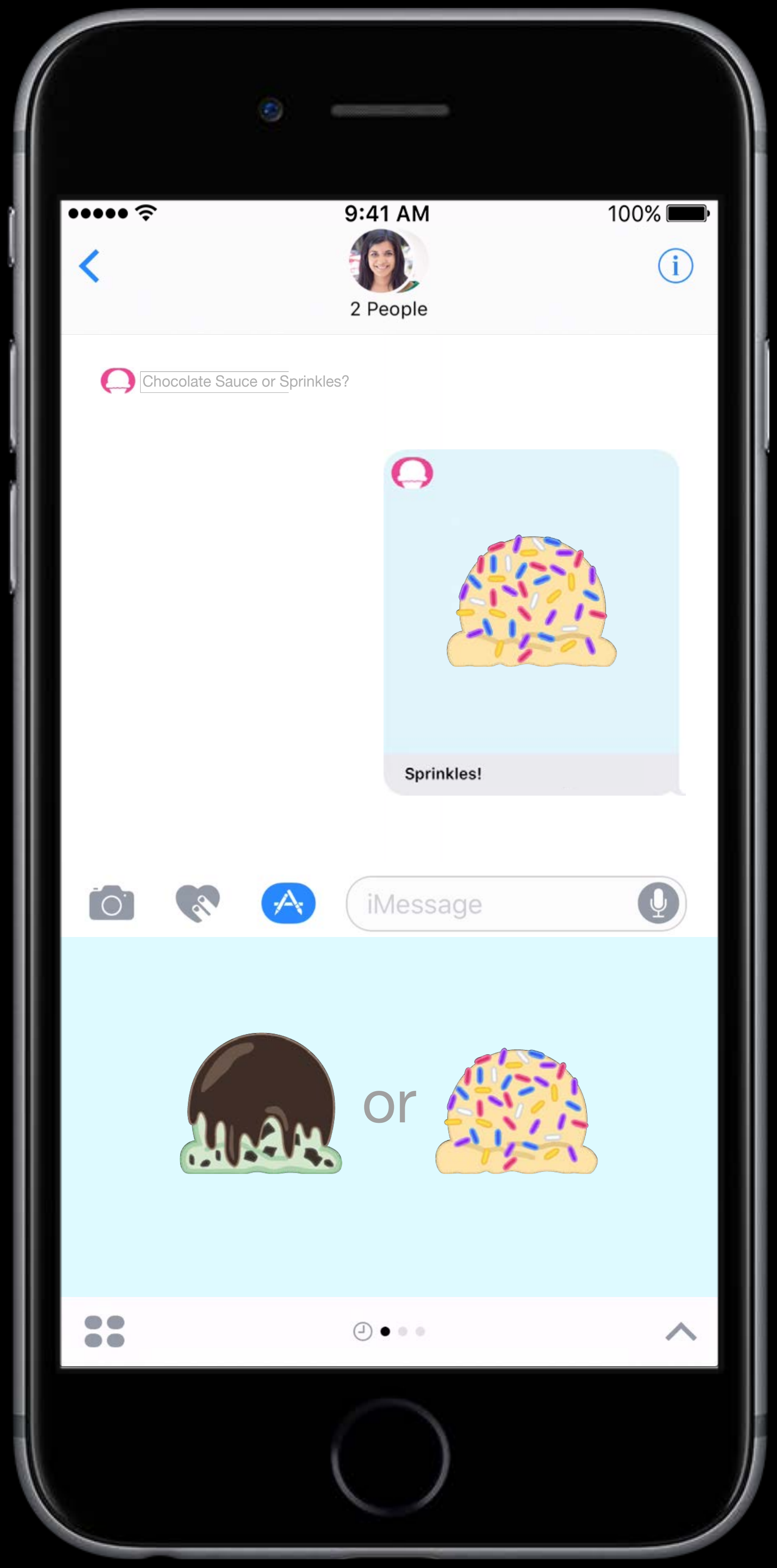
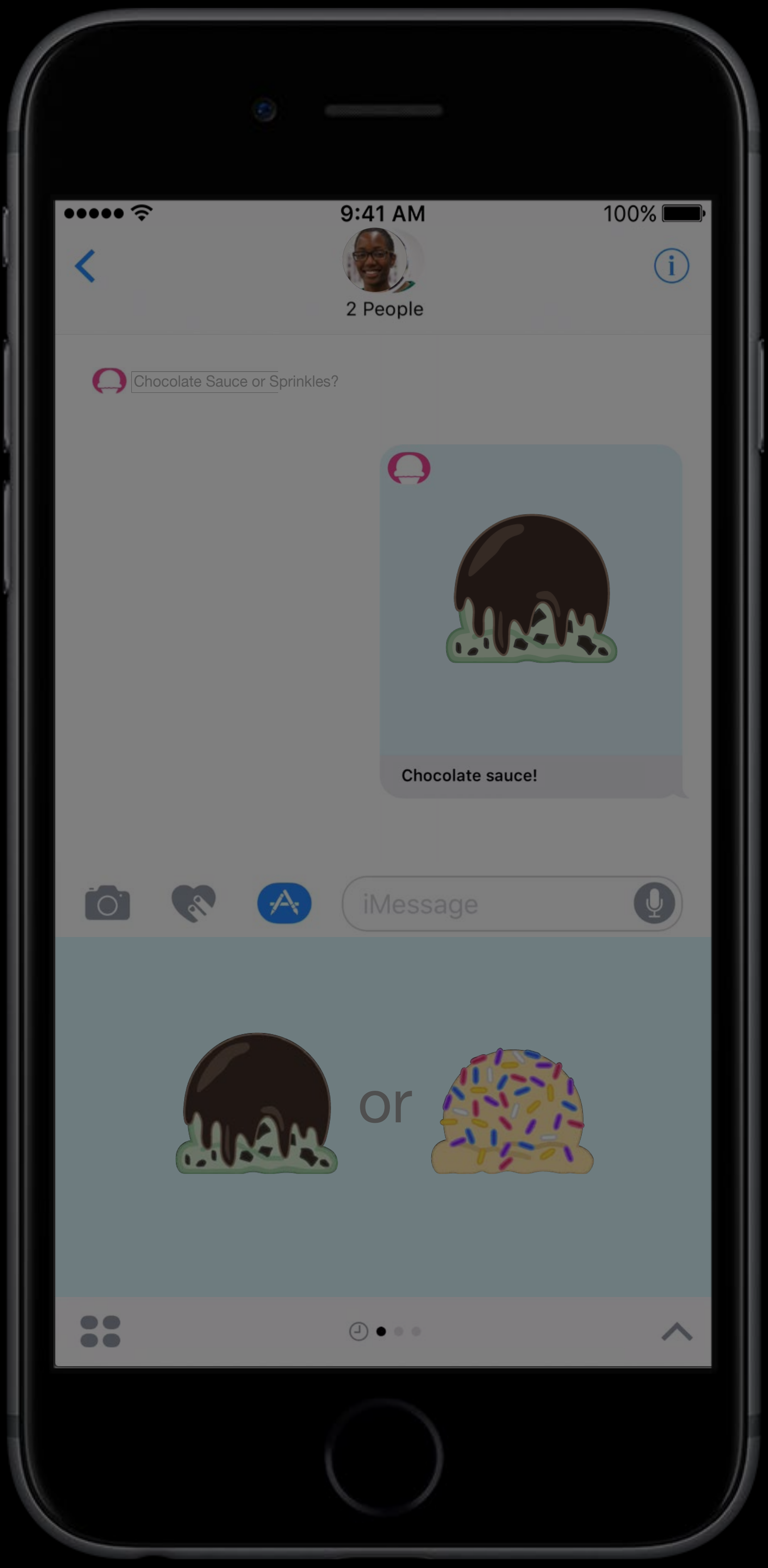


Chocolate Sauce or Sprinkles?

Sprinkles!

Group Conversations

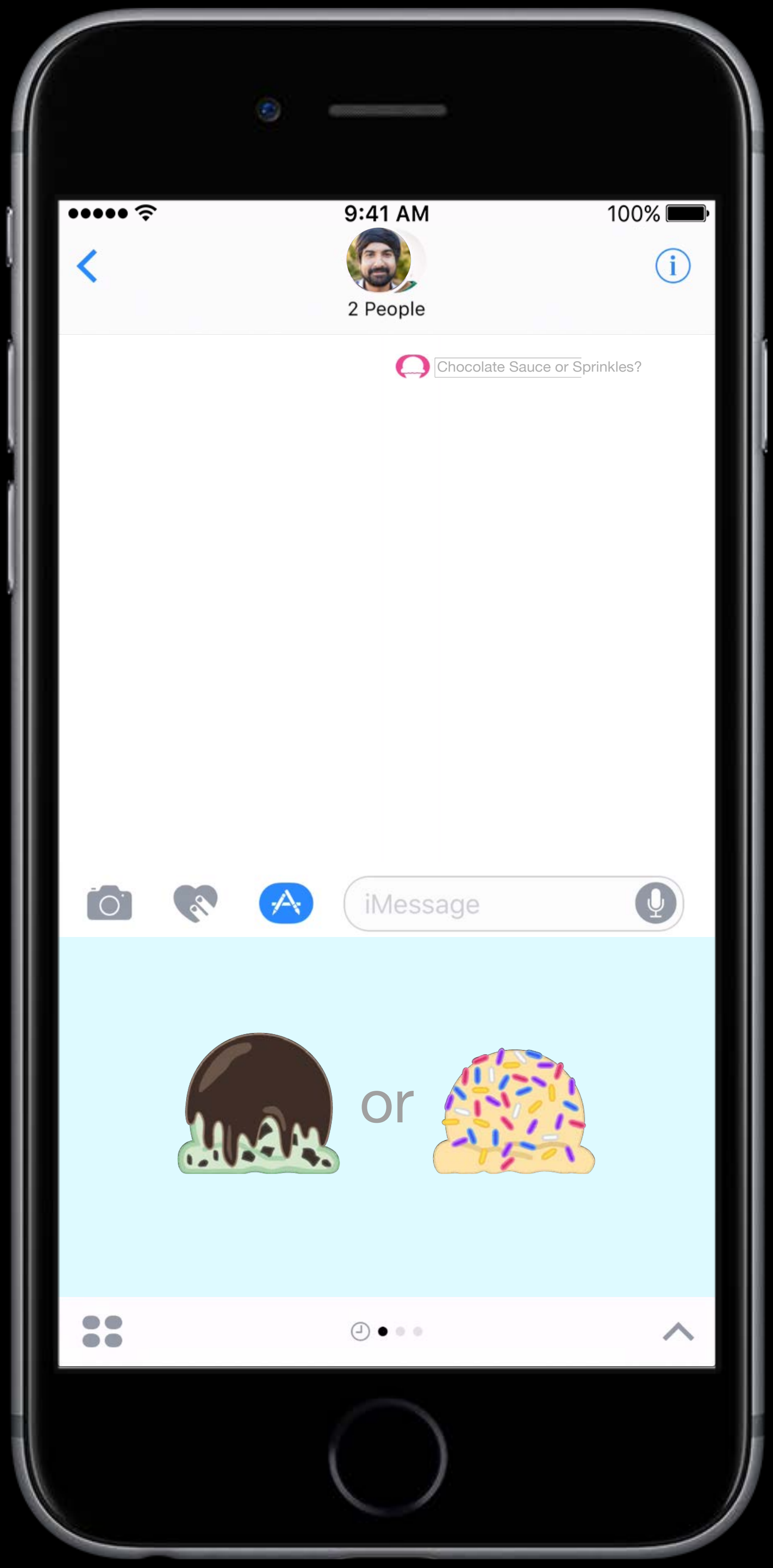
Amber



Chocolate Sauce or Sprinkles?

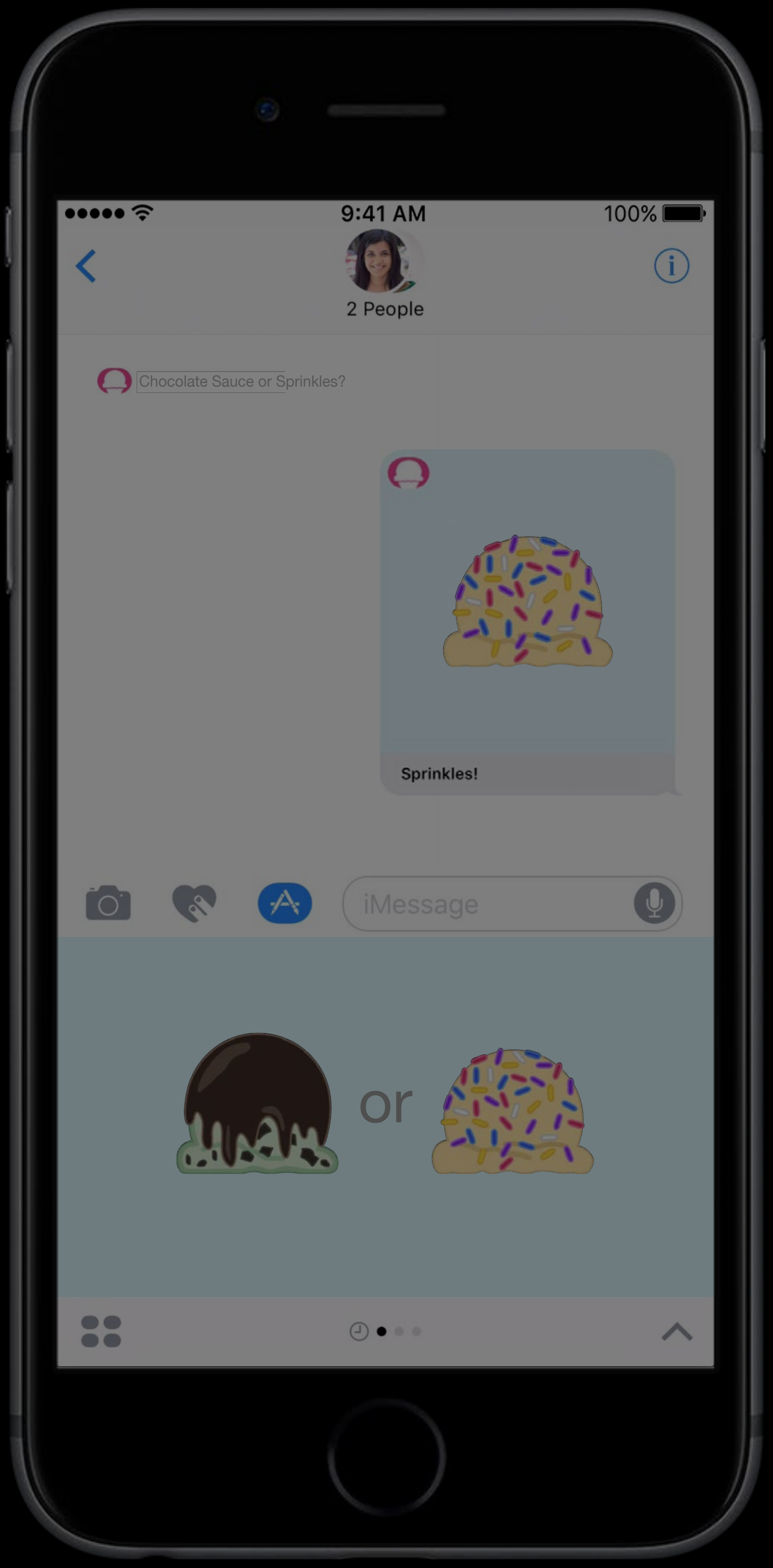
Chocolate sauce!

Ben



Chocolate Sauce or Sprinkles?

Chris

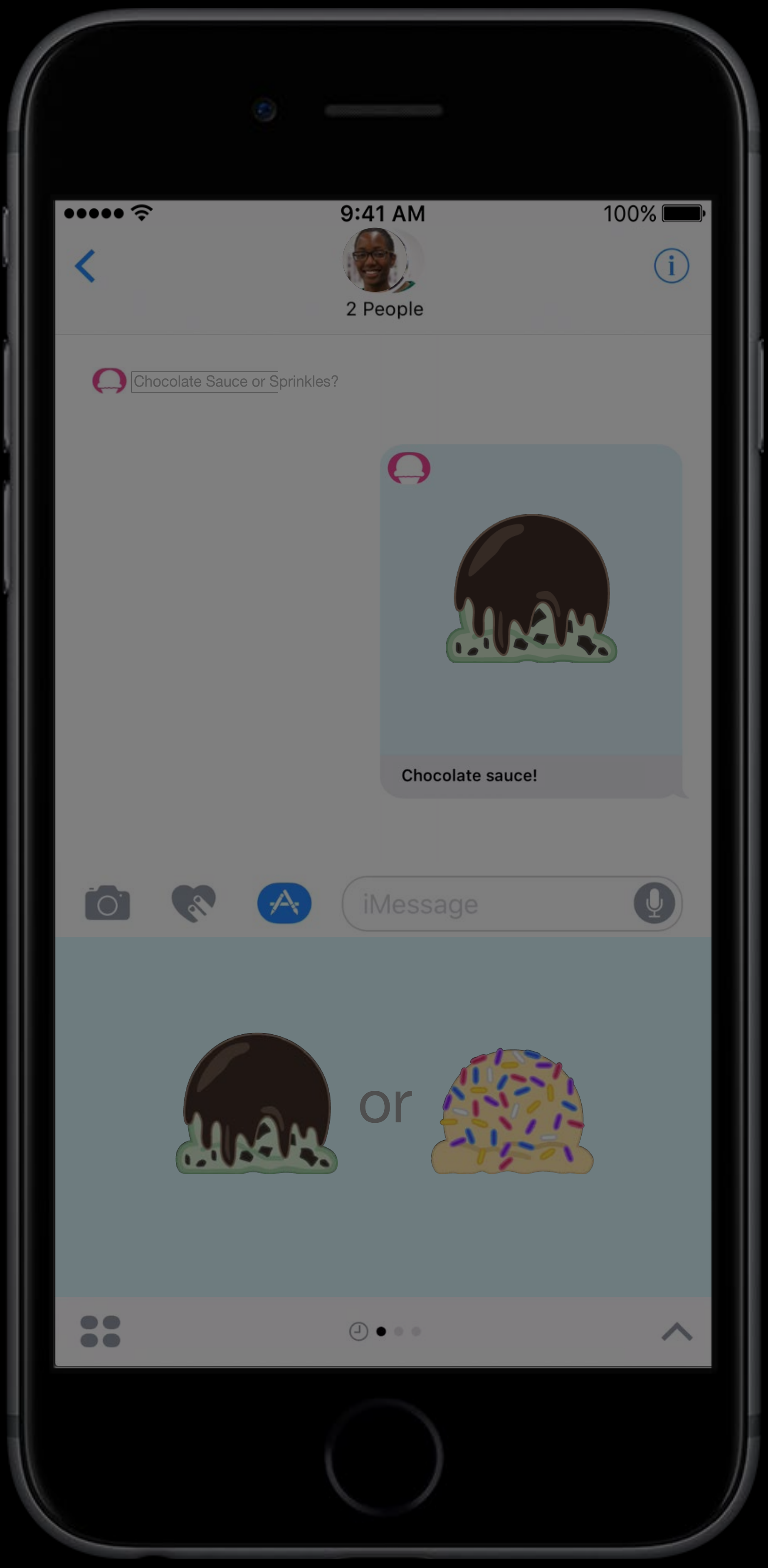


Chocolate Sauce or Sprinkles?

Sprinkles!

Group Conversations

Amber



Chocolate Sauce or Sprinkles?

Chocolate sauce!

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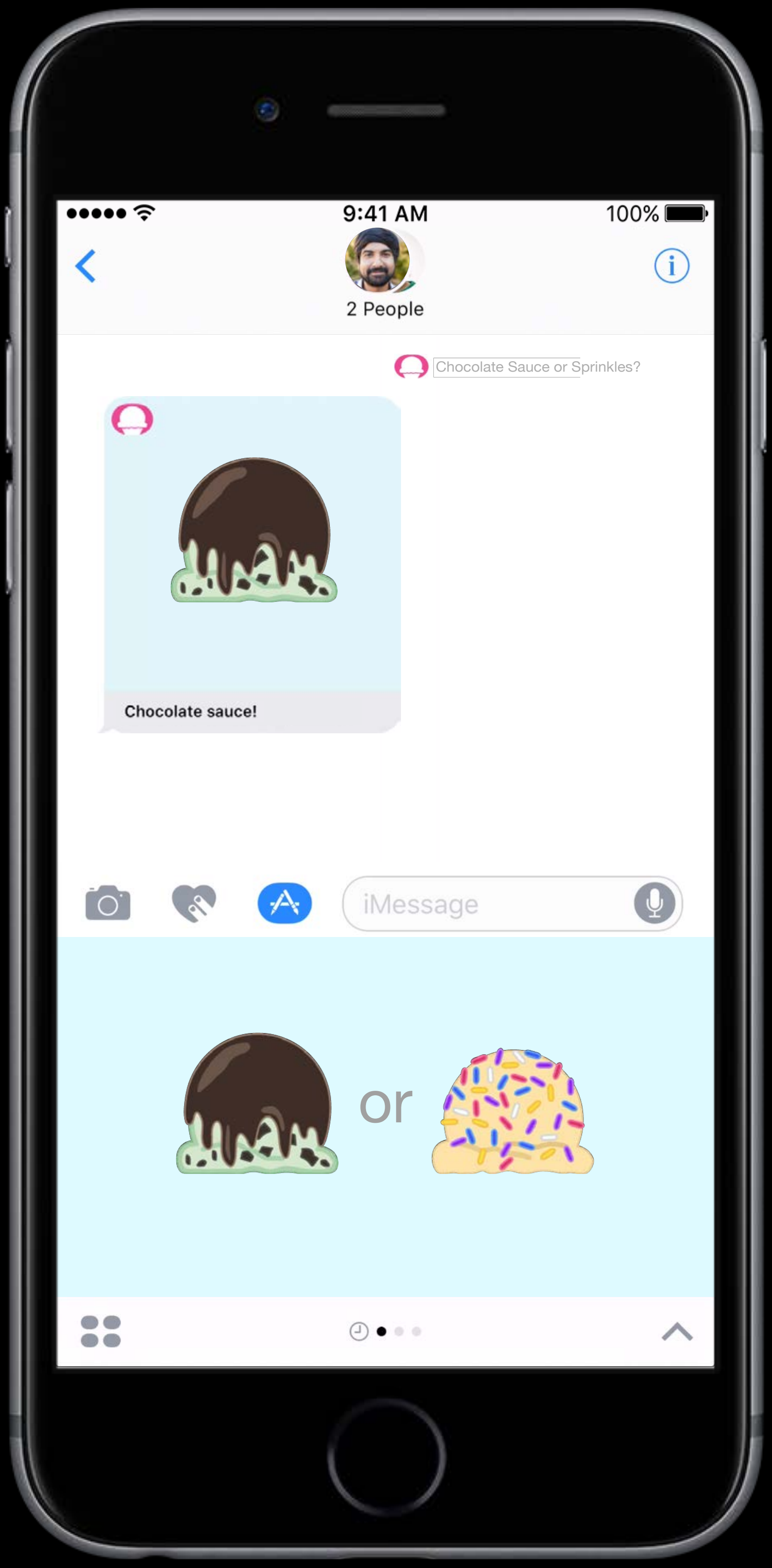
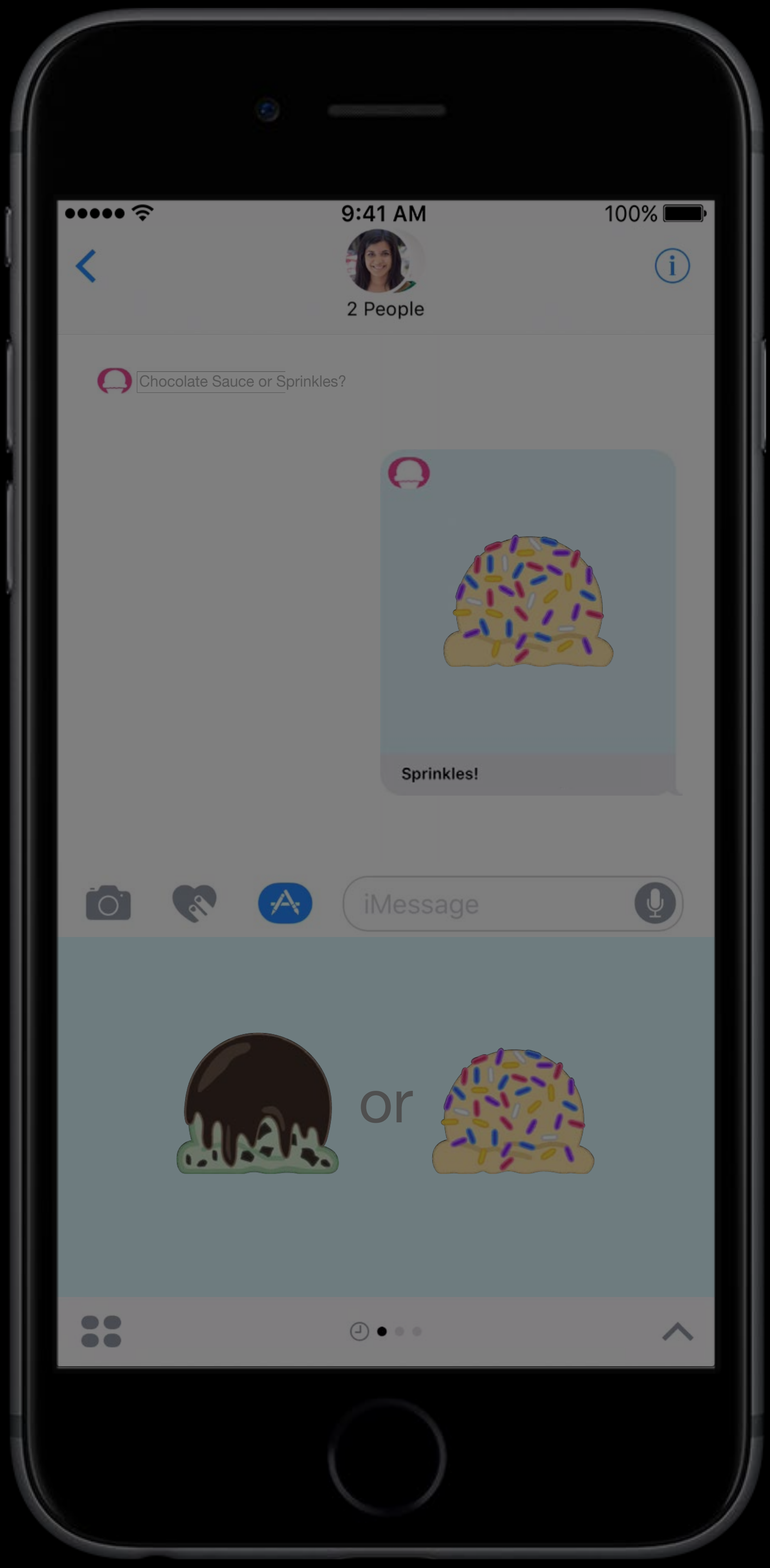


Chocolate Sauce or Sprinkles?

Chocolate sauce!

Chris

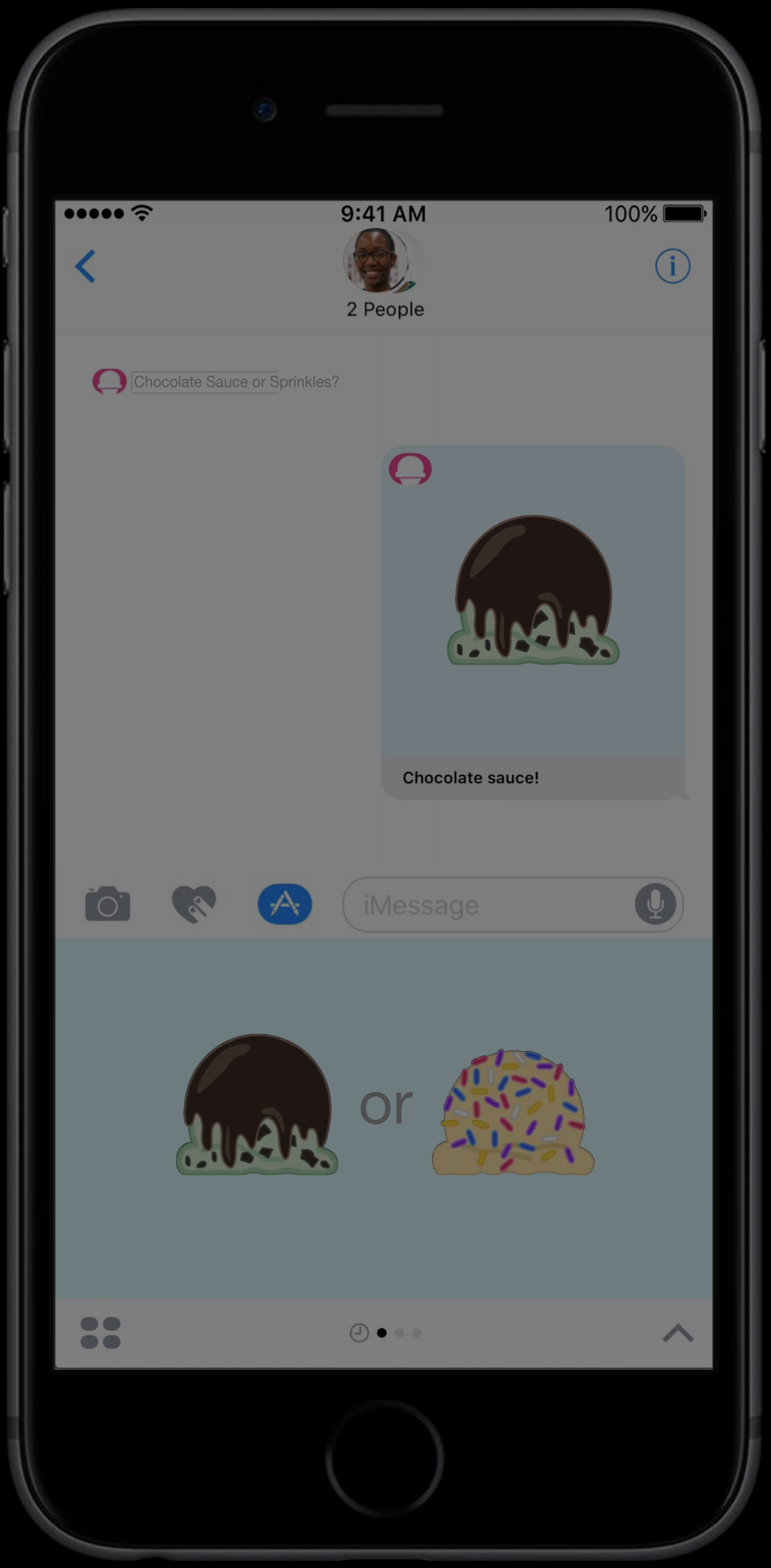


Chocolate Sauce or Sprinkles?

Sprinkles!

Group Conversations

Amber



9:41 AM

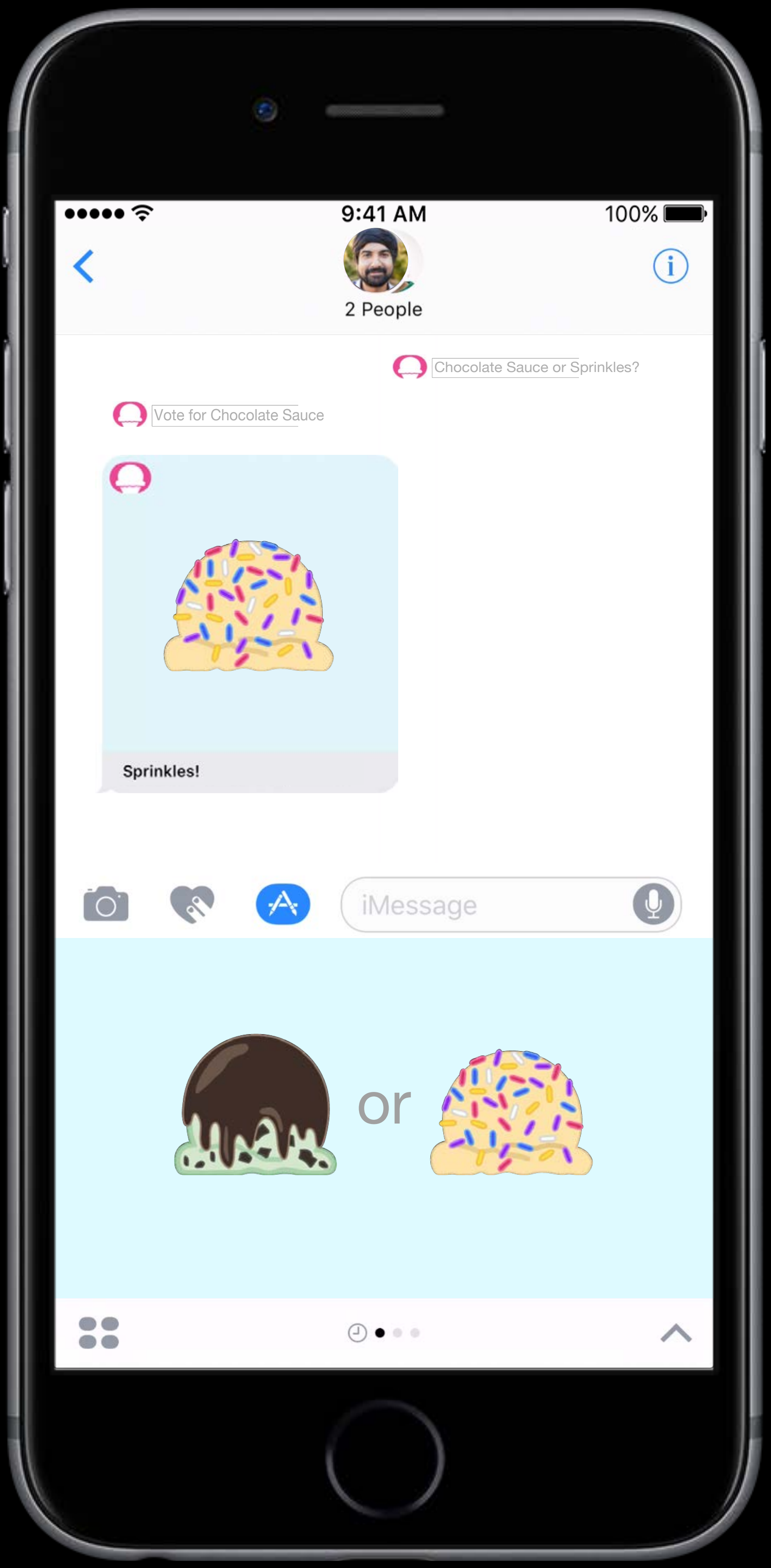
2 People

Chocolate Sauce or Sprinkles?

Chocolate sauce!

iMessage

Ben



9:41 AM

2 People

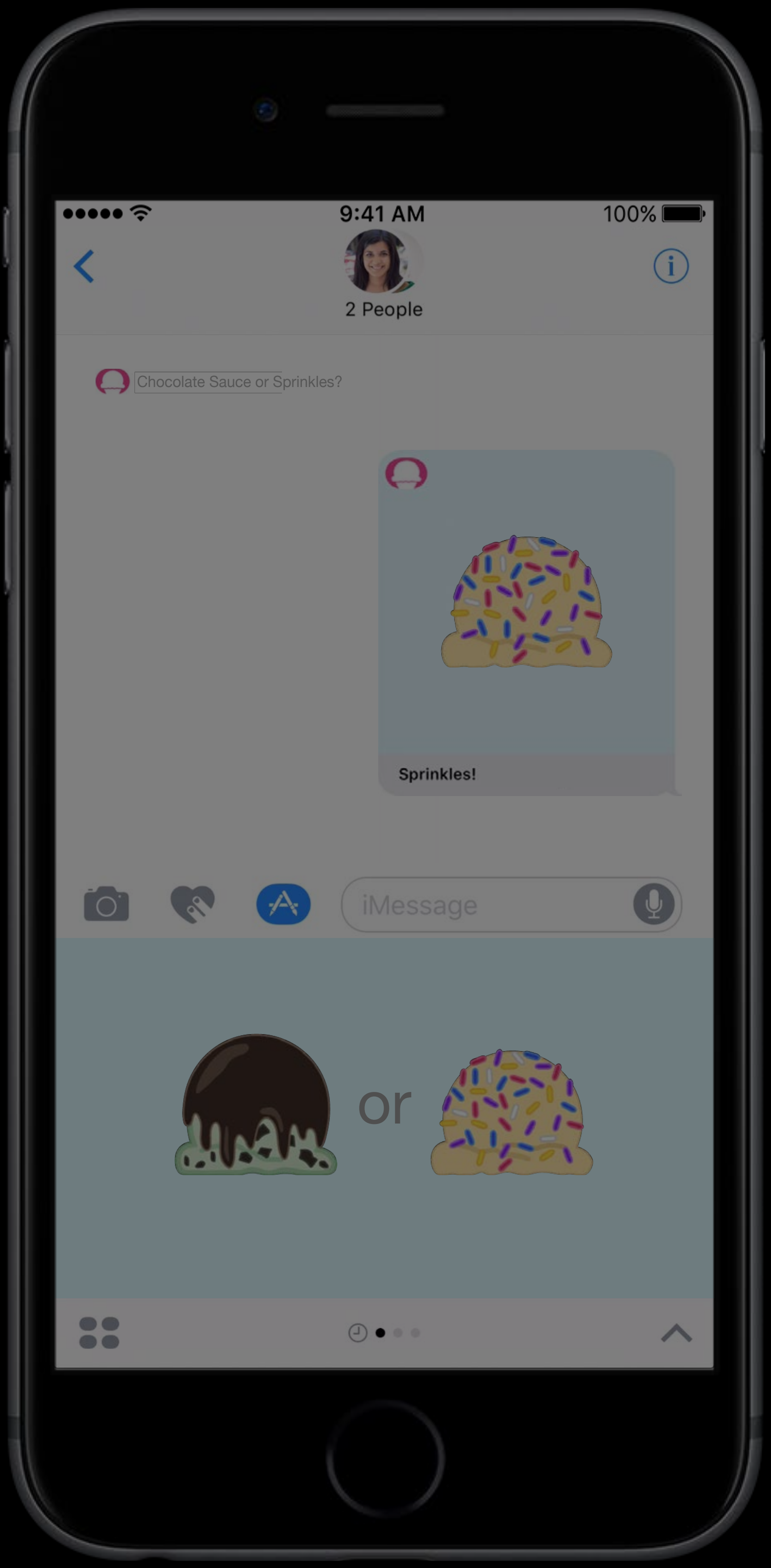
Chocolate Sauce or Sprinkles?

Vote for Chocolate Sauce

Sprinkles!

iMessage

Chris



9:41 AM

2 People

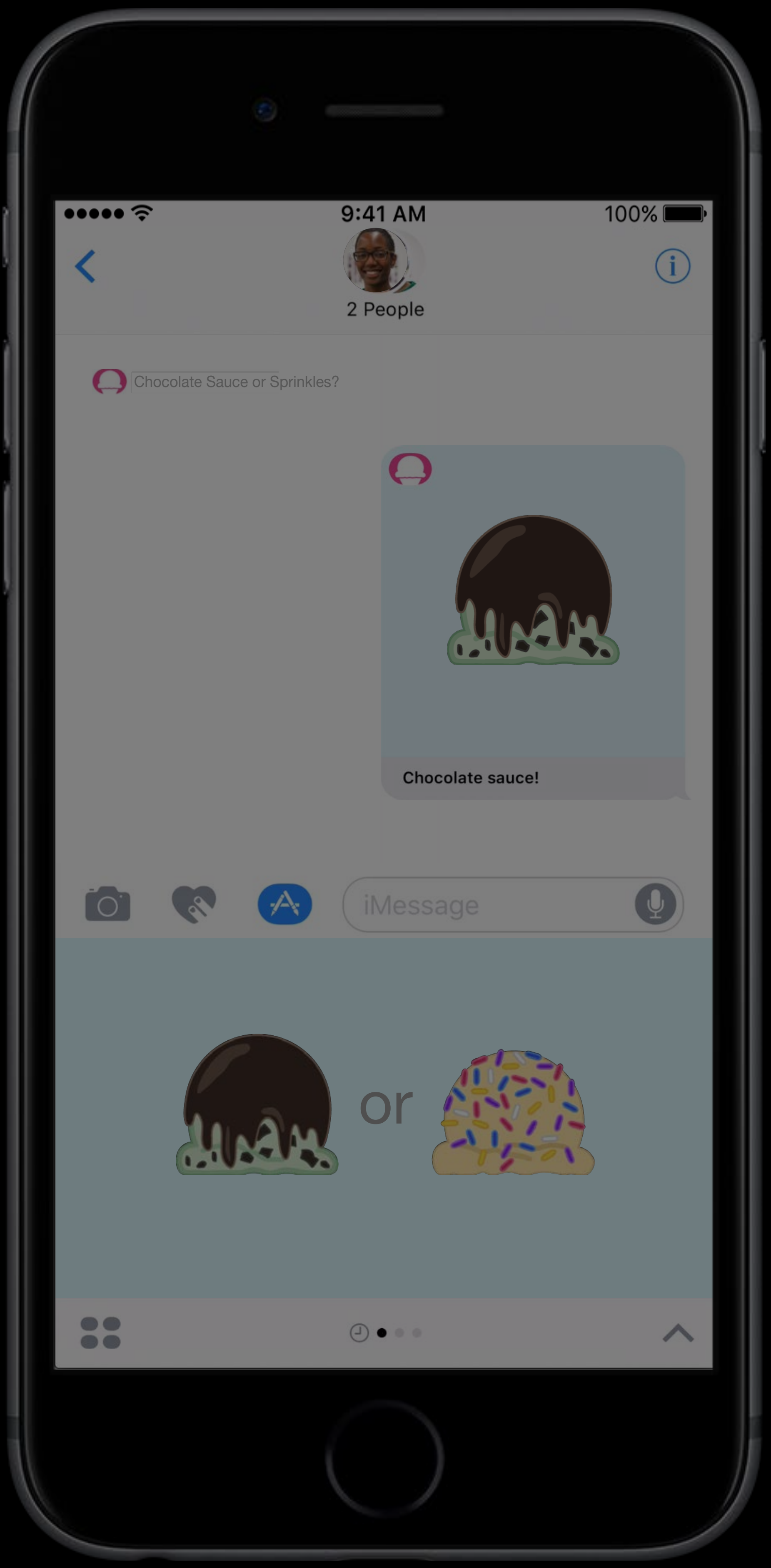
Chocolate Sauce or Sprinkles?

Sprinkles!

iMessage

Group Conversations

Amber



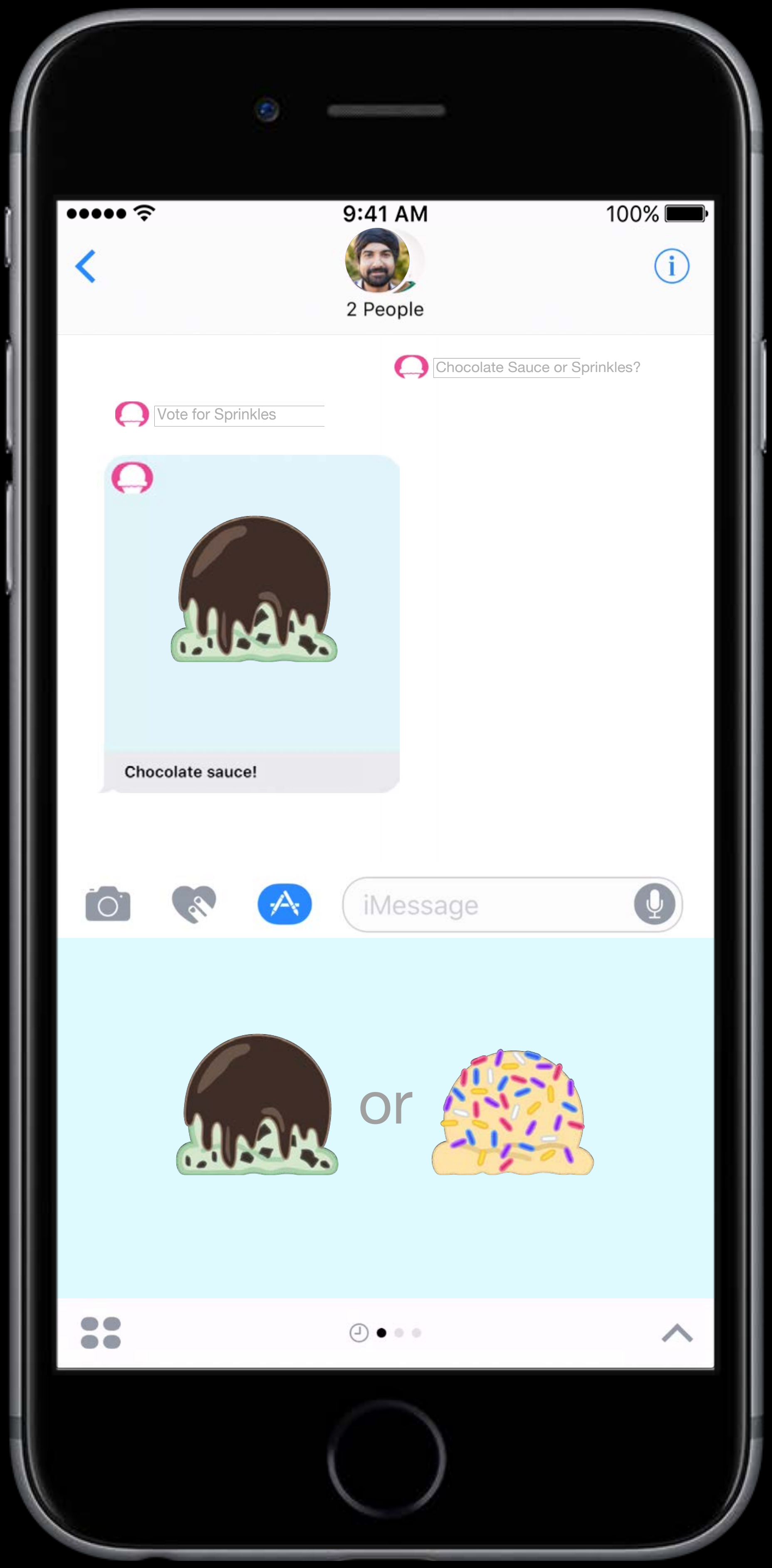
9:41 AM

2 People

Chocolate Sauce or Sprinkles?

Chocolate sauce!

Ben



9:41 AM

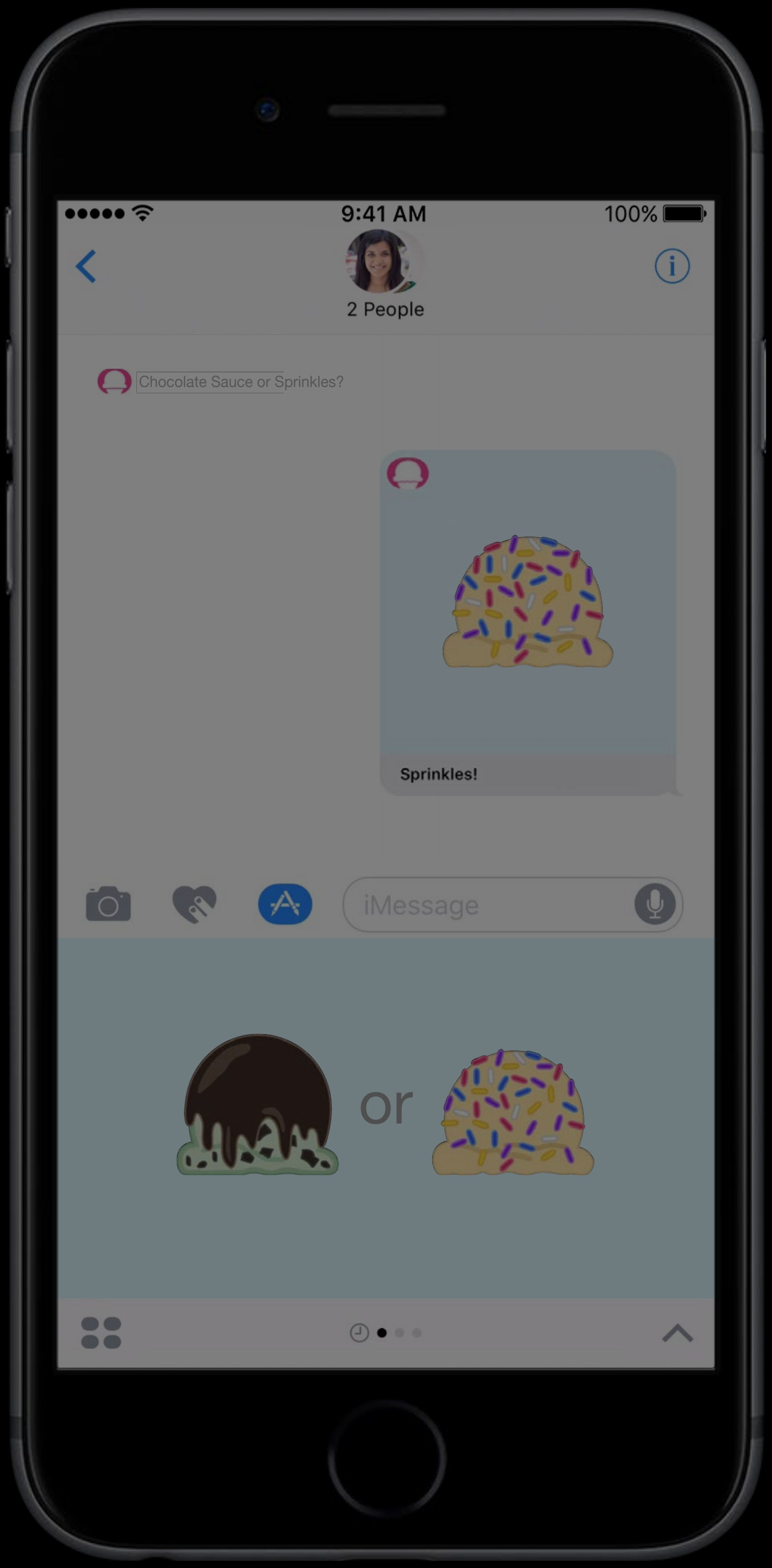
2 People

Chocolate Sauce or Sprinkles?

Vote for Sprinkles

Chocolate sauce!

Chris



9:41 AM

2 People

Chocolate Sauce or Sprinkles?

Sprinkles!

Group Conversations

Only tapped message is available

Group Conversations

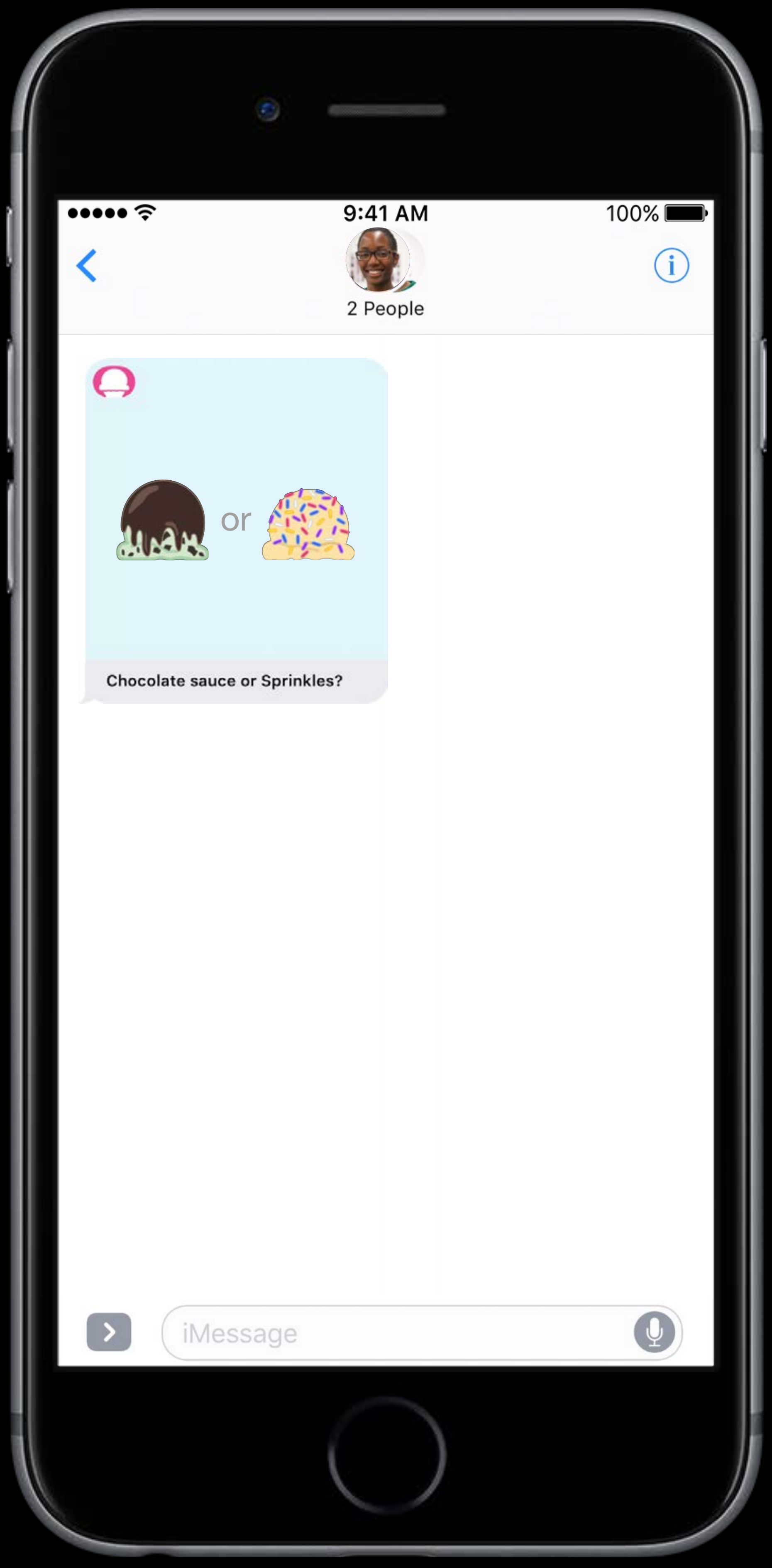
Only tapped message is available

Store state in the cloud

Identifying a Sender

Identifying a Sender

Amber



Chocolate sauce or Sprinkles?

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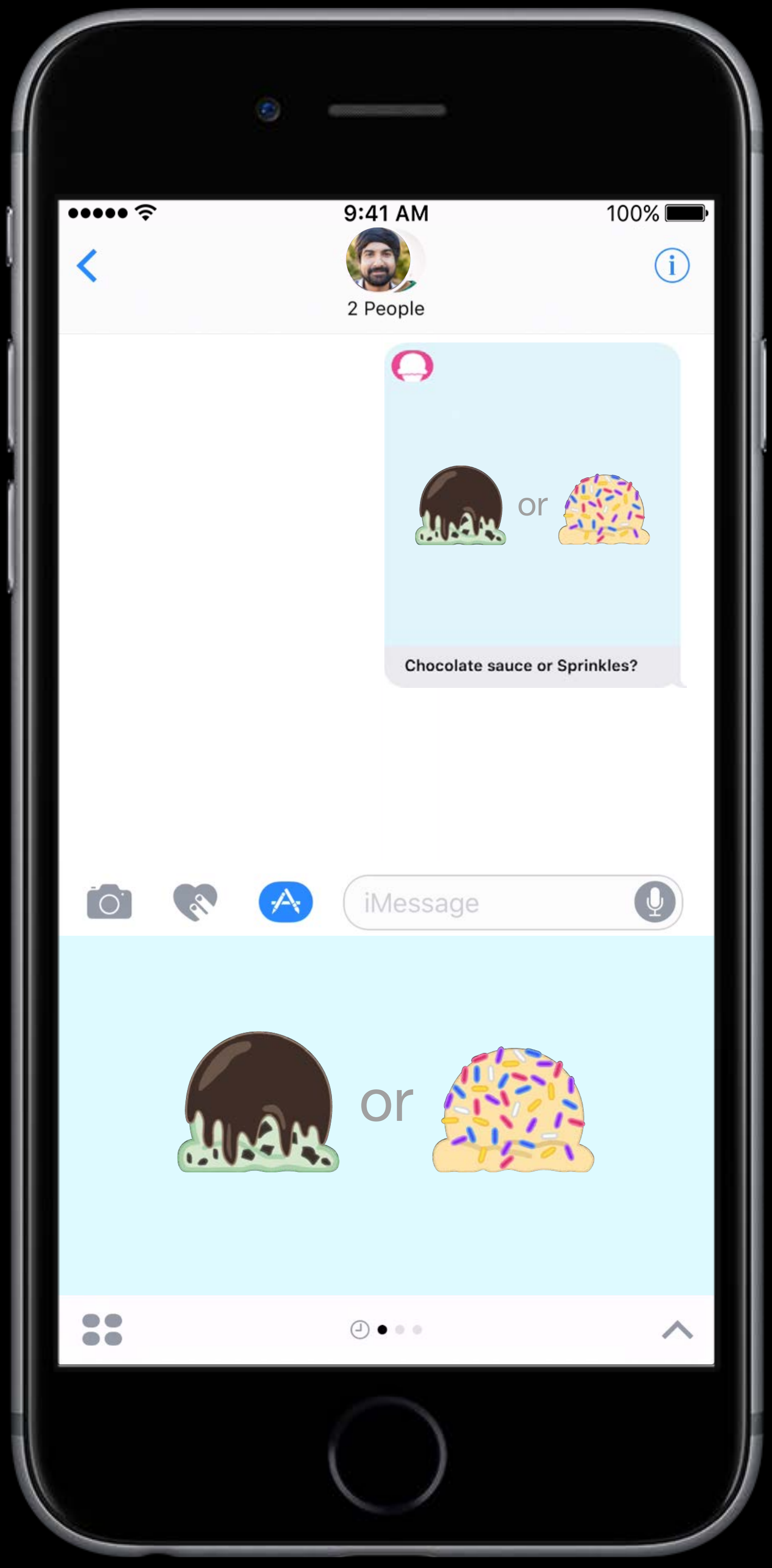

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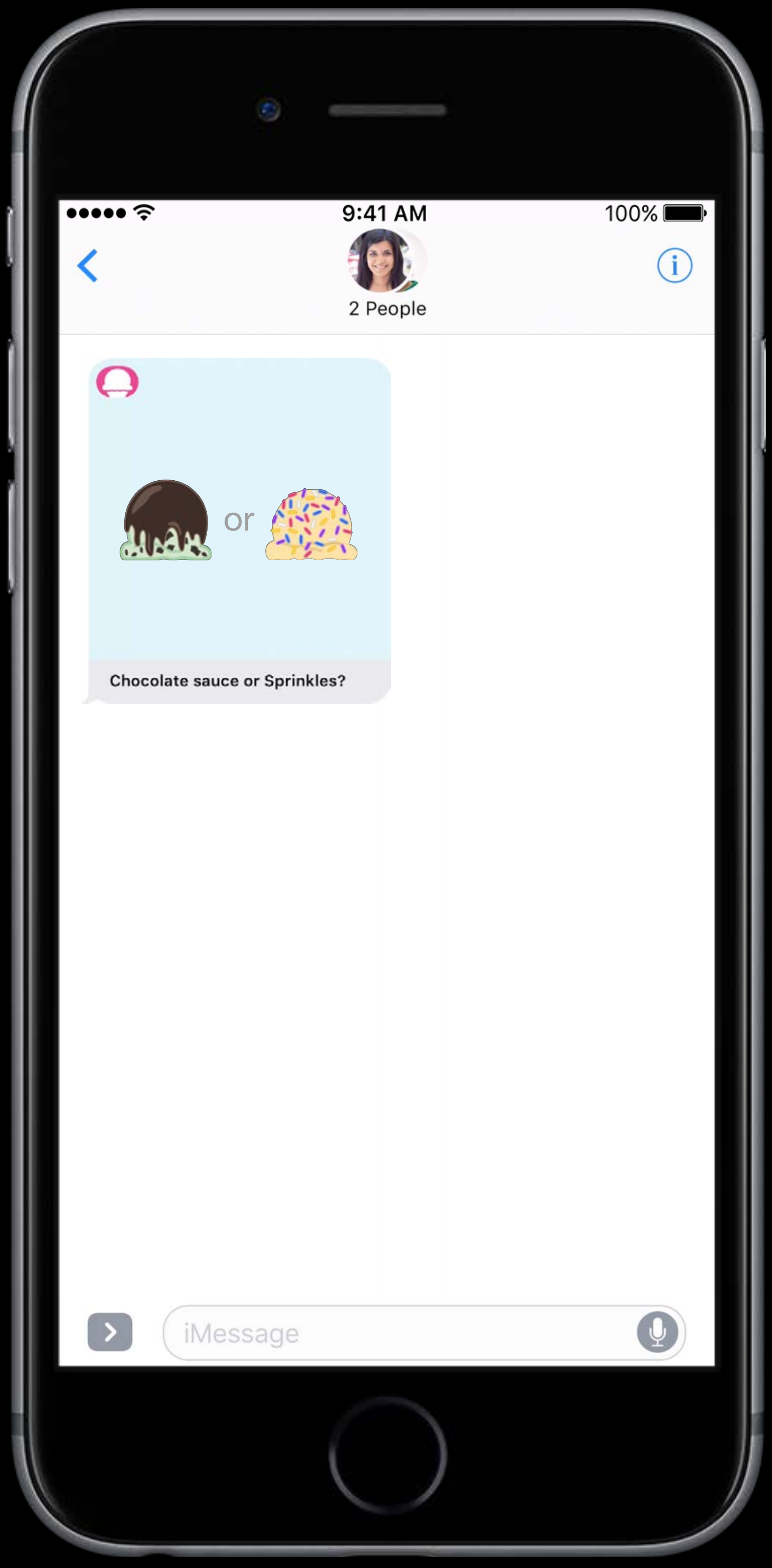

Chocolate sauce or Sprinkles?

Identifying a Sender

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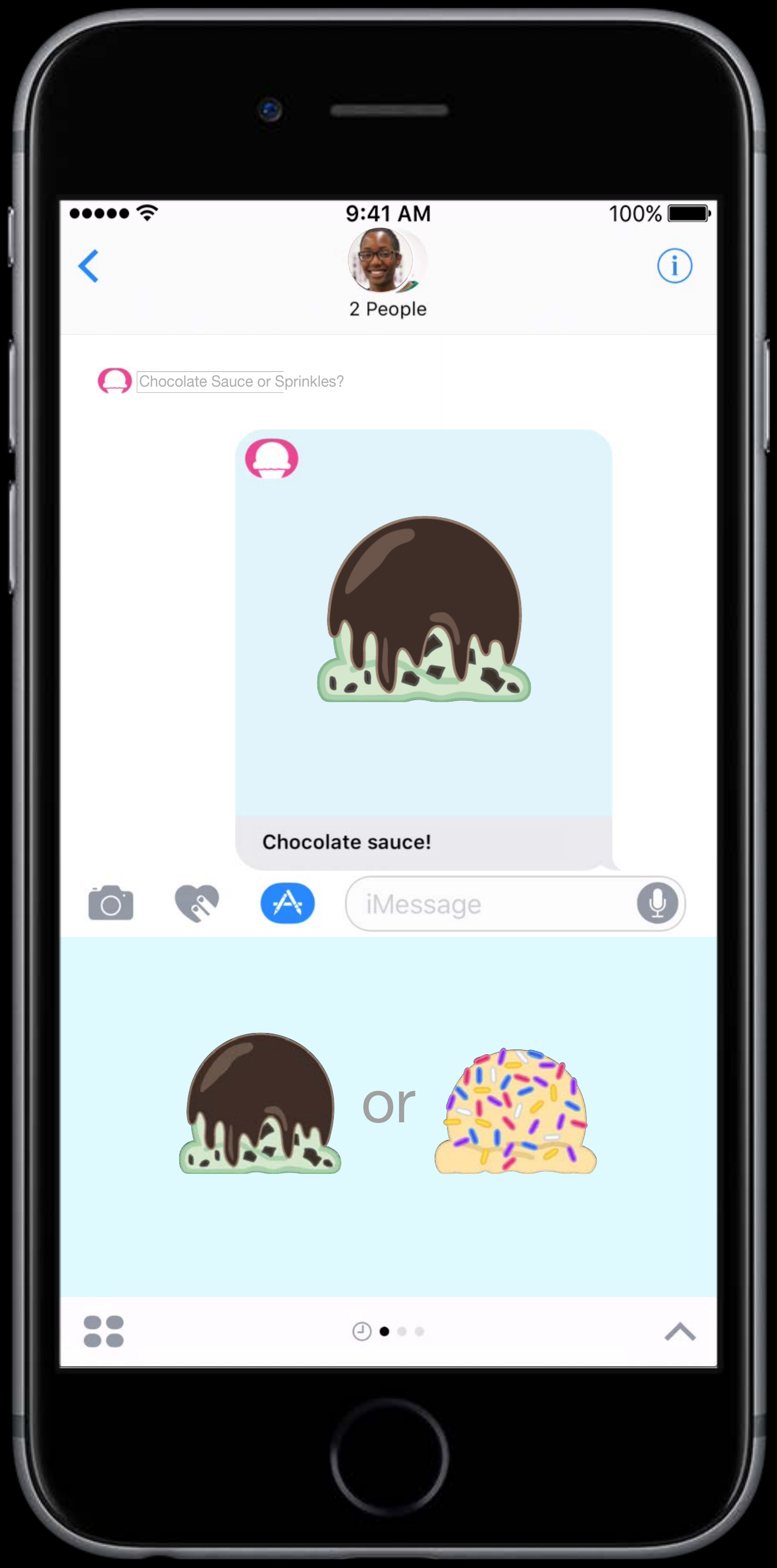

Chocolate Sauce or Sprinkles?

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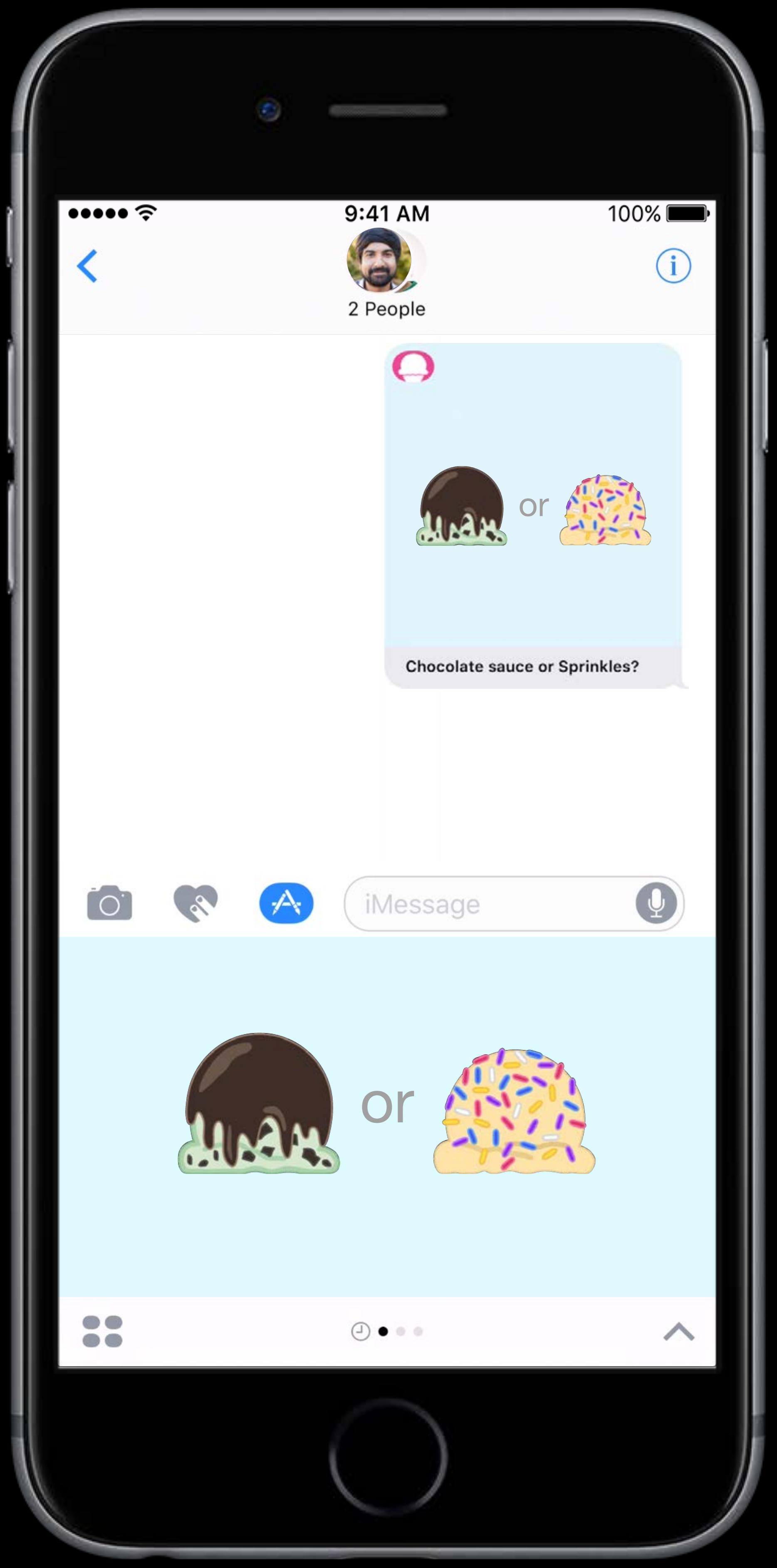

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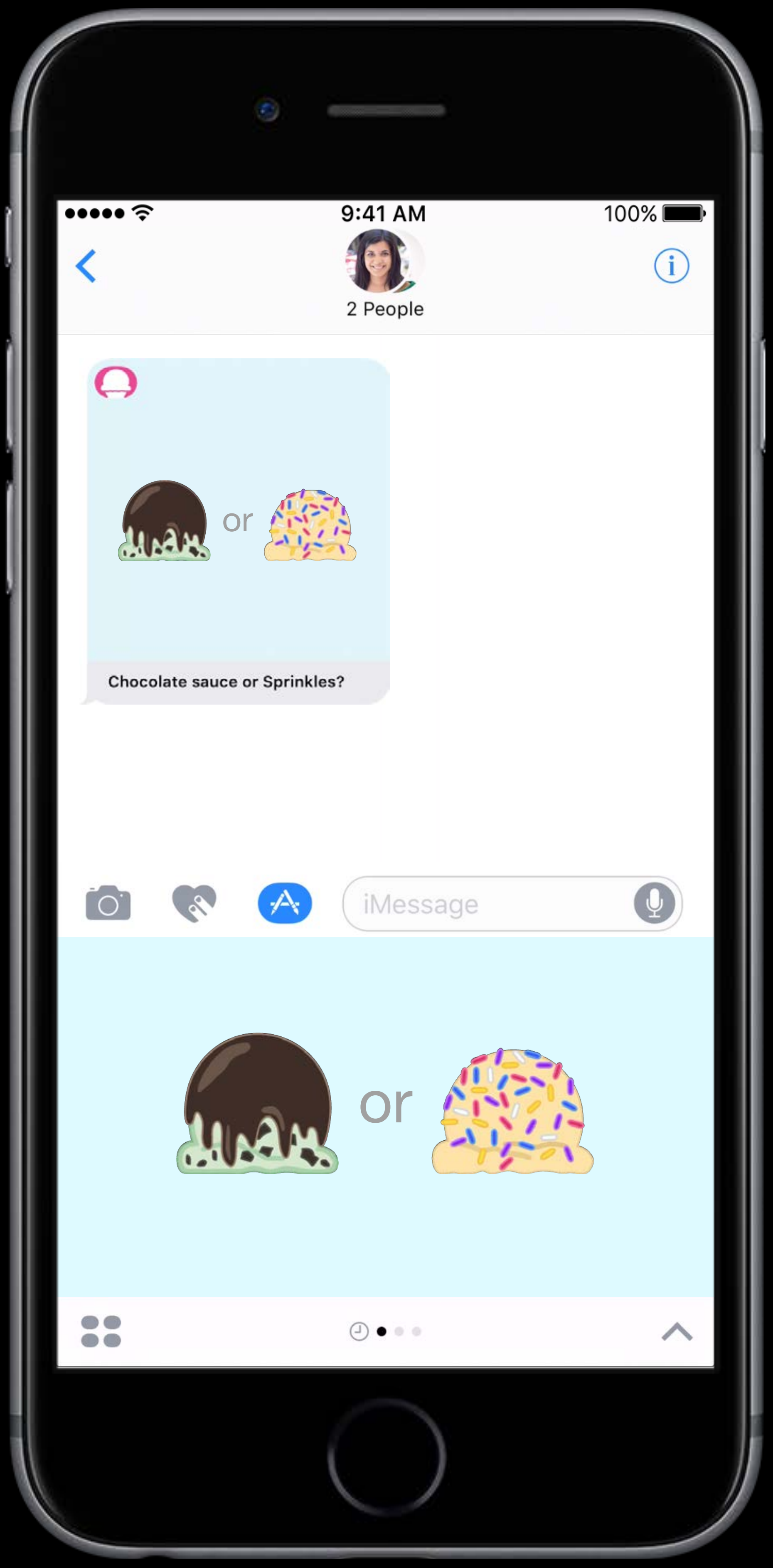
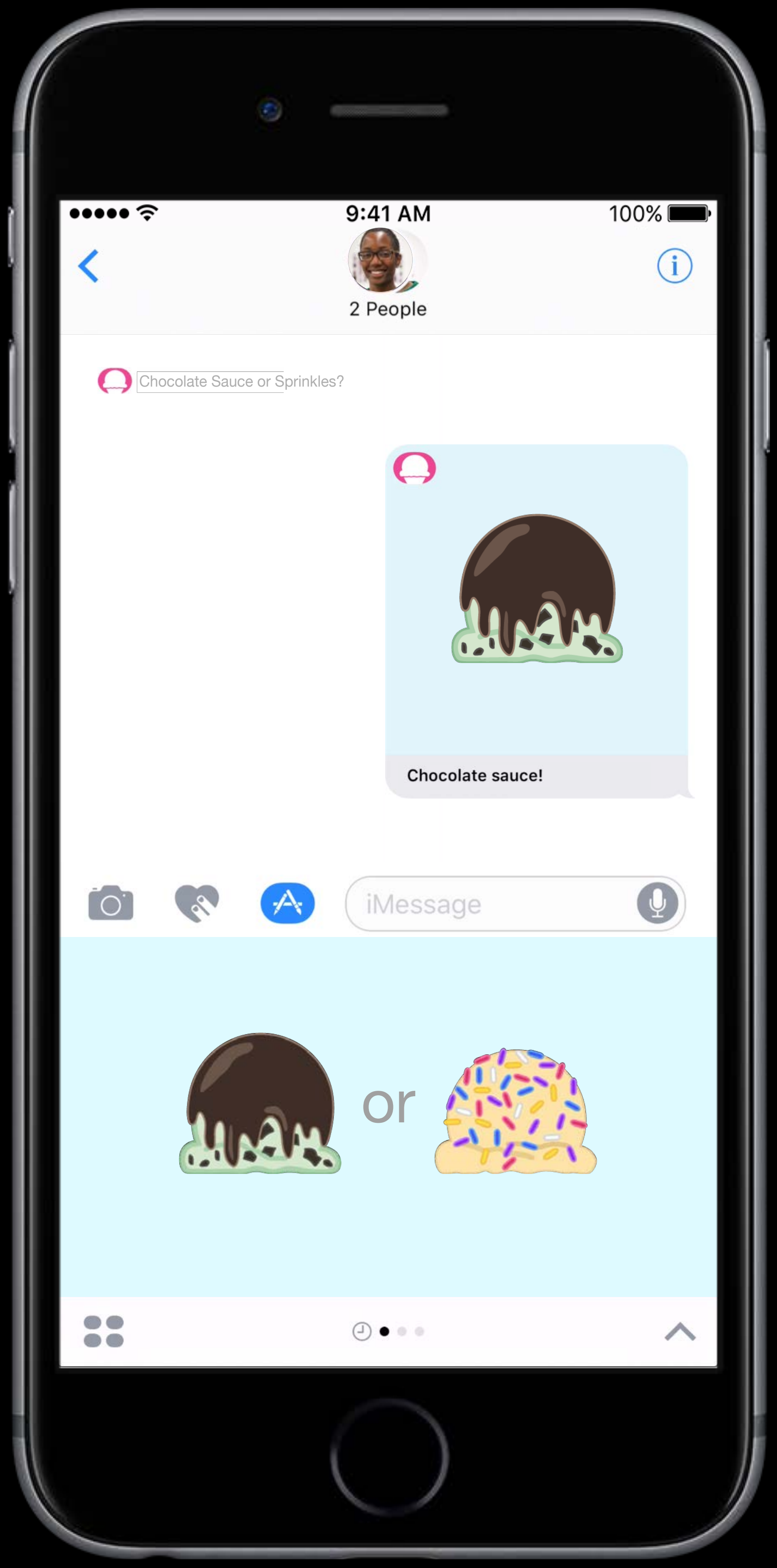


Chocolate sauce or Sprinkles?

Identifying a Sender

Amber



Chocolate Sauce or Sprinkles?

Chocolate sauce!

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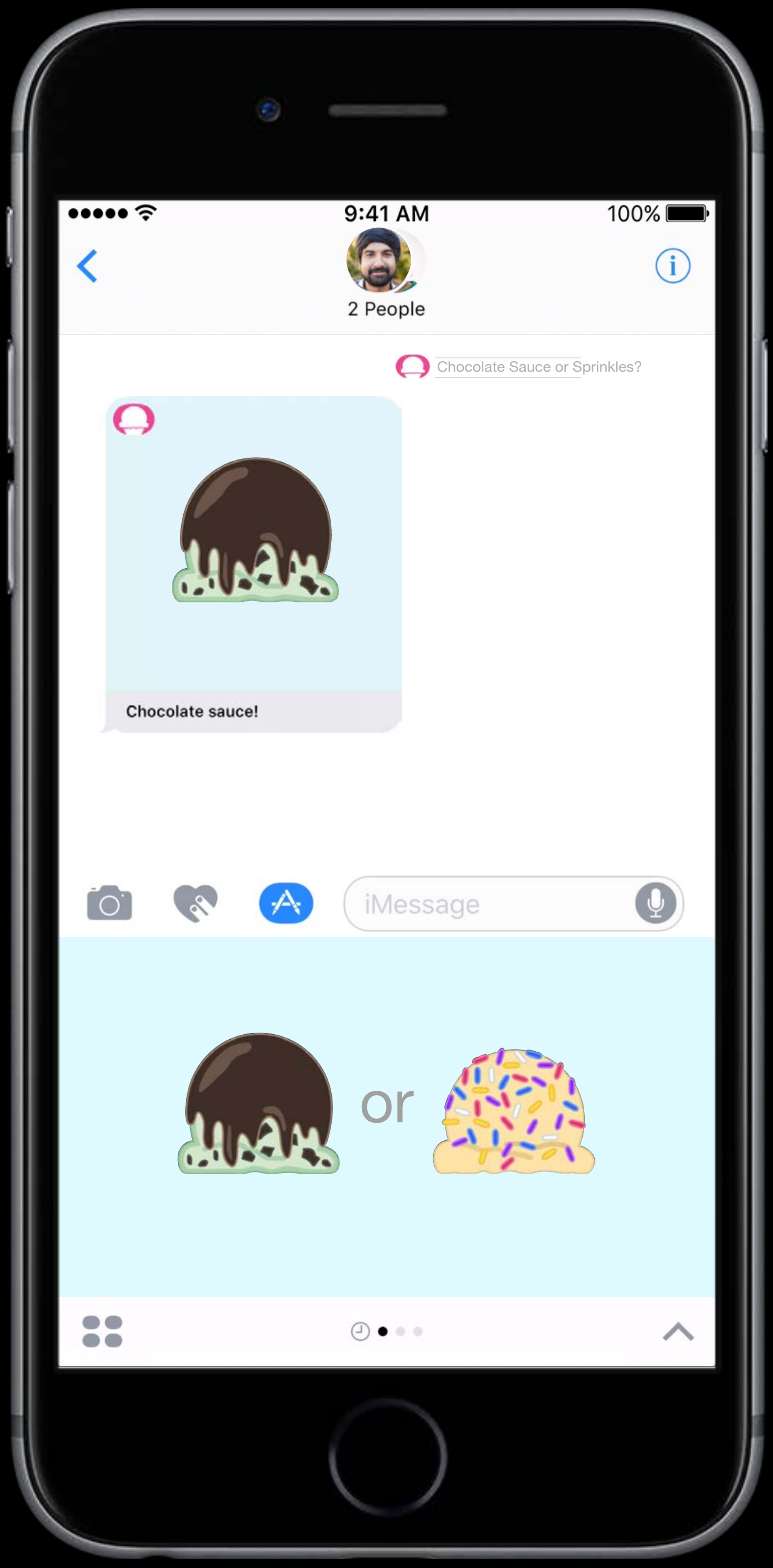

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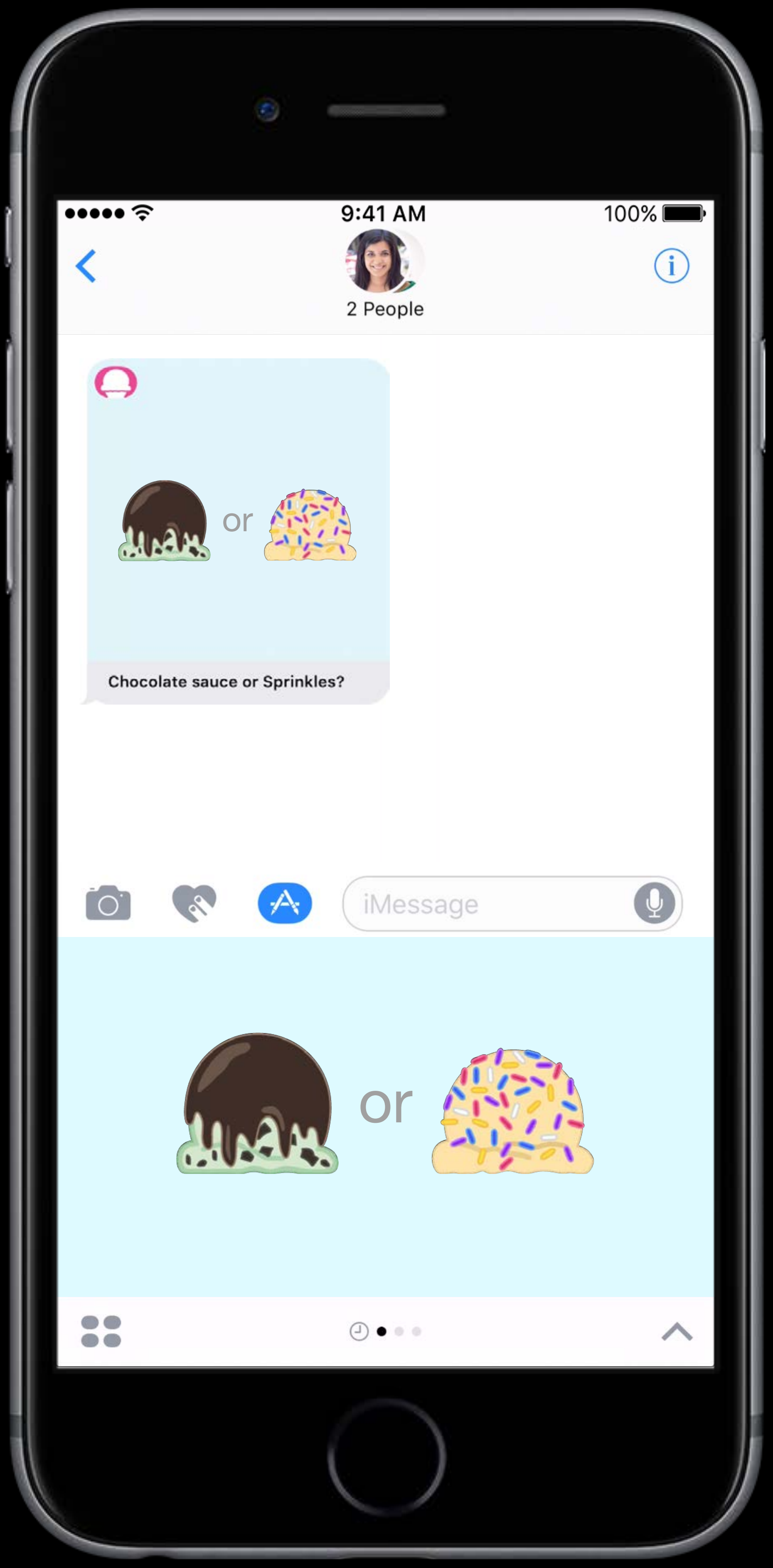

Chocolate sauce or Sprinkles?

Identifying a Sender

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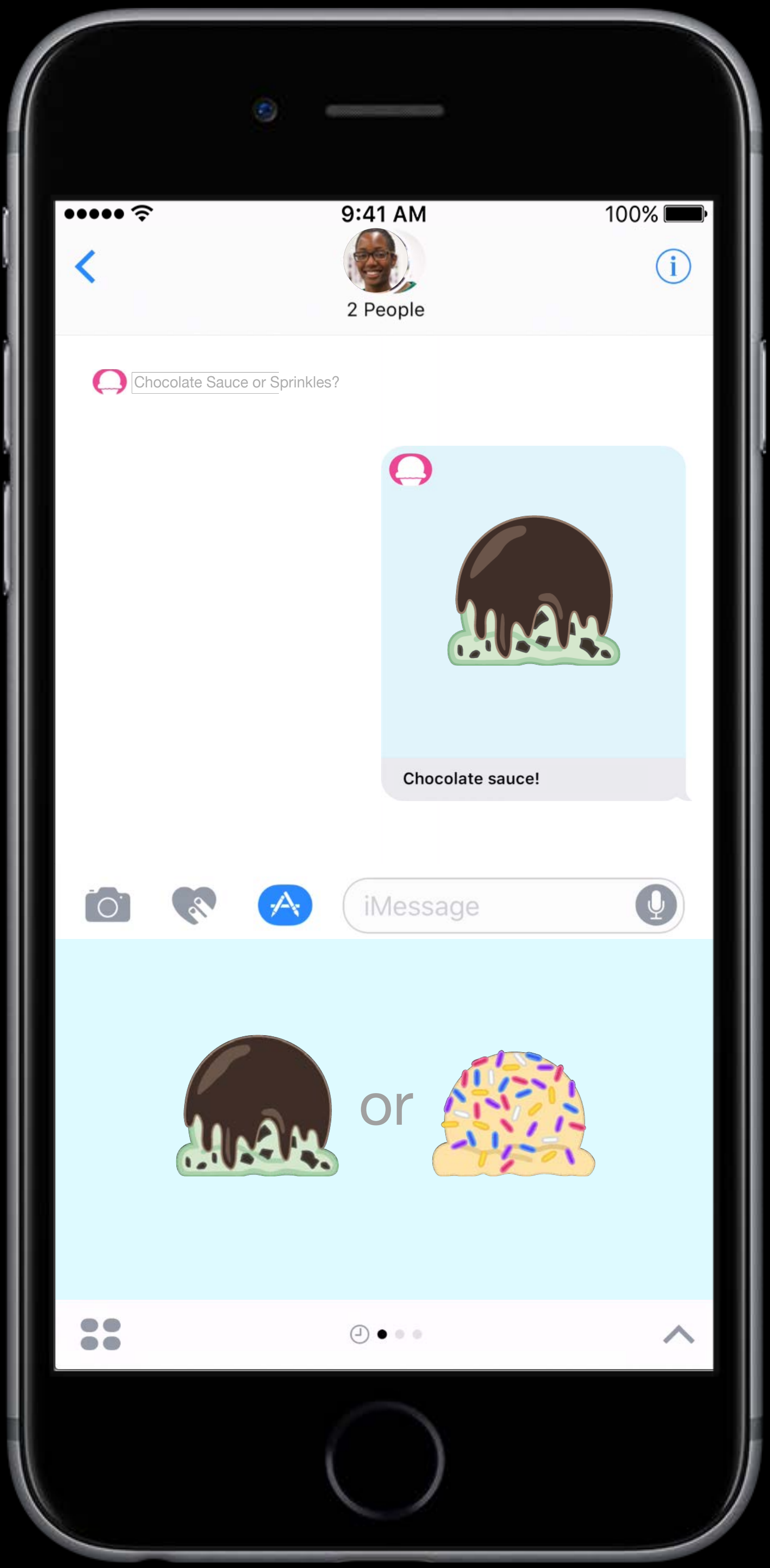

Chocolate Sauce or Sprinkles?

Chocolate sauce!

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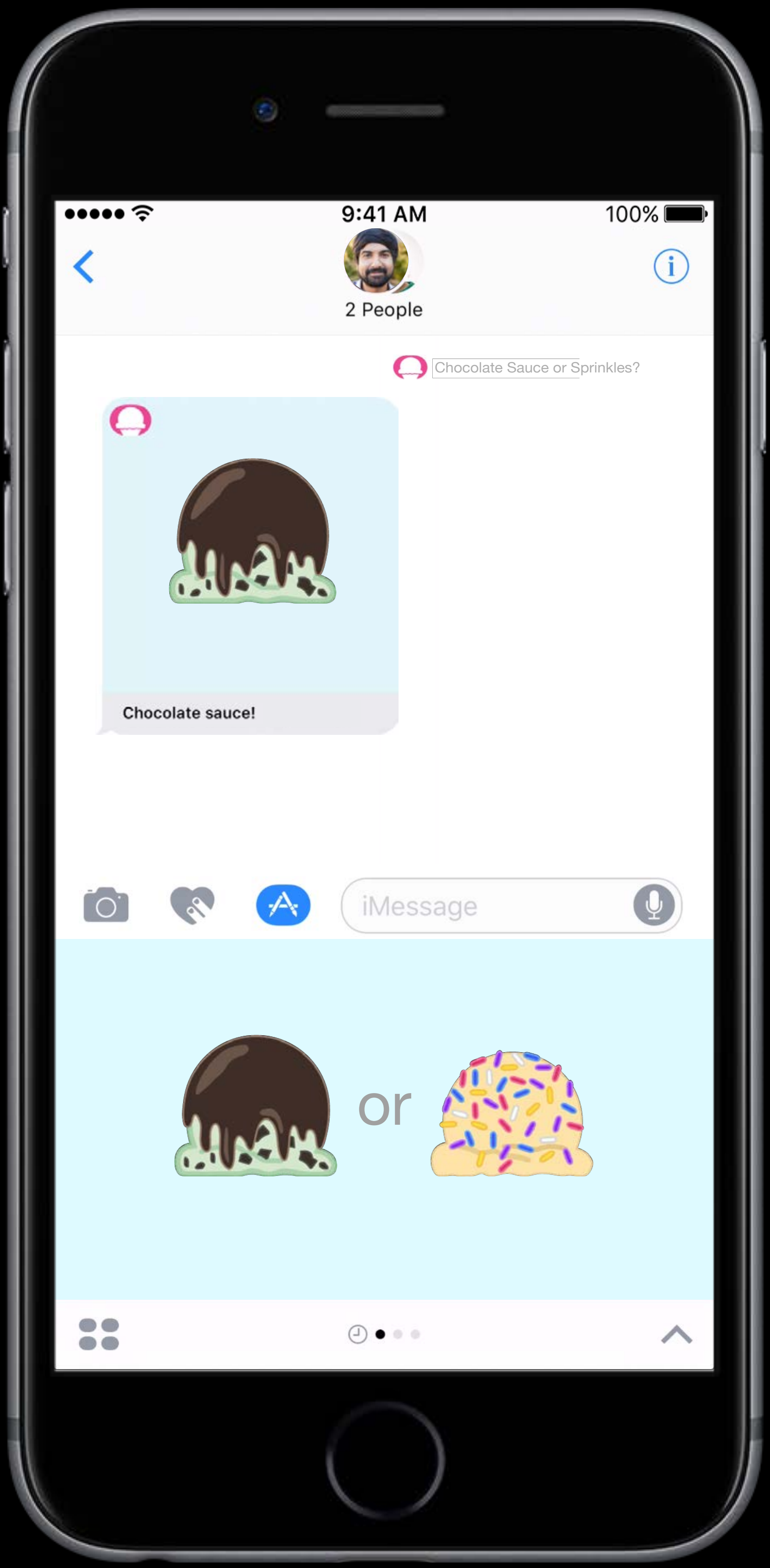

Chocolate Sauce or Sprinkles?

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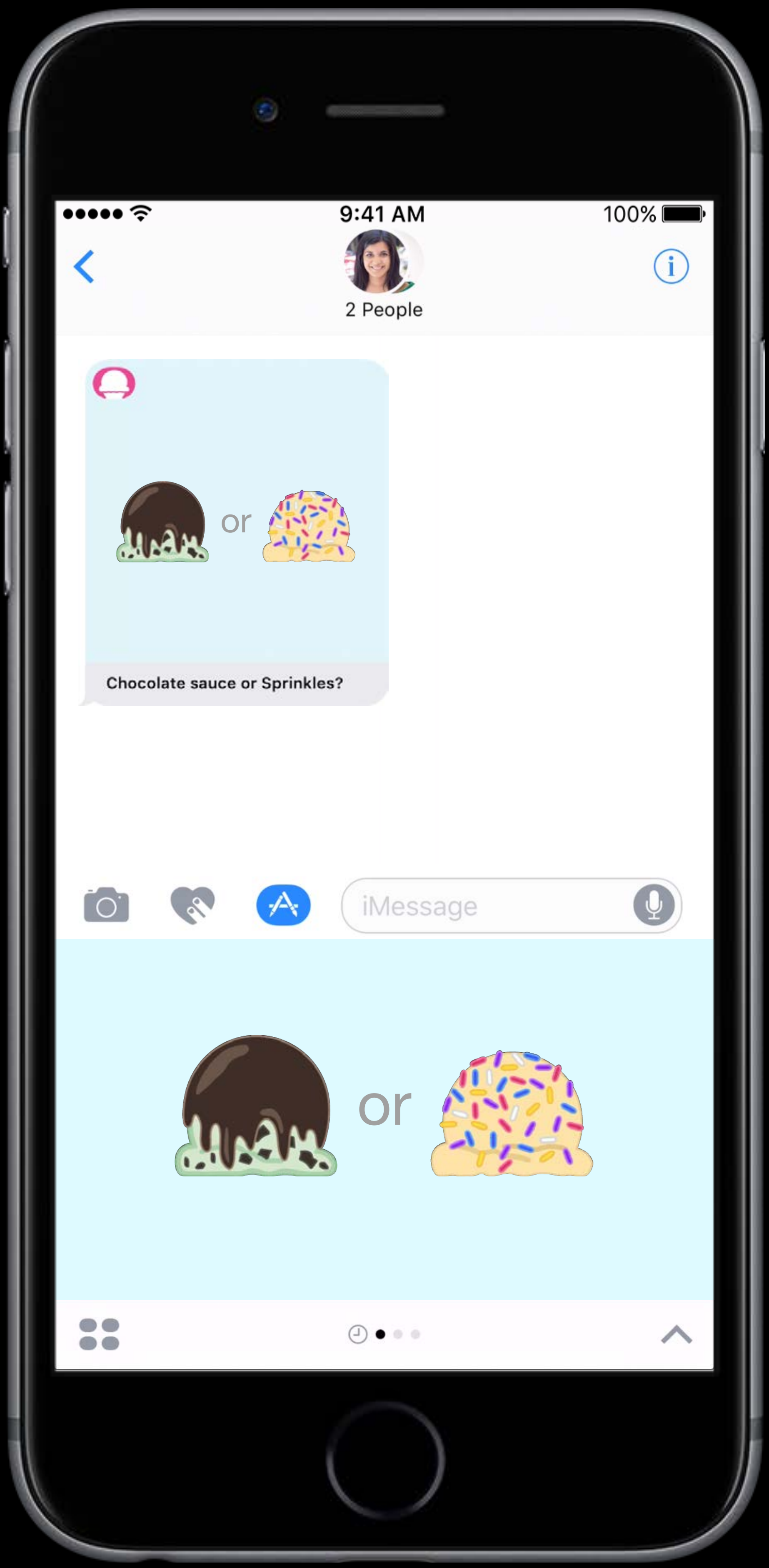

Chocolate sauce or Sprinkles?

Identifying a Sender

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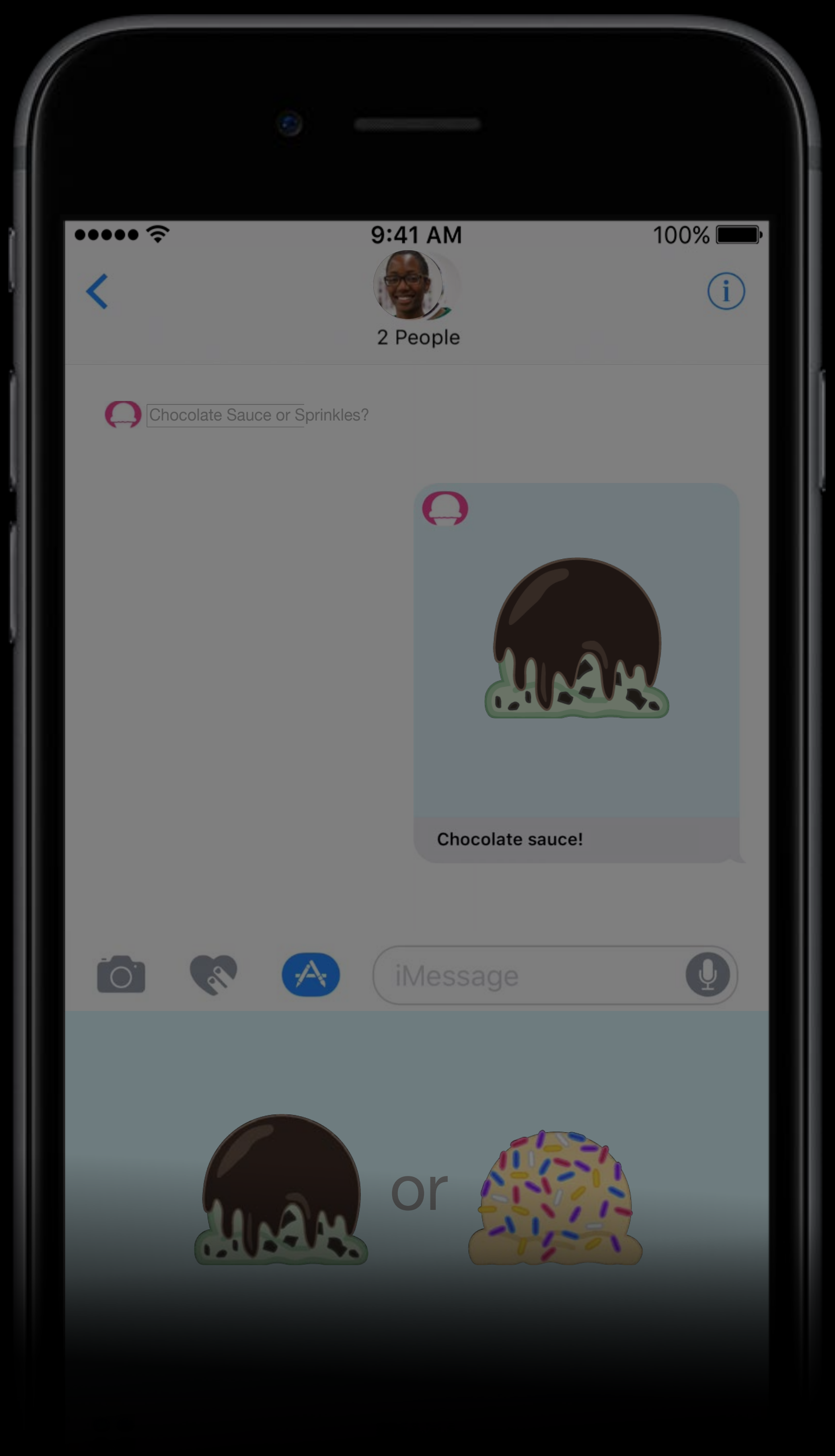

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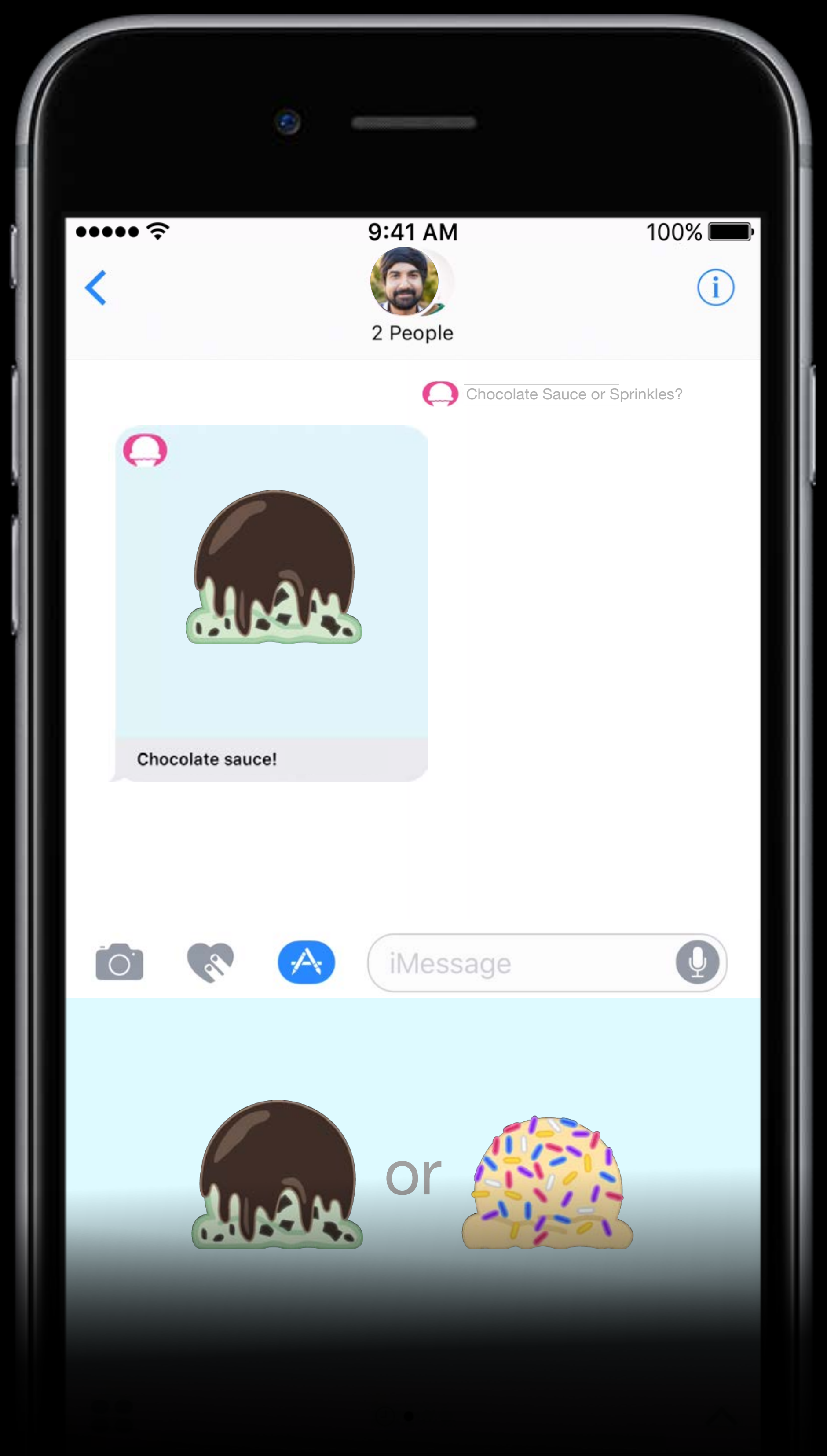

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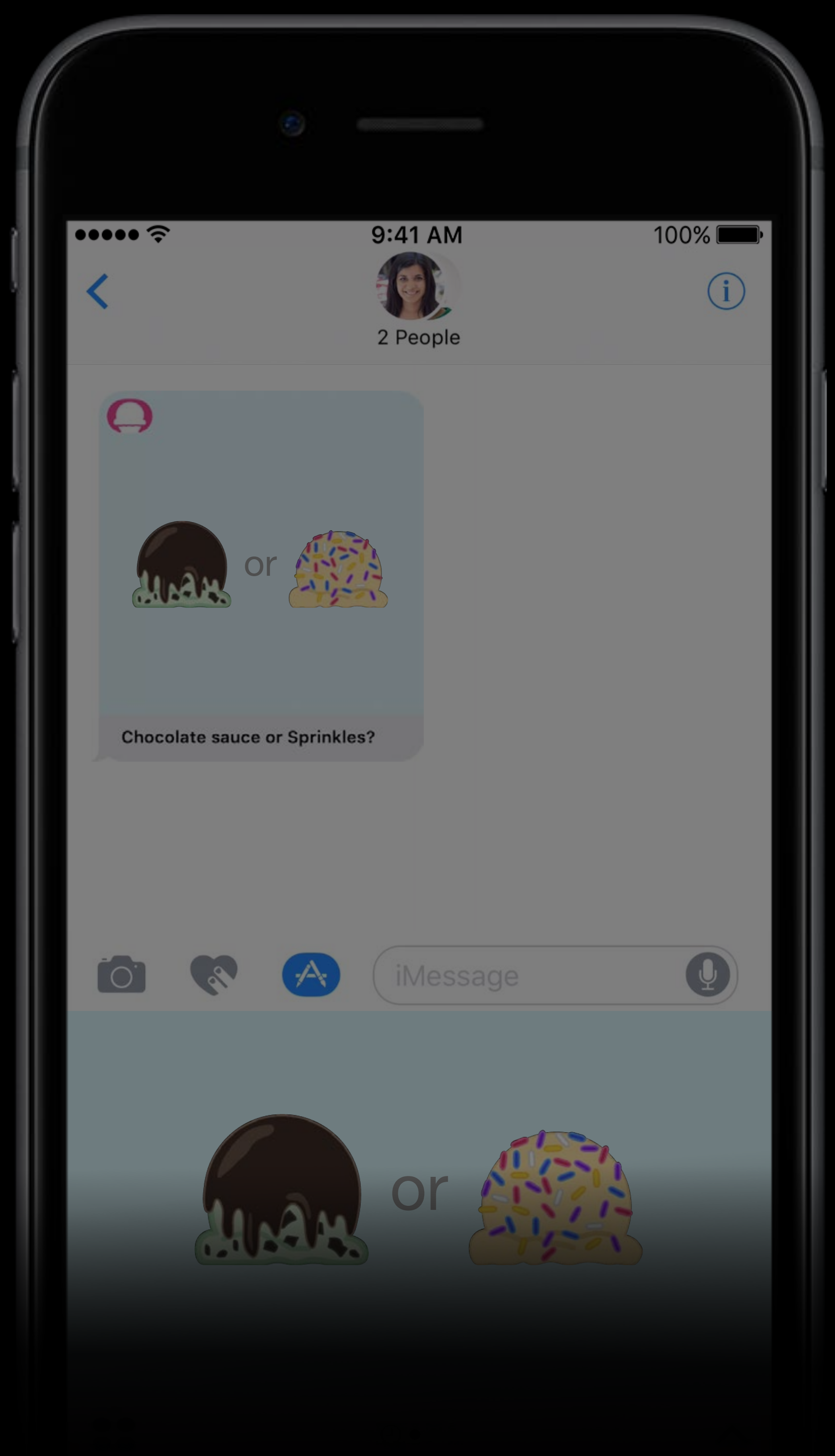

Chocolate sauce or Sprinkles?

Identifying a Sender

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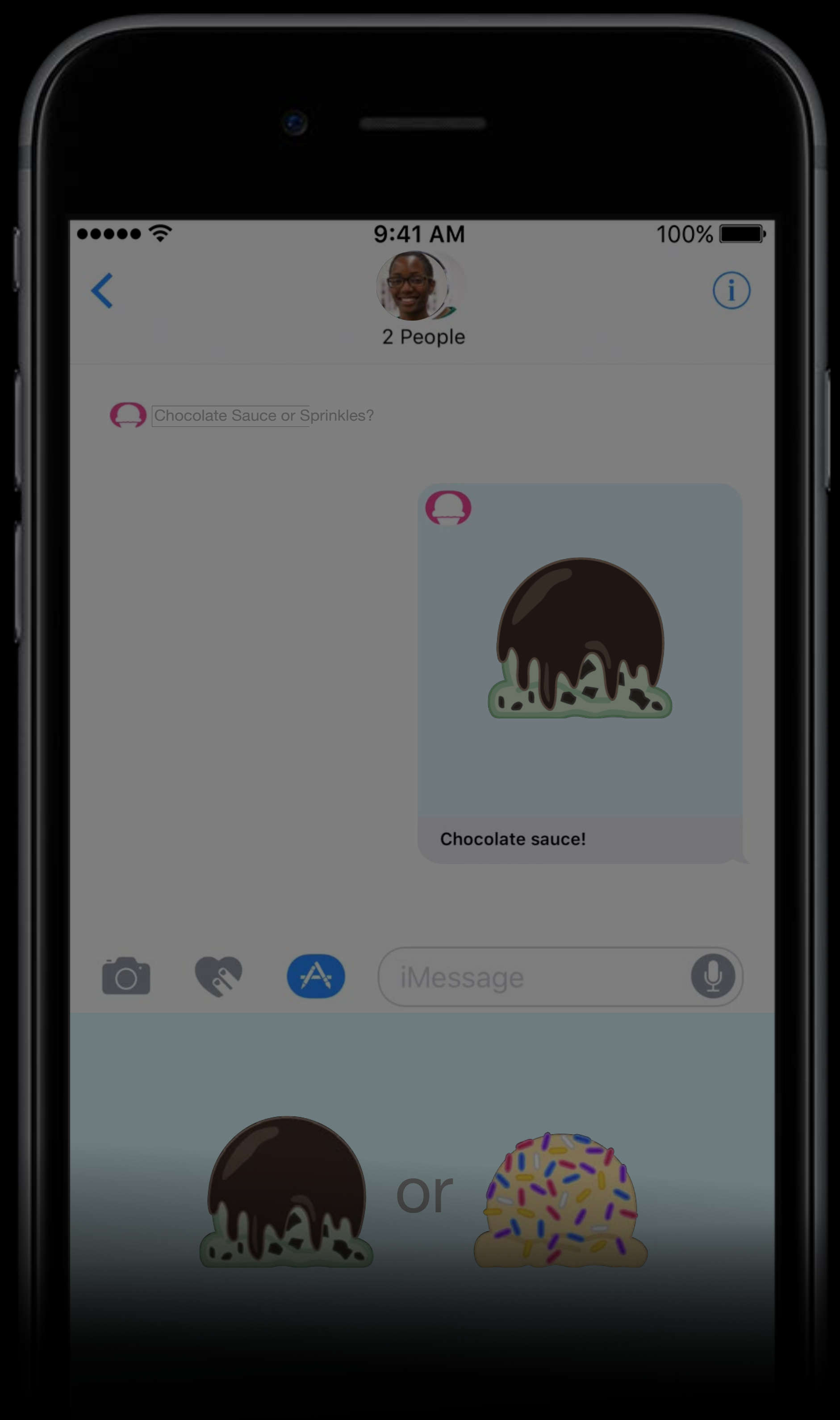


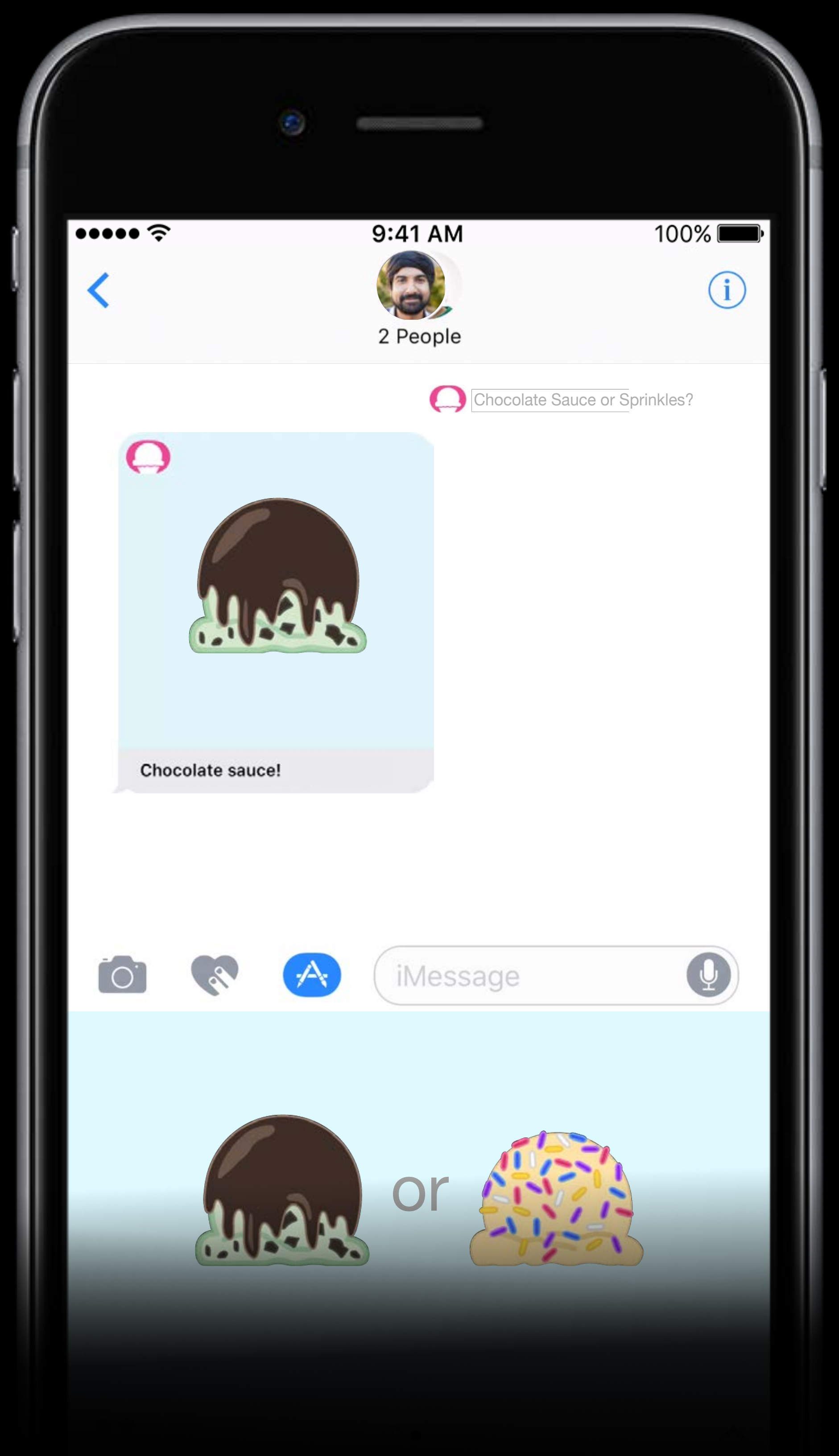
Chocolate Sauce or Sprinkles?

Chocolate sauce!

Ben | D32…

1E2…

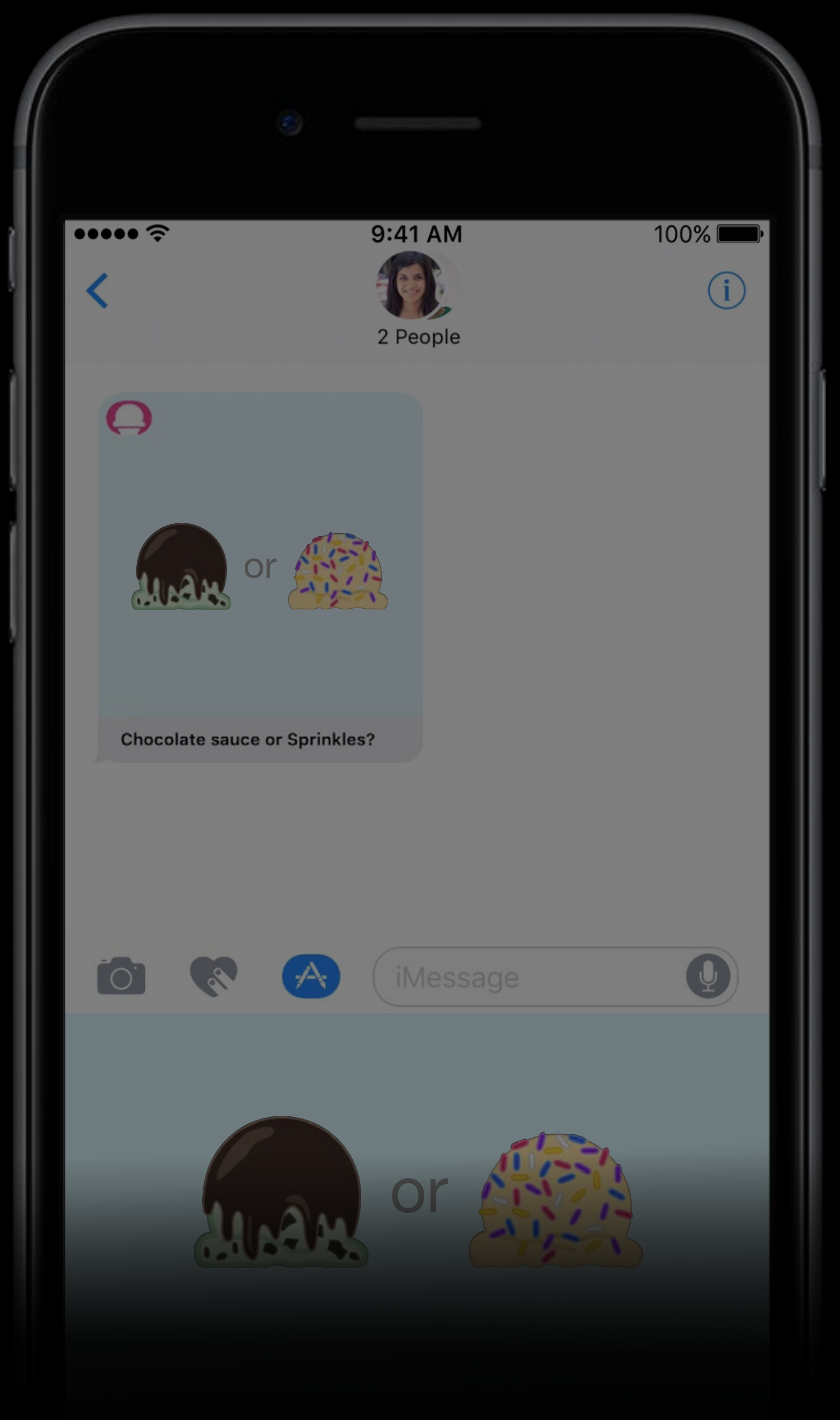
5C2…



Chocolate Sauce or Sprinkles?

Chocolate sauce!

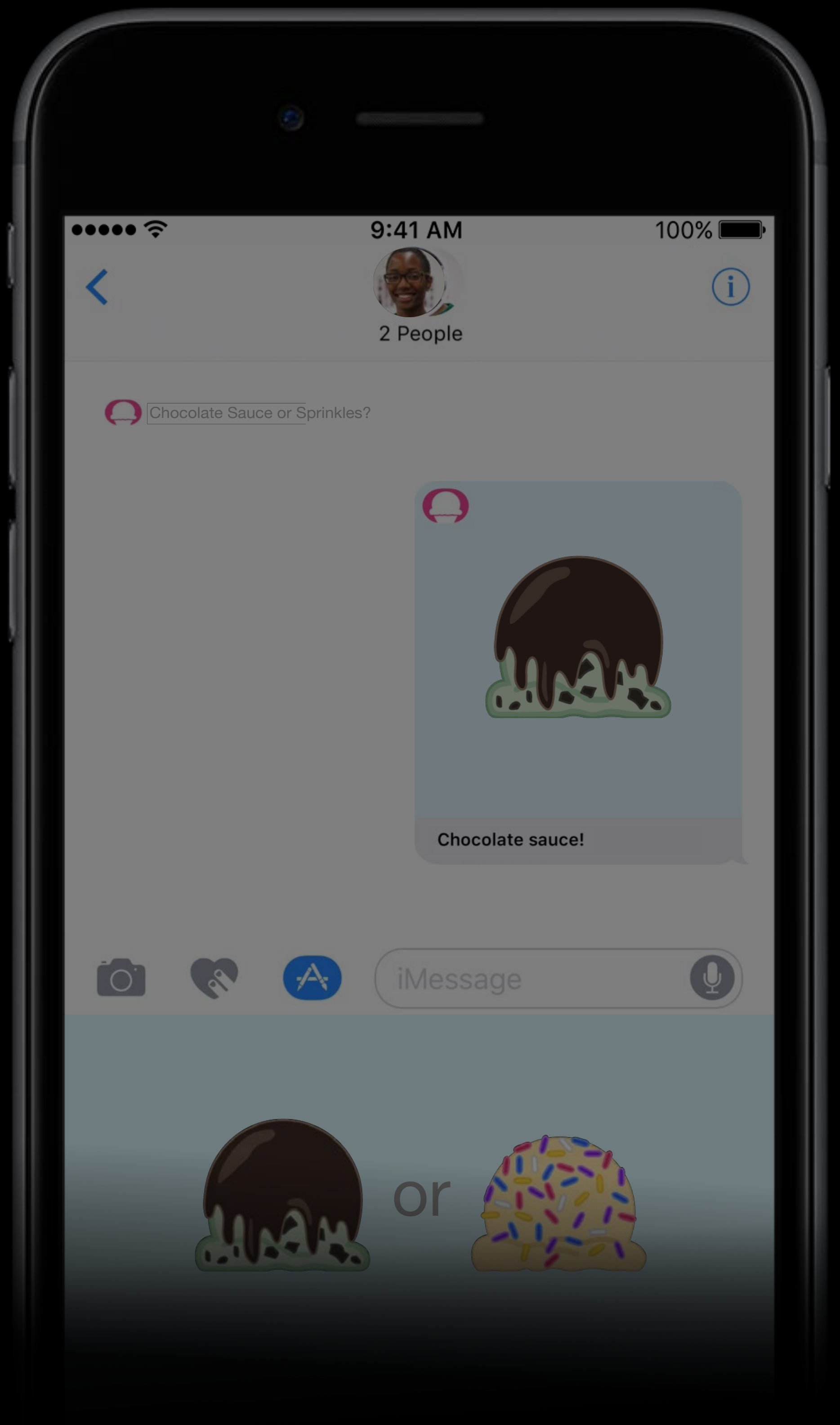
Chris



Chocolate sauce or Sprinkles?

Identifying a Sender

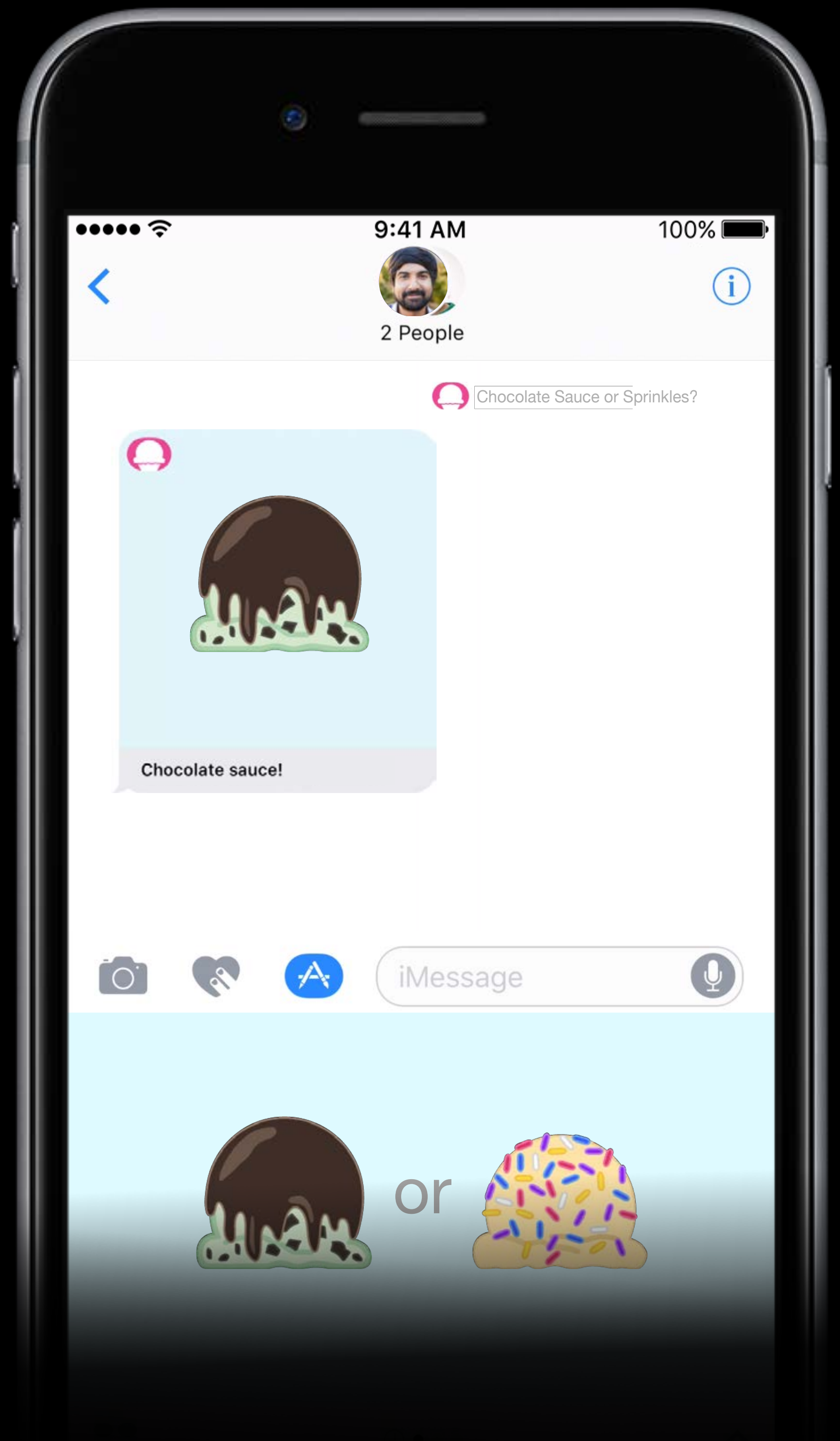
Amber



Chocolate Sauce or Sprinkles?

Chocolate sauce!

Ben	D32…
1E2…	
5C2…	



Chocolate Sauce or Sprinkles?

Chocolate sauce!

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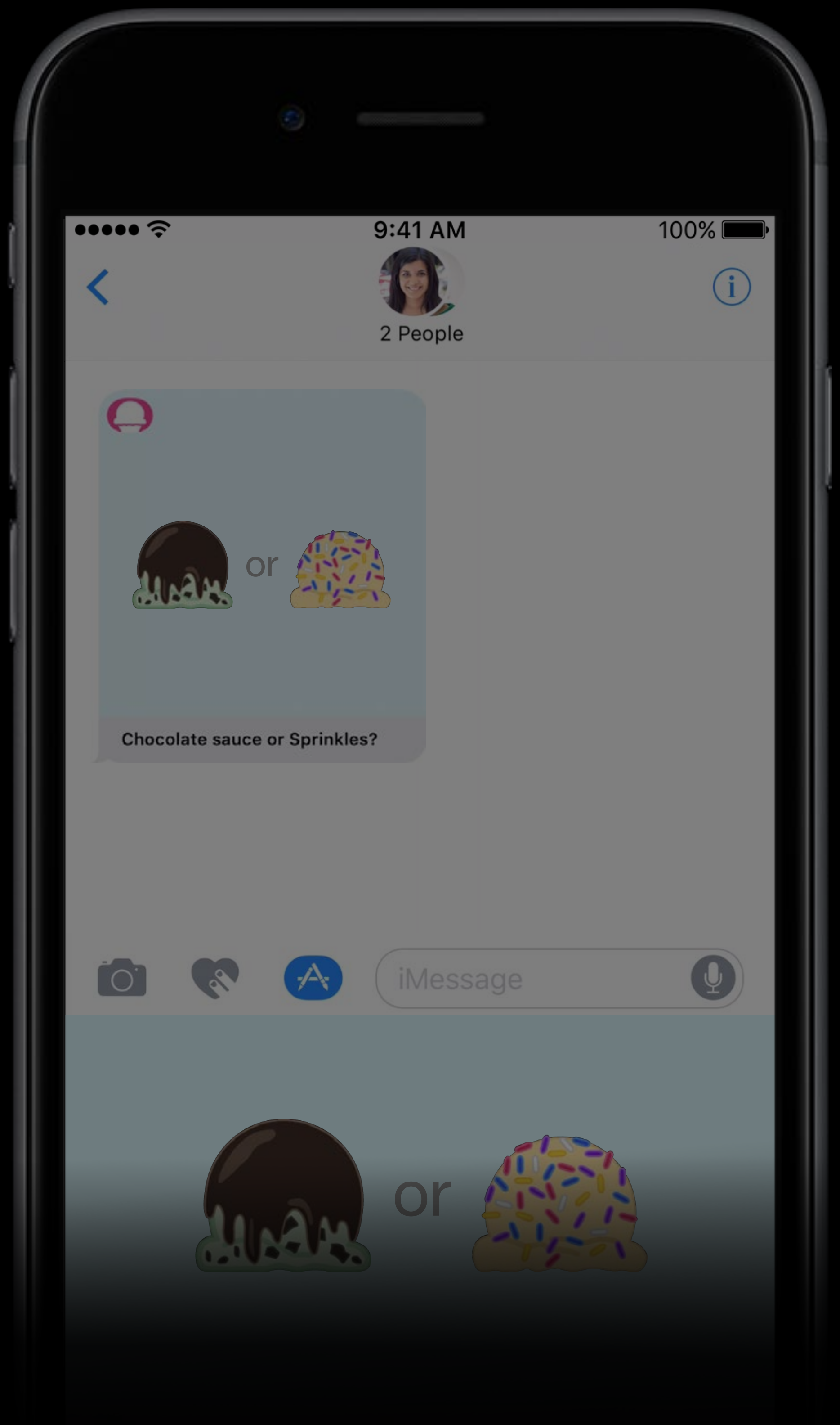
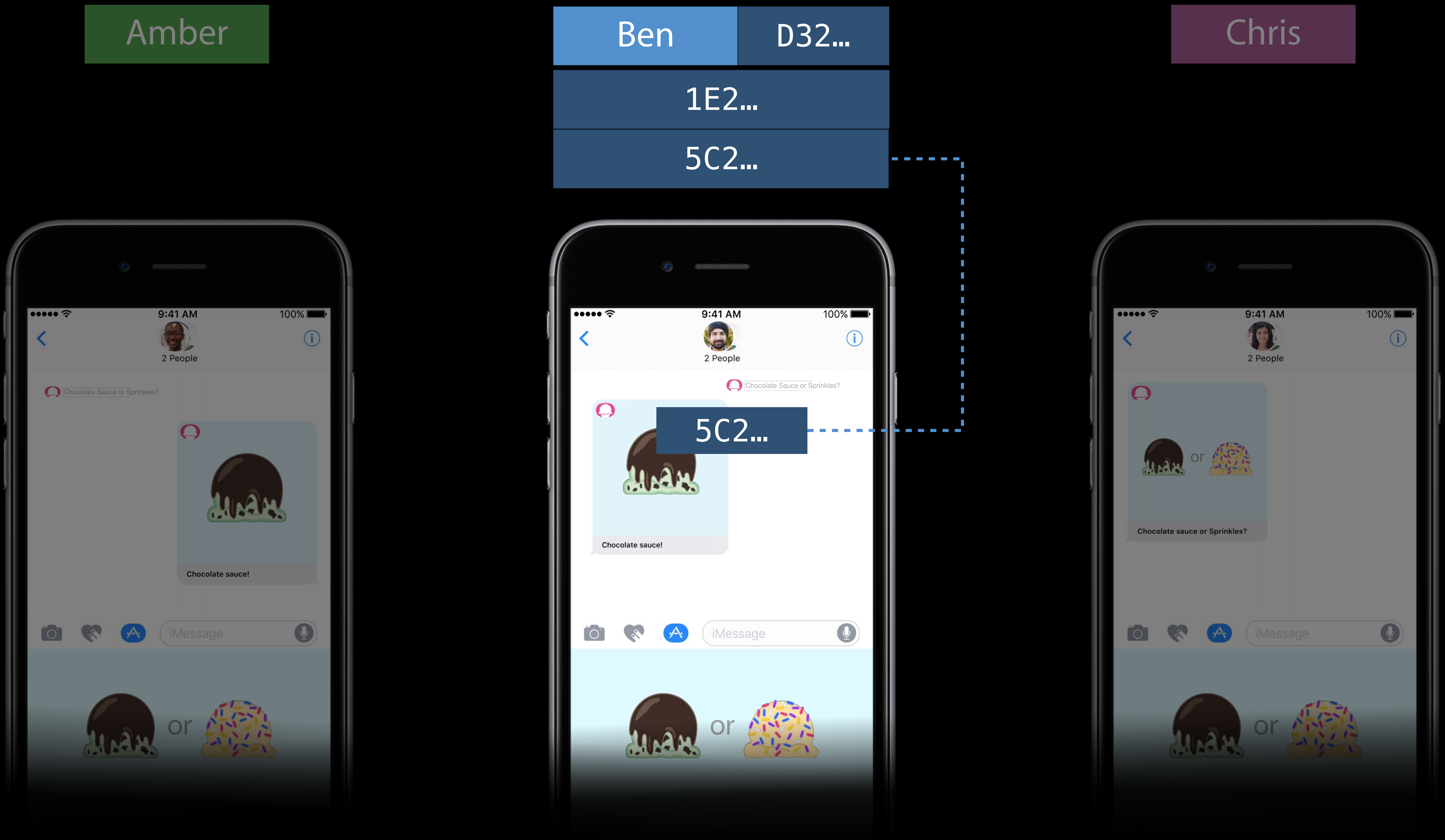


Chocolate sauce or Sprinkles?

Identifying a Sender



Amber

Ben | D32…

1E2…

5C2…

Chris

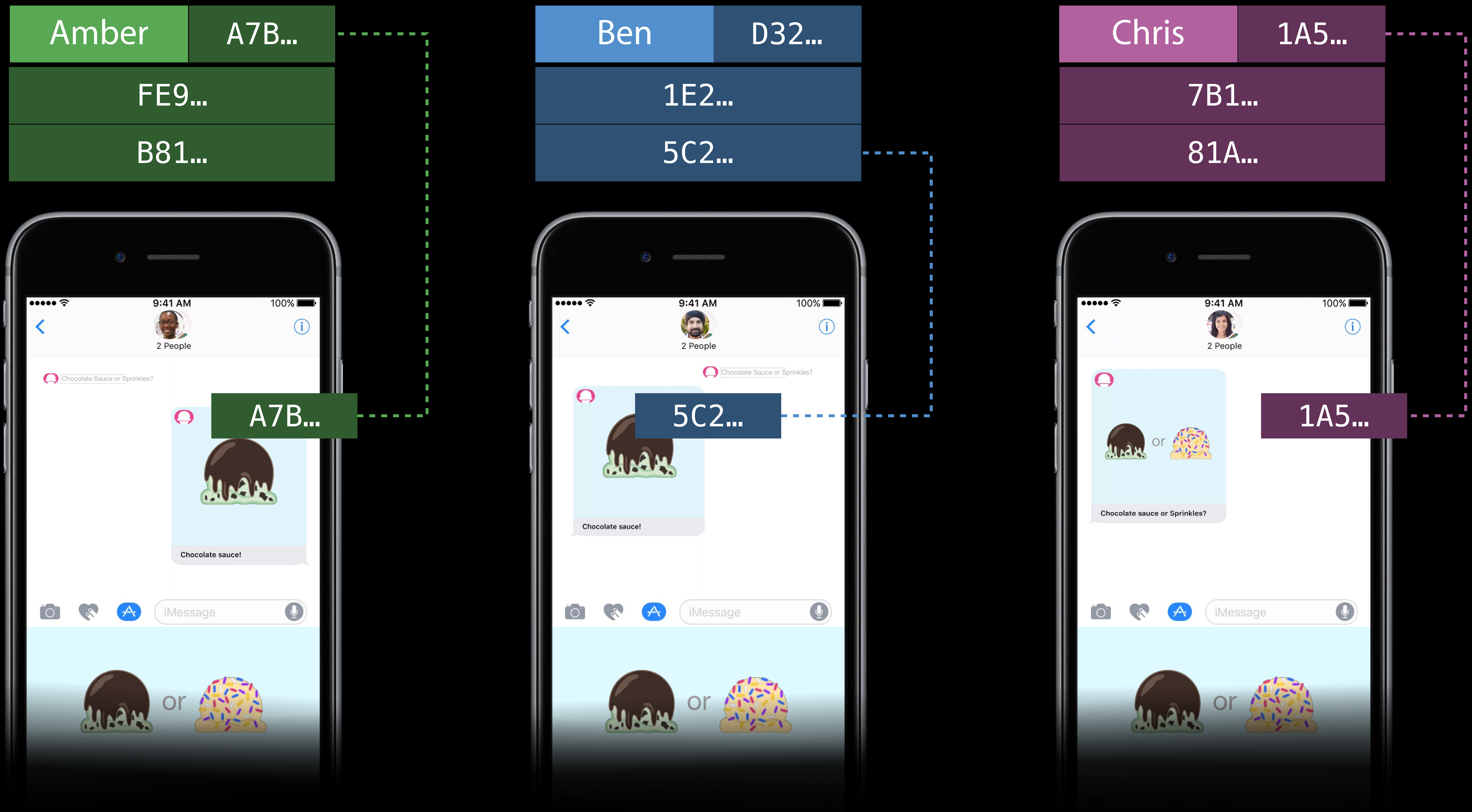
5C2…

Chocolate Sauce or Sprinkles?

Chocolate sauce!

Chocolate sauce or Sprinkles?

Identifying a Sender



Amber A7B...

FE9...

B81...

Ben D32...

1E2...

5C2...

Chris 1A5...

7B1...

81A...

A7B...

5C2...

1A5...

Identifying a Sender

Identifying a Sender

Number of participants

Identifying a Sender

Number of participants

Attribute a message to a sender

Identifying a Sender

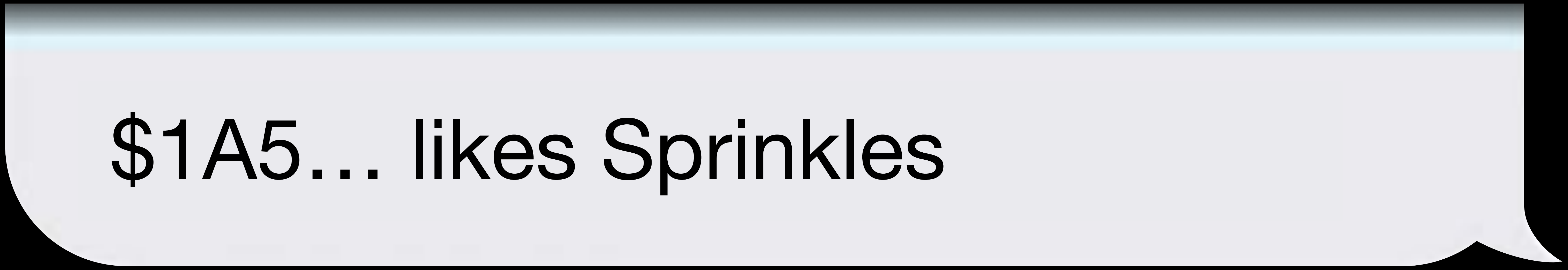
Number of participants

Attribute a message to a sender

Help establish identity

Identifying a Sender

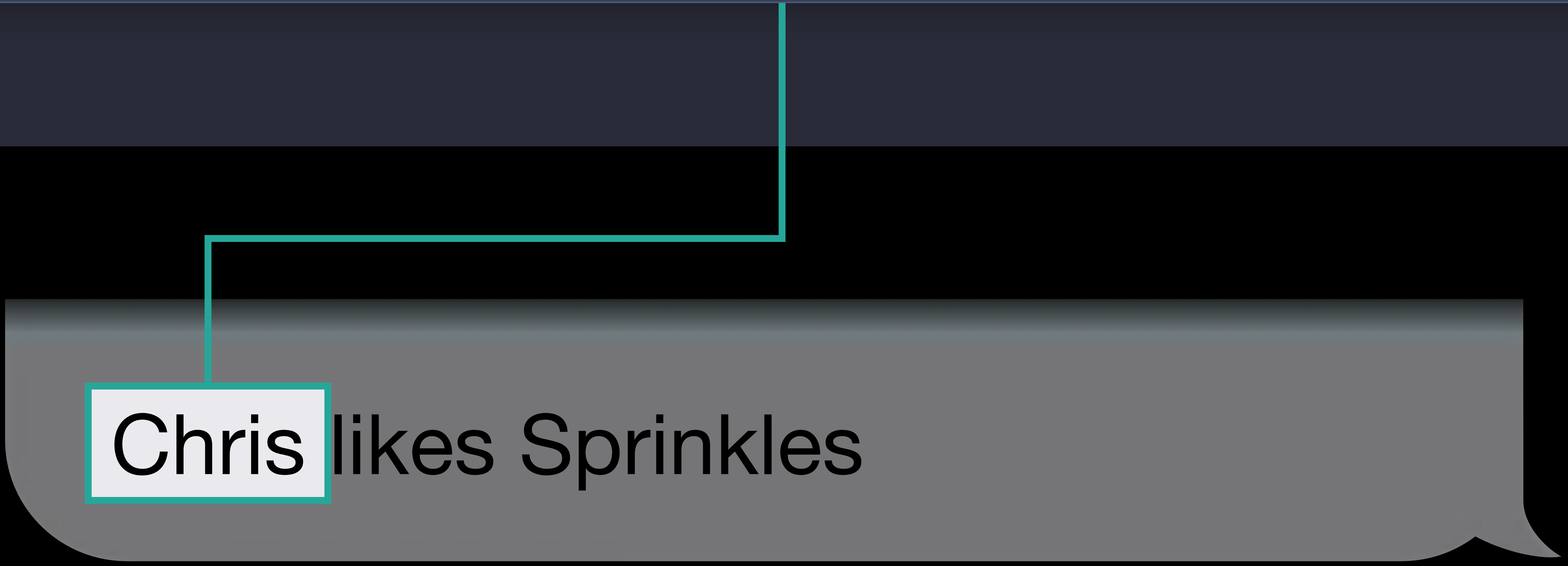
```
let layout = MSMessageTemplateLayout()
// …
layout.caption = “$\(conversation.localParticipantIdentifier.uuidString) likes Sprinkles!"
// …
```



$1A5… likes Sprinkles

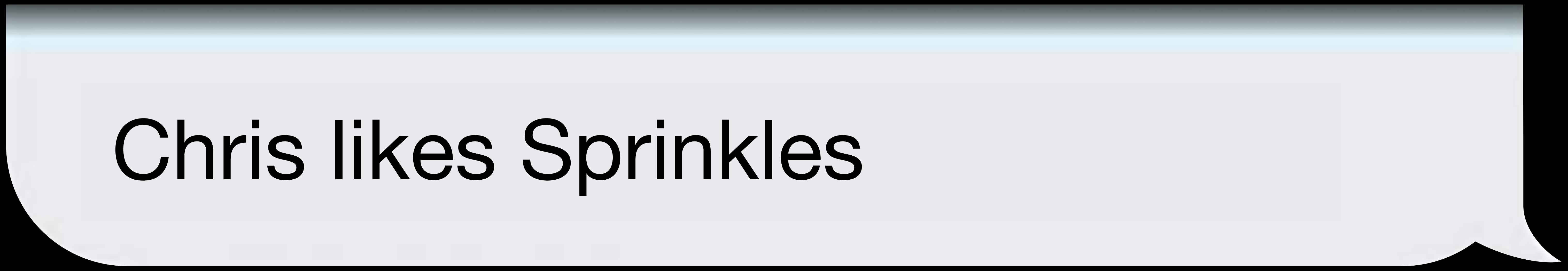
Identifying a Sender

```
let layout = MSMessageTemplateLayout()
// …
layout.caption = “$\(conversation.localParticipantIdentifier.uuidString) likes Sprinkles!"
// …
```



Identifying a Sender

```
let layout = MSMessageTemplateLayout()
// …
layout.caption = “$\(conversation.localParticipantIdentifier.uuidString) likes Sprinkles!"
// …
```



Chris likes Sprinkles

Identifying a Sender

Identifying a Sender

Unique on each device

Identifying a Sender

Unique on each device

Scoped to the iMessage App install

```
// Message sender identifier

class MSMessage{
   // …

   var senderParticipantIdentifier: NSUUID { get }

   // …
}
```

```
// Message sender identifier

class MSMessage{
   // …

   var senderParticipantIdentifier: NSUUID { get }

   // …
}
```

```swift
// Conversation local and remote identifiers

class MSConversation : NSObject {
    // …

    var localParticipantIdentifier: NSUUID { get }

    // …

    var remoteParticipantIdentifiers: [NSUUID] { get }

    // …
}
```

```
// Conversation local and remote identifiers

class MSConversation : NSObject {
   // …

   var localParticipantIdentifier: NSUUID { get }

   // …

   var remoteParticipantIdentifiers: [NSUUID] { get }

   // …
}
```

```swift
// Conversation local and remote identifiers

class MSConversation : NSObject {
   // …

   var localParticipantIdentifier: NSUUID { get }

   // …

   var remoteParticipantIdentifiers: [NSUUID] { get }

   // …
}
```

```swift
// Conversation local and remote identifiers

class MSConversation : NSObject {
    // …

    var localParticipantIdentifier: NSUUID { get }

    // …

    var remoteParticipantIdentifiers: [NSUUID] { get }

    // …
}
```

iMessage Apps

Supported platforms

Supported Platforms

Interactive Messages

To: Joyce Sohn

Joyce Sohn 12:58 PM
Attachment: 1 Image

Today, 12:58 PM

Let's build an ice cream

I added some scoops

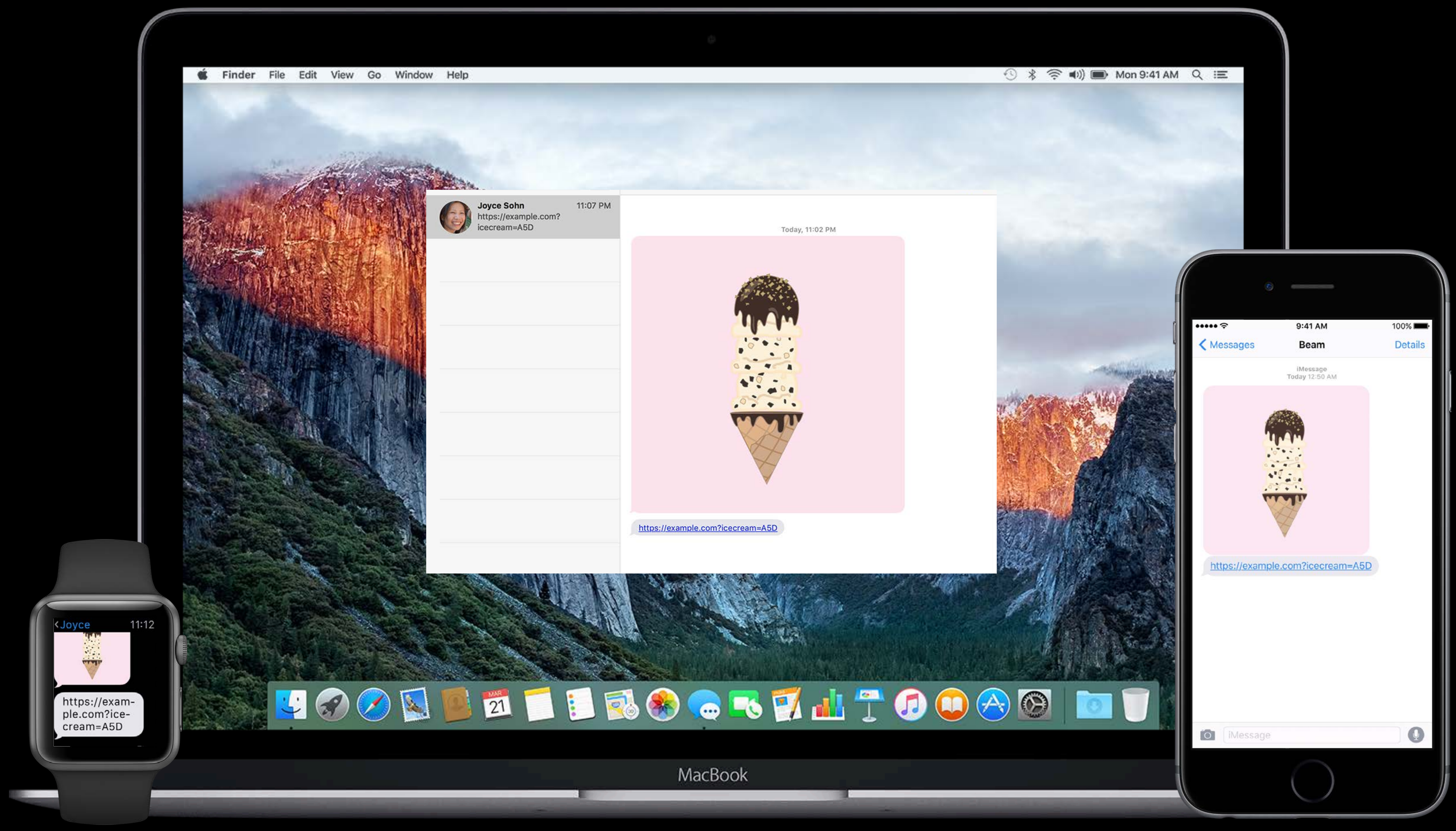
watchOS 3

macOS Sierra

iOS 10

Supported Platforms

Fallback support



Joyce Sohn 11:07 PM
https://example.com?icecream=A5D

Today, 11:02 PM

https://example.com?icecream=A5D

Today 12:50 AM

https://example.com?icecream=A5D

https://exam-ple.com?ice-cream=A5D

watchOS 2

OS X 10.11

iOS 9

Supported Platforms

Fallback details

Supported Platforms

Fallback details

Delivered as two separate messages

Supported Platforms

Fallback details

Delivered as two separate messages

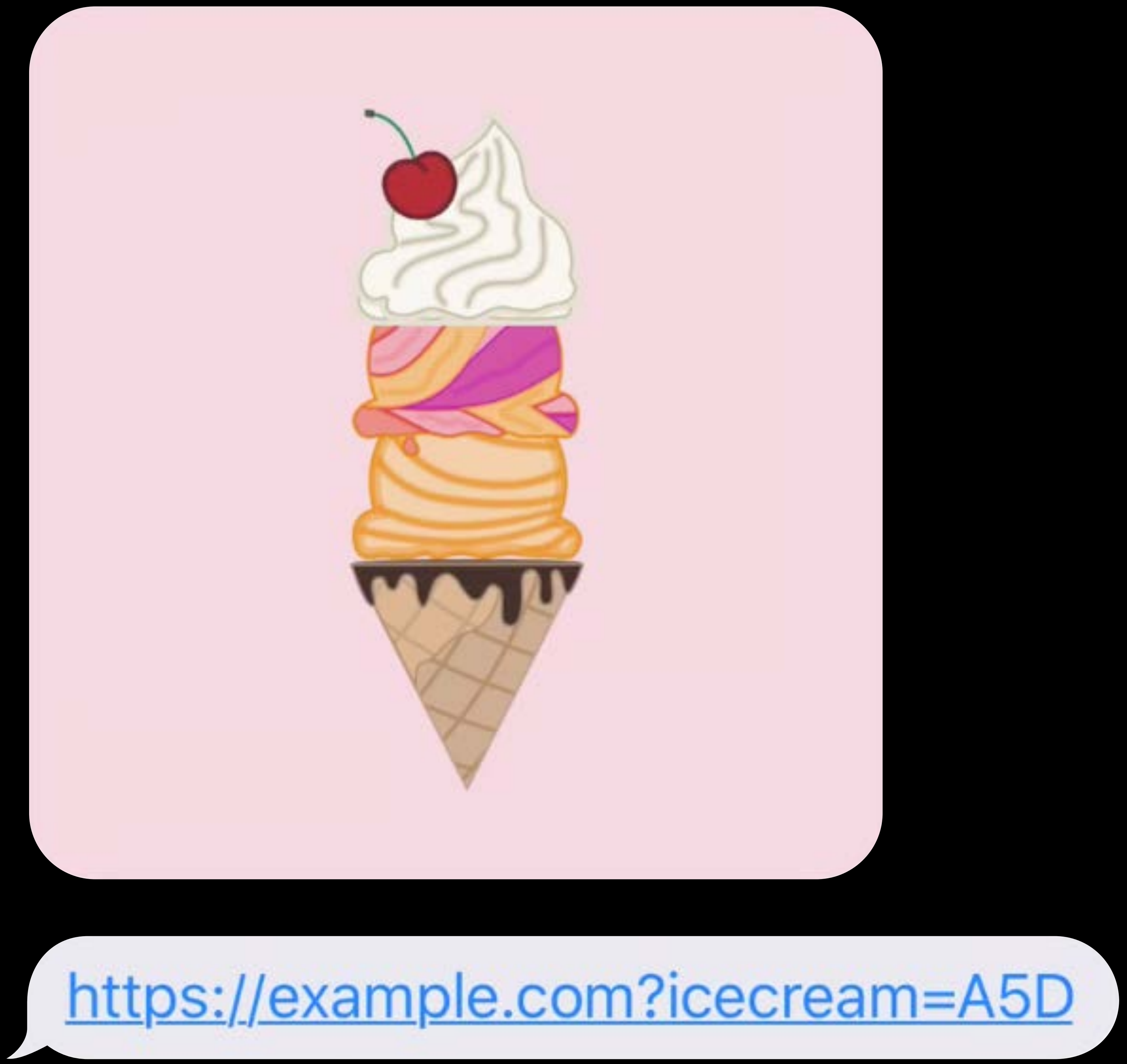
- Image provided in the layout

Supported Platforms

Fallback details

Delivered as two separate messages

- Image provided in the layout
- URL provided in the message



https://example.com?icecream=A5D

Summary

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Introduced the Messages framework

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Create sticker packs

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Create iMessage apps and send interactive content

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Make something awesome!

More Information

https://developer.apple.com/wwdc16/224

Related Sessions

iMessage Apps and Stickers, Part 1	Presidio	Tuesday 11:00AM

Labs

iMessage Apps and Stickers Lab	Frameworks Lab A	Thursday 3:00PM

WWDC16