

# Designing for Conversational UI

Angie Terrell

Design Director, Big Nerd Ranch

# Designing for ~~Conversational~~ UI

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# Designing for People who Use Conversational UI

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# The Landscape

# BEYOND THE GUI: IT'S TIME FOR A CONVERSATIONAL USER INTERFACE

## The Next Big Tech Revolution Will Be In Your Ear

Experts in UX, AI, and product design weigh in on the next big modality in computing.



### Chat Bots Aren't a Fad. They're a Revolution.

Get used to talking to businesses like you talk to your...

Get Ready For The Chat Bot Revolution: They're Simple, Cheap And About To Be Everywhere



### Why Businesses will consider Chatbots

Messaging is ubiquitous. Facing that, it is more than logic that businesses consider...

[Read more...](#)



### Bots are awesome! Humans? Not so much.

In the past few days my personal resume bot has exchanged over 24,000 messages via Facebook...

[Read more...](#)

Why Bots are the Next Industrial Revolution





2025



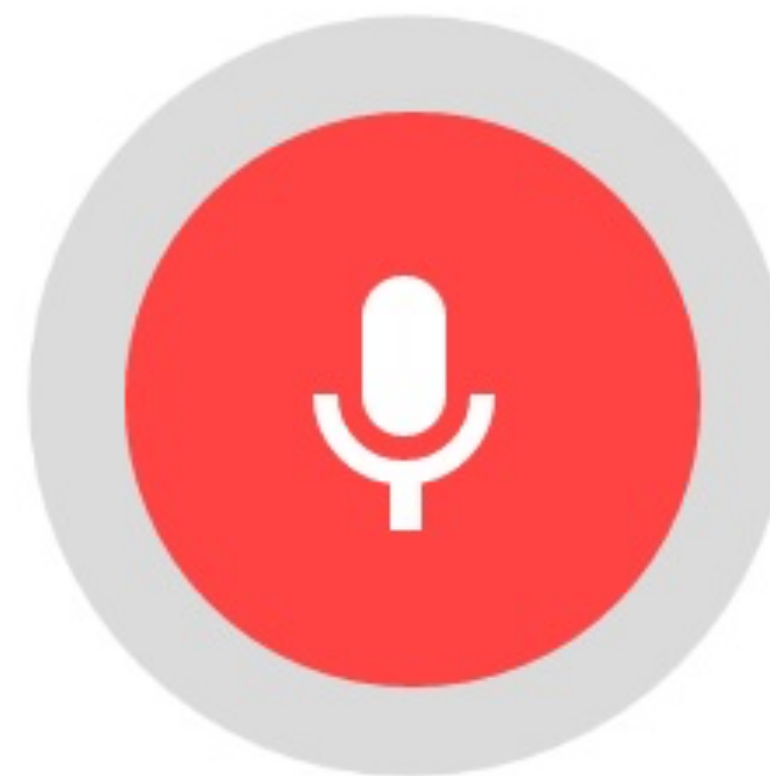
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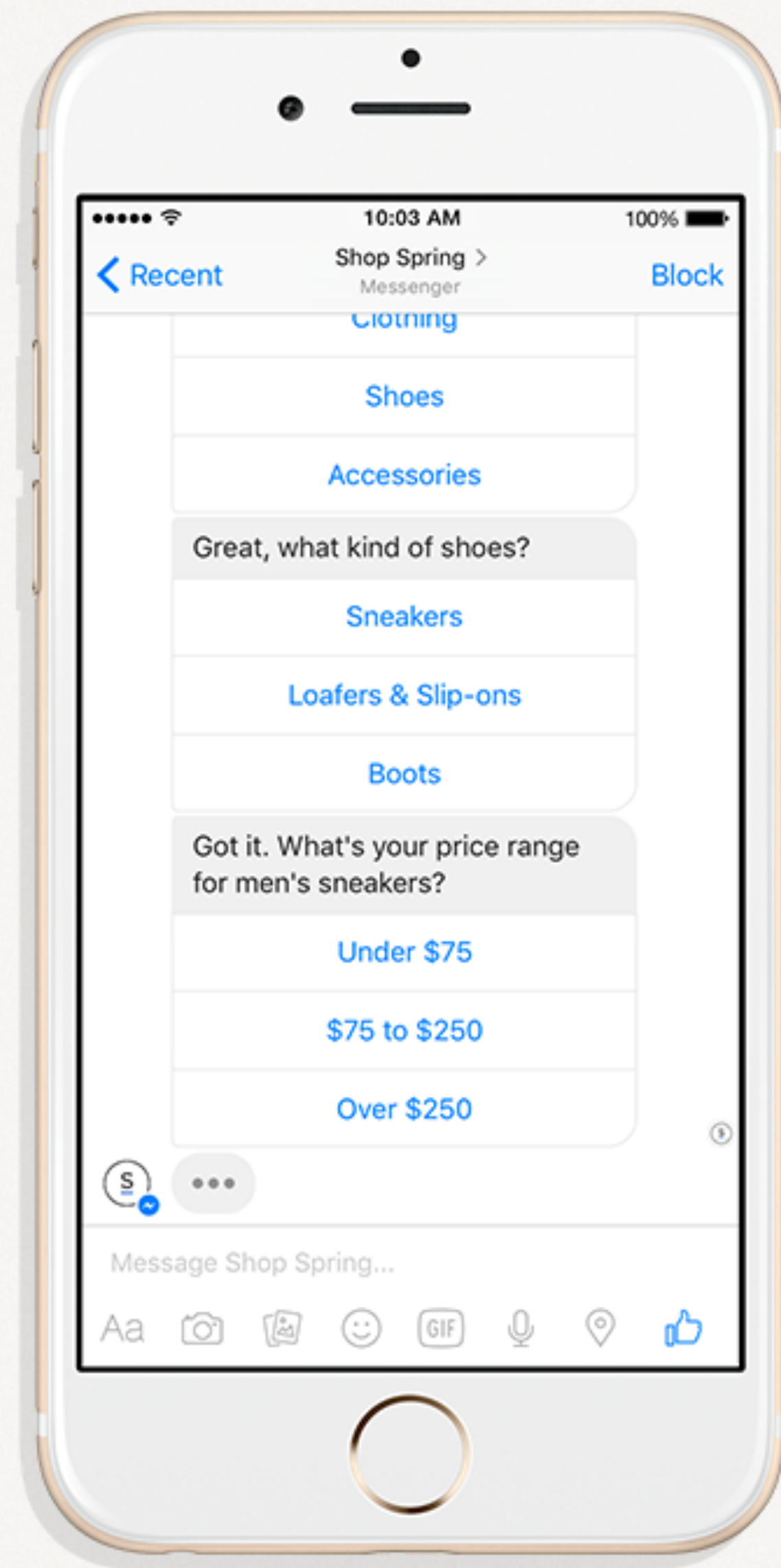
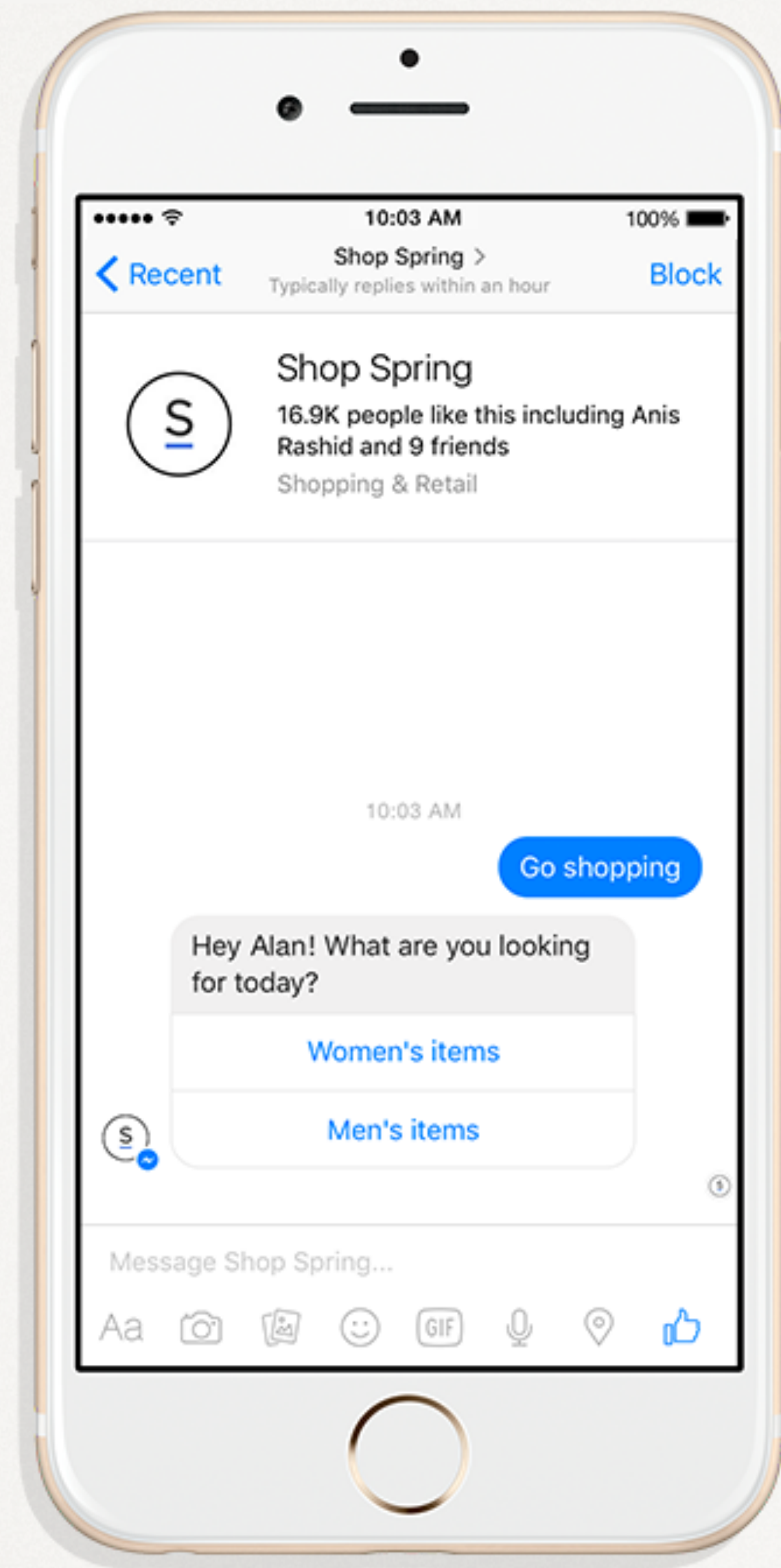
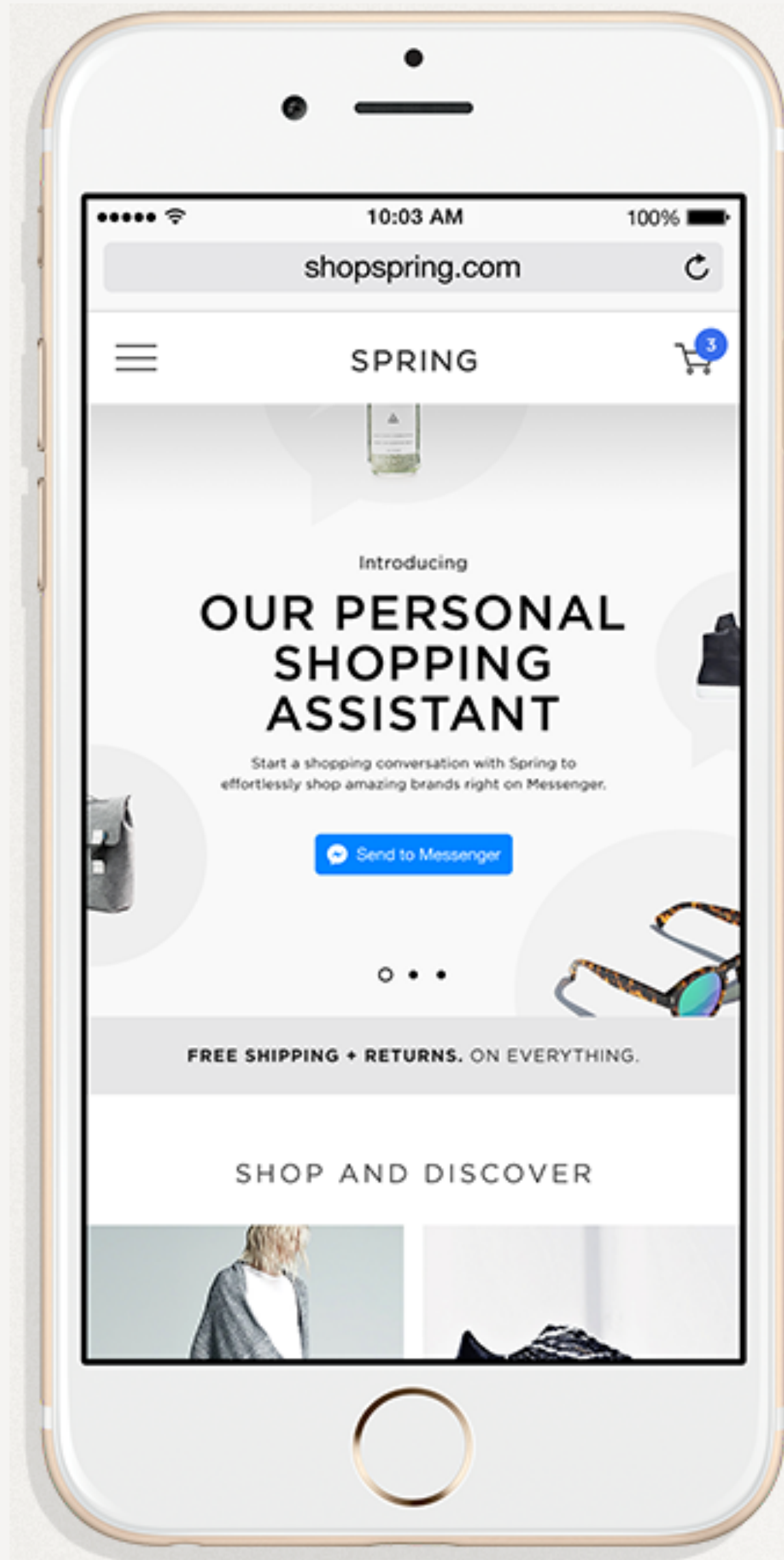
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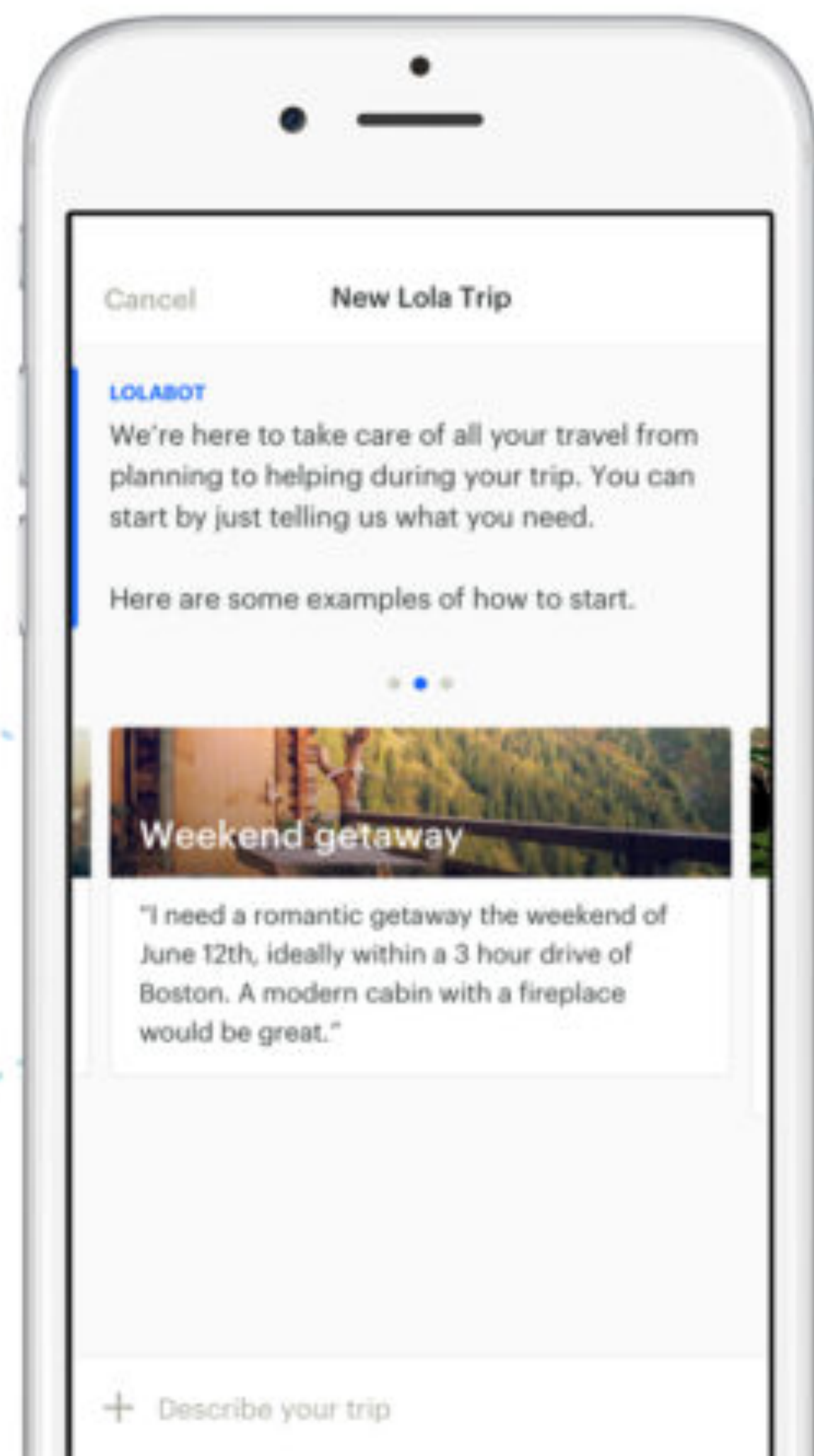
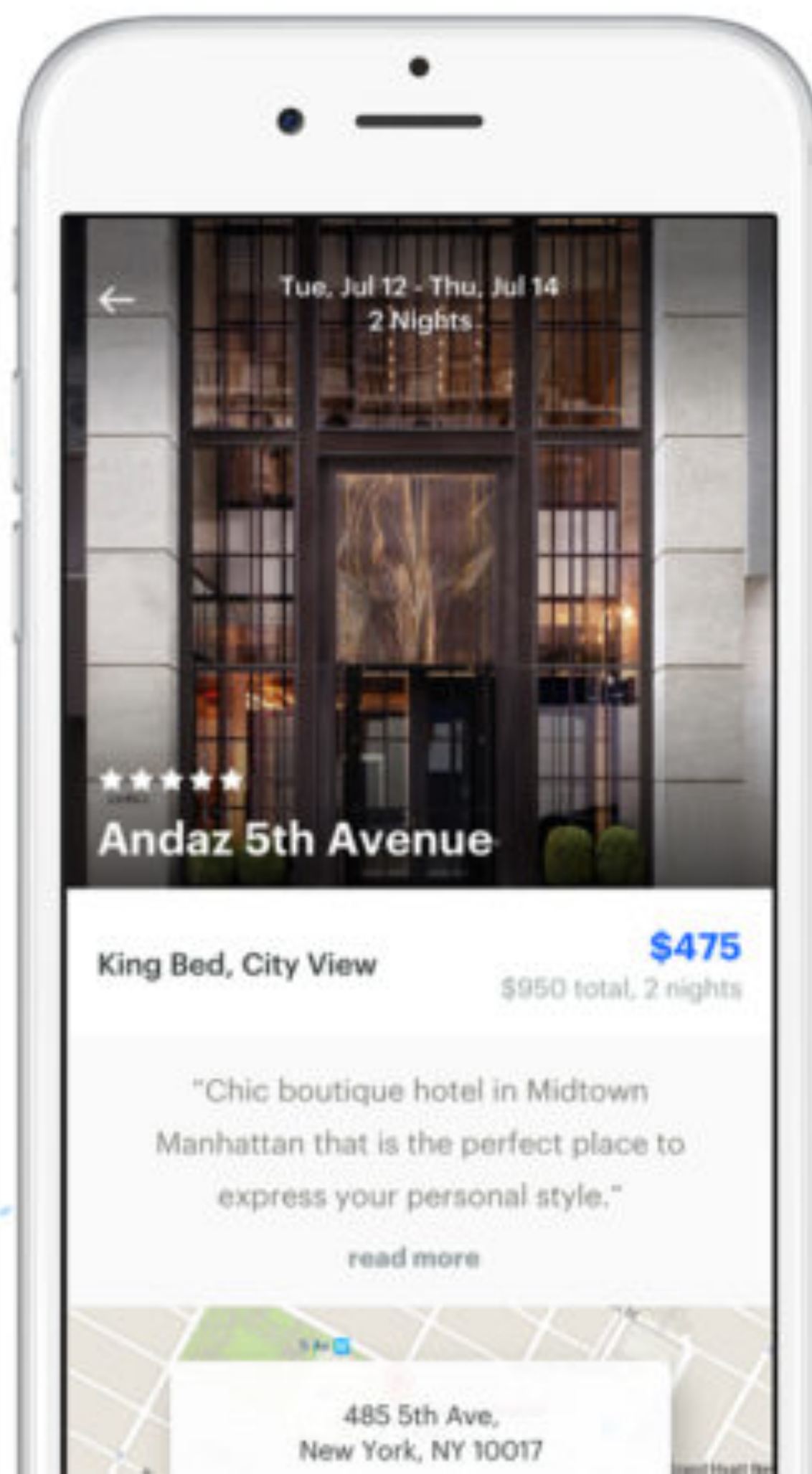
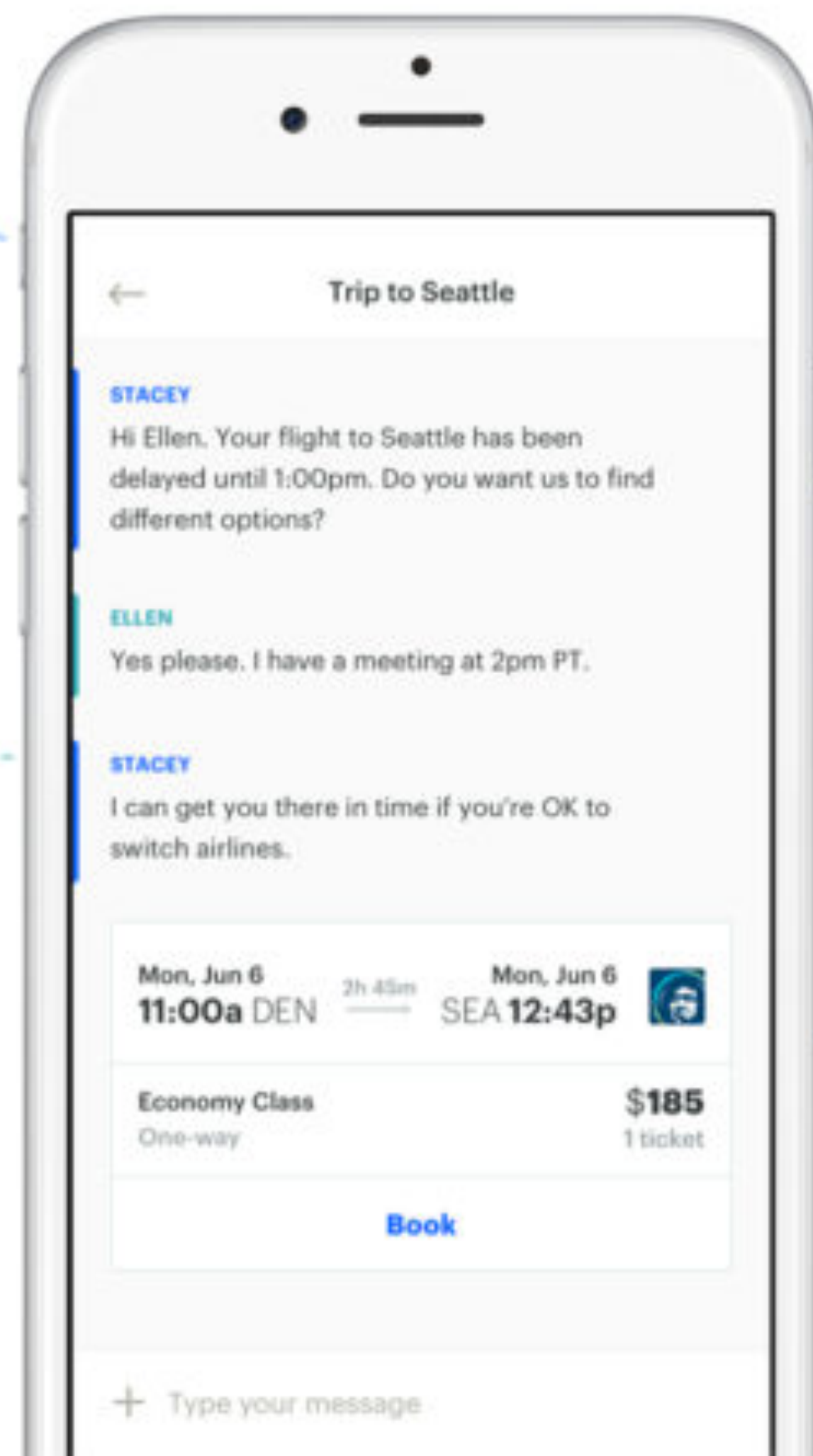




Speak now







# The Challenge



“We need a bot.”

–Your client

# Getting Started

# User Interface Design

# User Interface Design

- Select the **tasks** to support

# User Interface Design

- Select the **tasks** to support
- Determine the **structure** of the dialogue

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- Deciding which **commands and features** are available to the user

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- Letting user **specify** what they want

# User Interface Design

- Select the **tasks** to support
- Determine the **structure** of the dialogue
- Deciding which **commands and features** are available to the user
- Letting user **specify** what they want
- Making the computer provide **feedback** on its actions



# User Interface Design

# User Interface Design

1. What is the environment/context?

# User Interface Design

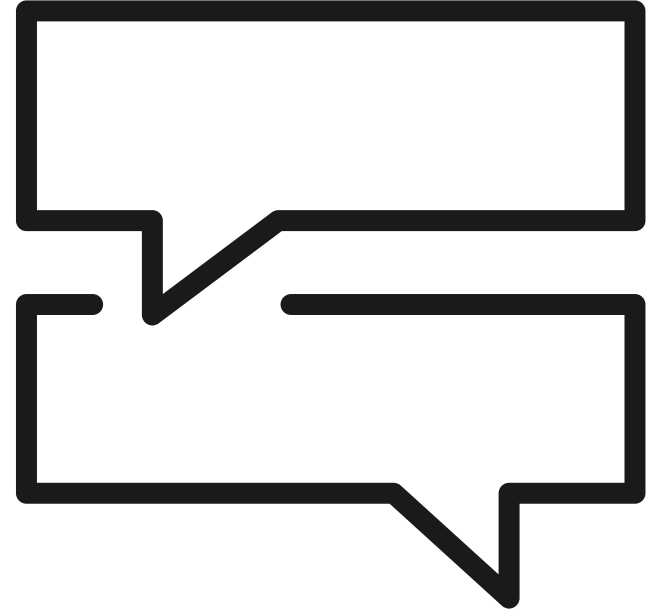
1. What is the environment/context?
2. What will be the common behaviors or modes of the user?

# User Interface Design

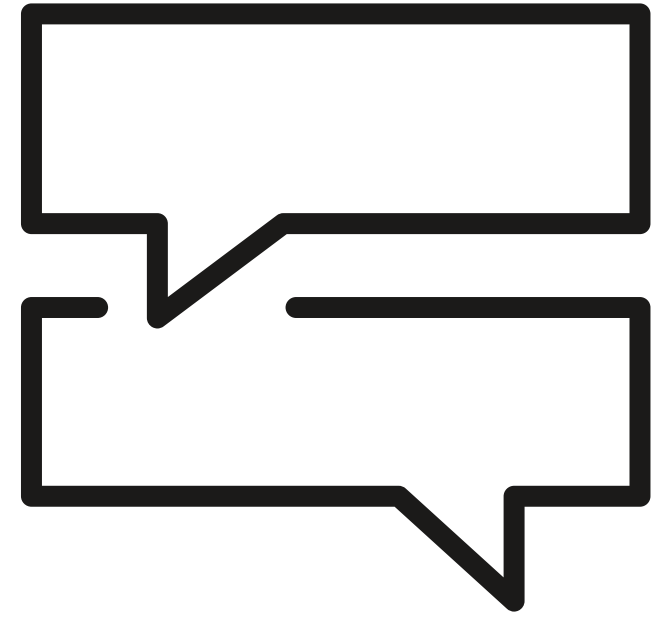
1. What is the environment/context?
2. What will be the common behaviors or modes of the user?
3. What are the needs and expectations of the user?

# Guidelines & Principles for Conversational Interfaces

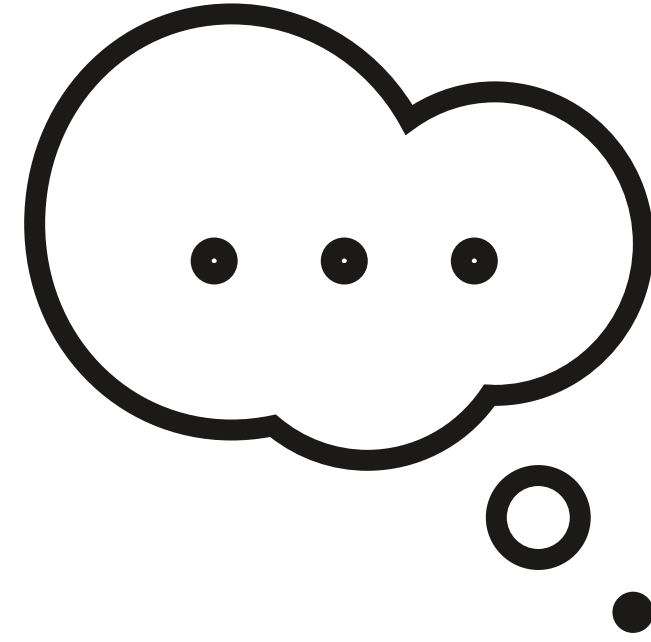




1. Prompt-and-Response

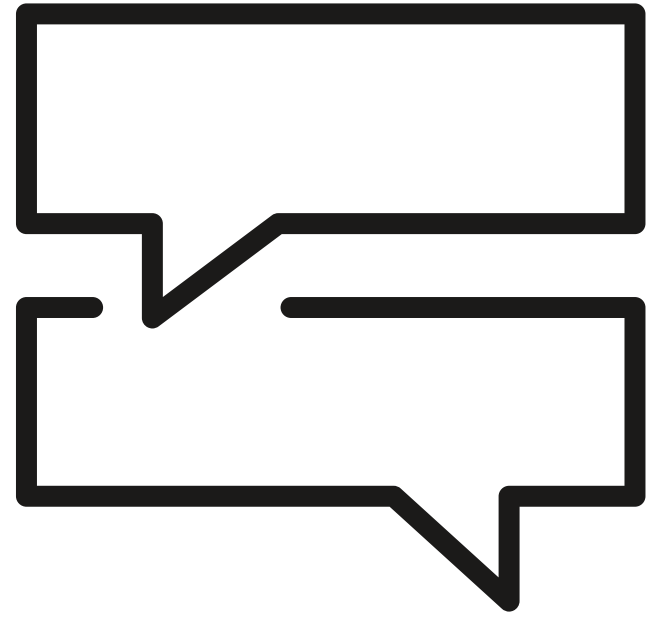


1. Prompt-and-Response

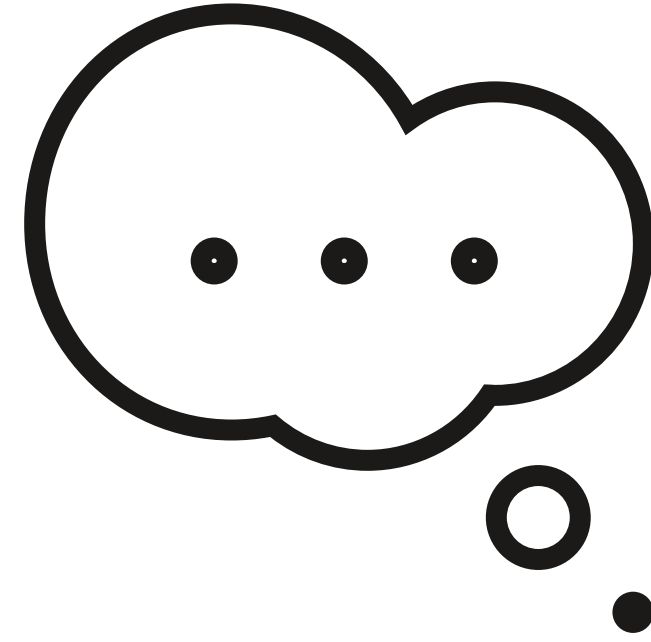


2. Recognition over Recall

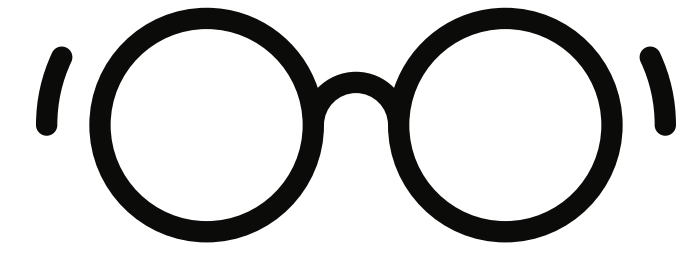




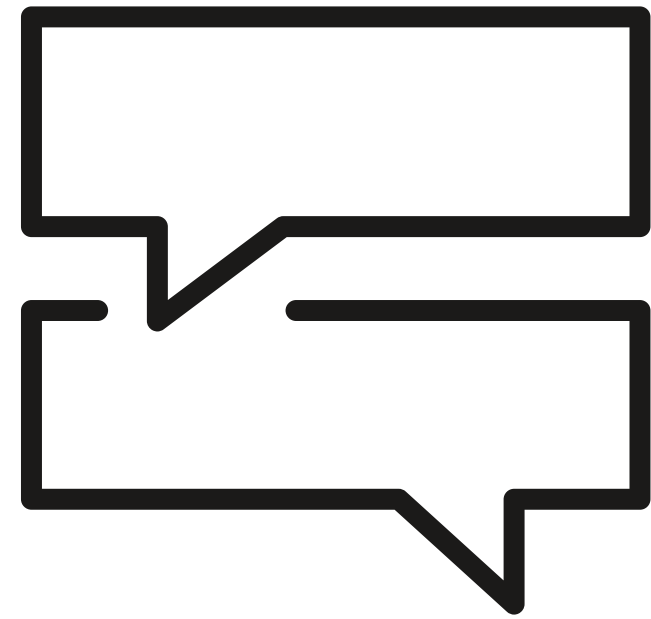
1. Prompt-and-Response



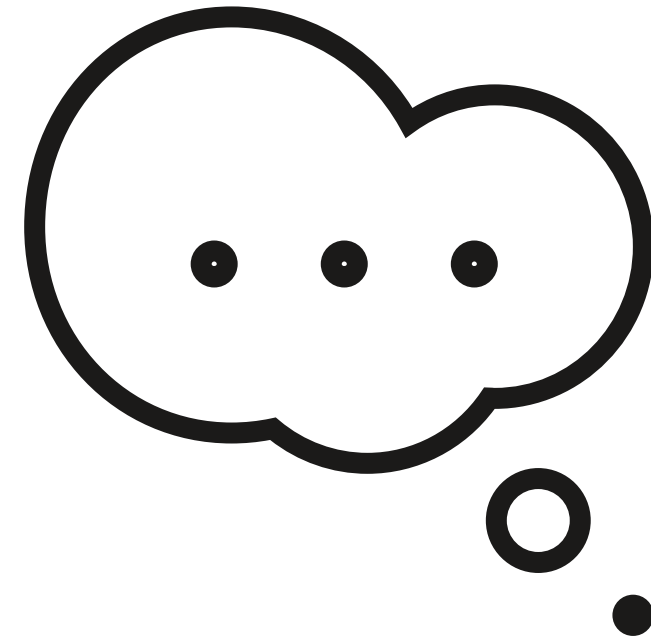
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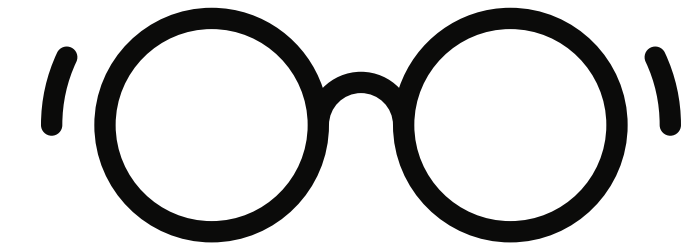
3. Speech Requires Focus



1. Prompt-and-Response



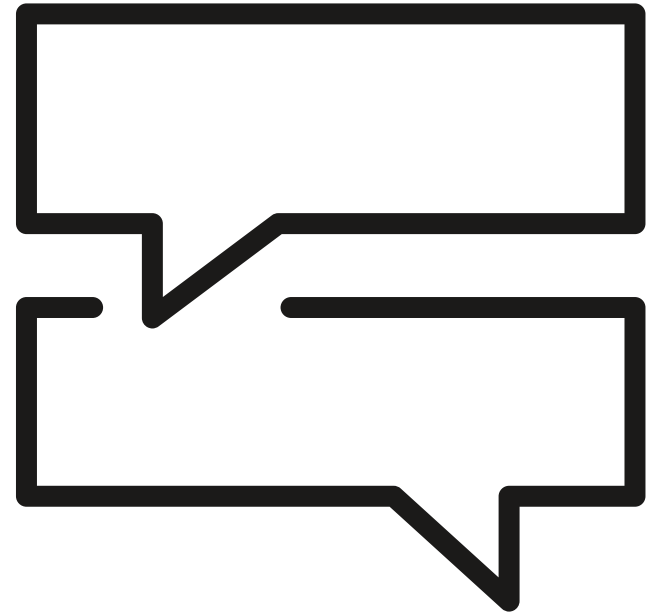
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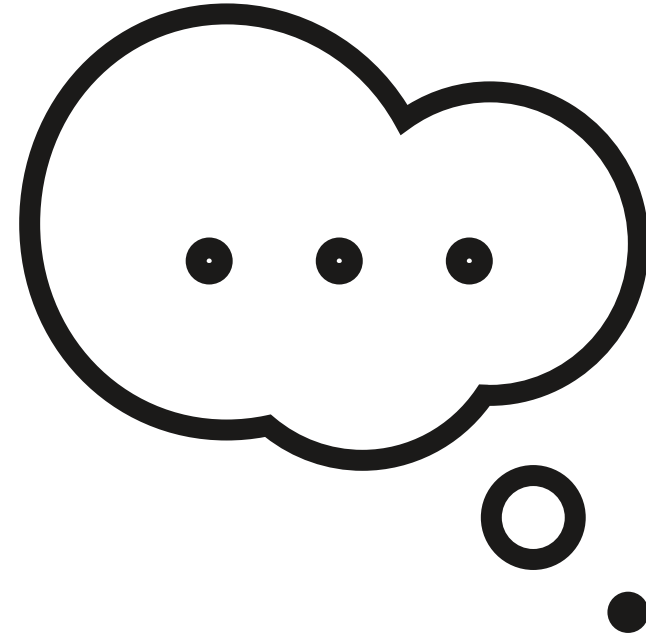
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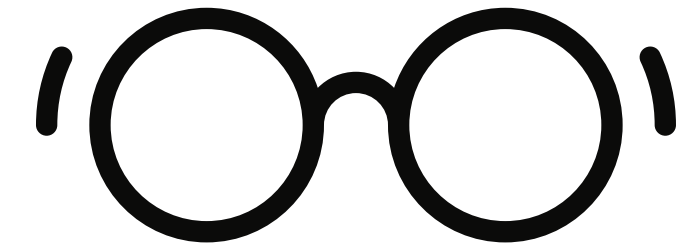
4. Always Provide a Fallback



1. Prompt-and-Response



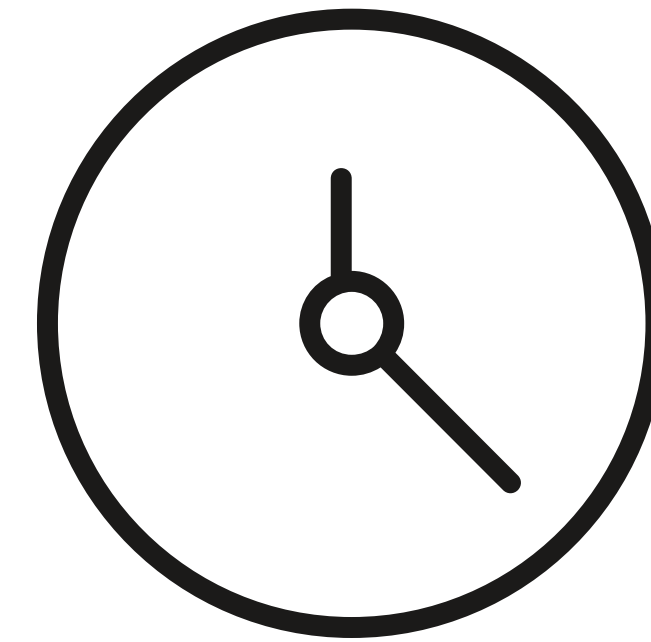
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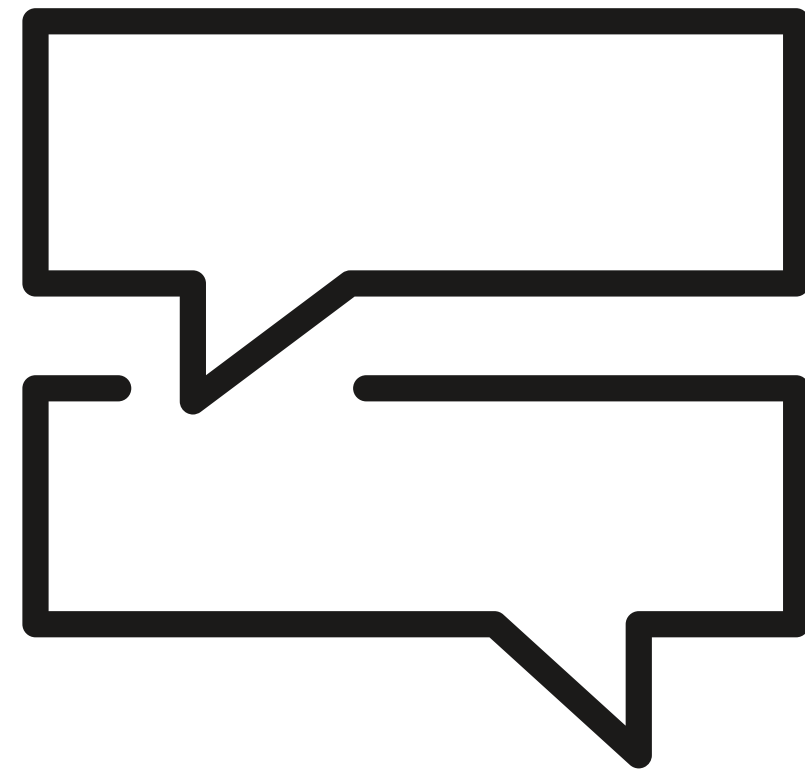
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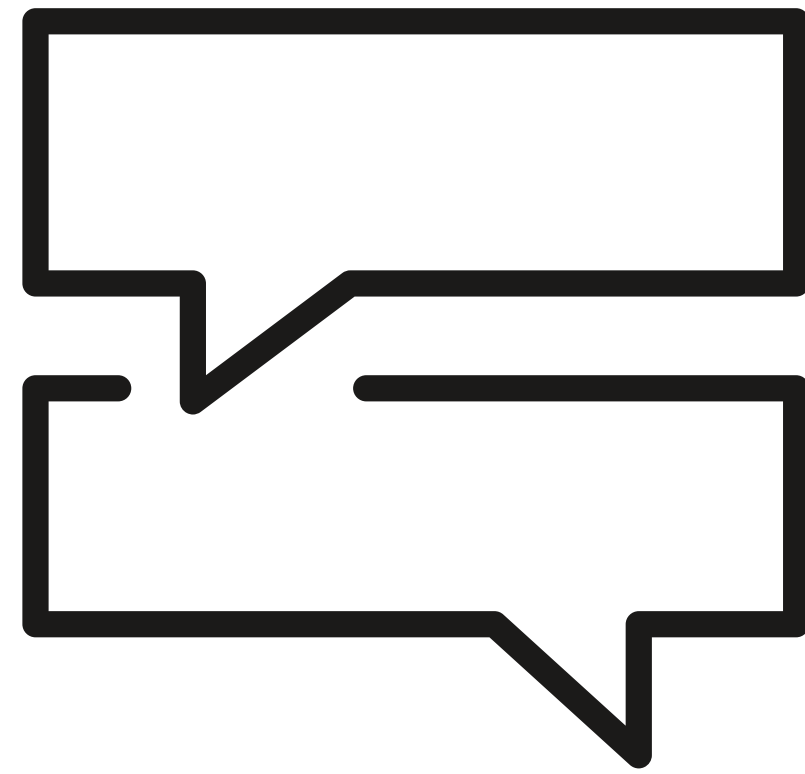
4. Always Provide a Fallback



5. Respect People's Time



# 1. Prompt-and-Response



Intents

No Intent

No Intent

Hi Weatherbot.

# No Intent

Hi Weatherbot.

Hello. You can request to hear the local weather or weather in a particular city. Which will it be?



# Partial Intent

# Partial Intent

Weatherbot, what is the weather like in Madison?

# Partial Intent

Weatherbot, what is the weather like in Madison?

Okay, I can check the weather in Madison. In what State?

# Partial Intent

Weatherbot, what is the weather like in Madison?

Okay, I can check the weather in Madison. In what State?

Wisconsin.

# Partial Intent

Weatherbot, what is the weather like in Madison?

Okay, I can check the weather in Madison. In what State?

Wisconsin.

Today's weather in Madison, Wisconsin is...

Full Intent

# Full Intent

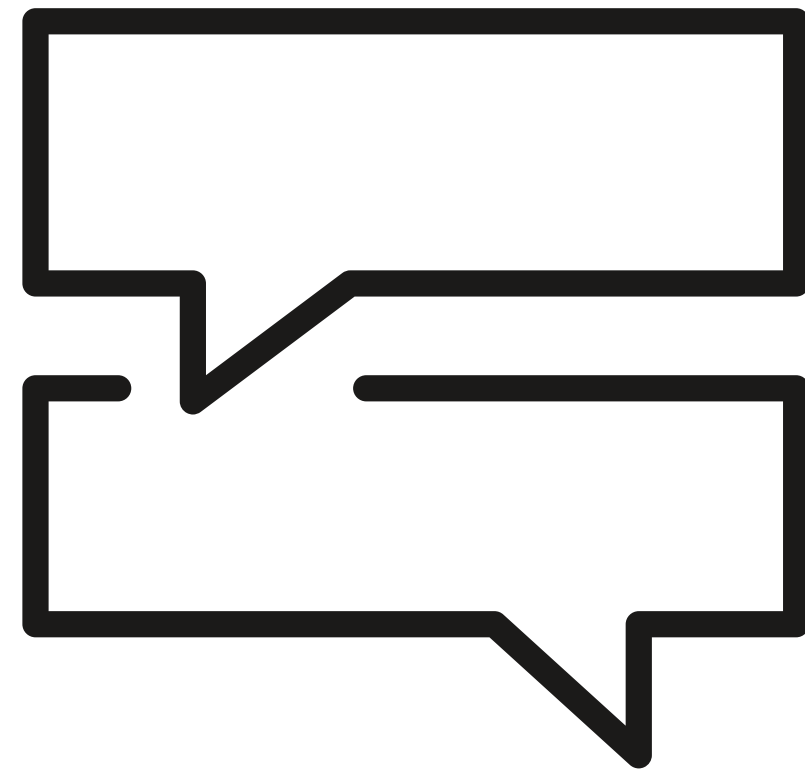
Weatherbot, what will it be like in San Francisco, California today?

# Full Intent

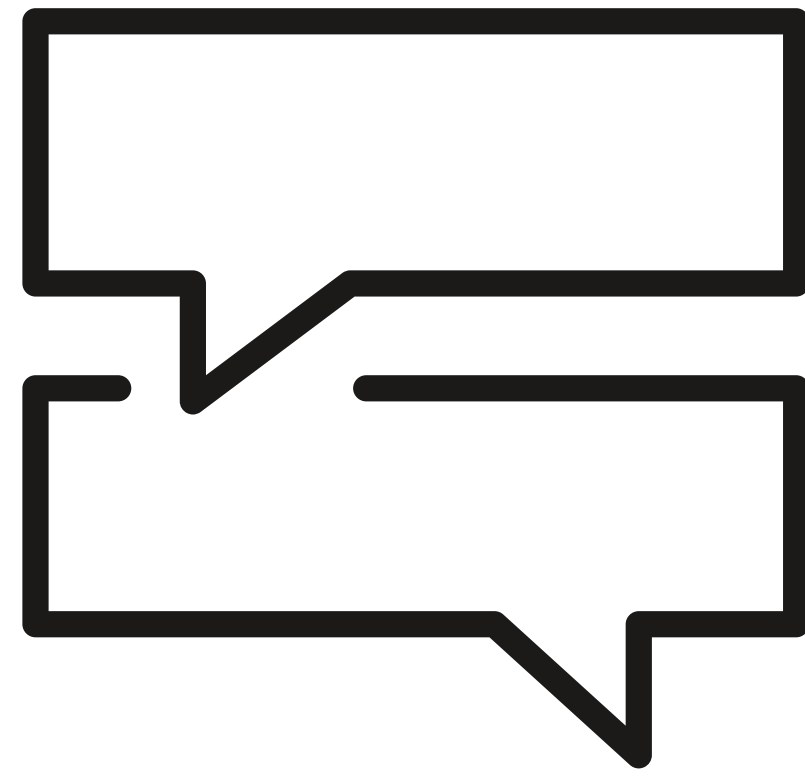
Weatherbot, what will it be like in San Francisco, California today?

Today's weather in San Francisco, California is...





Intents



Close-ended

Close-Ended

# Close-Ended

What is a top-rated bike pump?

# Close-Ended

What is a top-rated bike pump?

The top-rated bike pump is the Vibrelli High Performance Bike Pump for \$37.98.

# Close-Ended

What is a top-rated bike pump?

The top-rated bike pump is the Vibrelli High Performance Bike Pump for \$37.98.

Would you like to hear the rest?

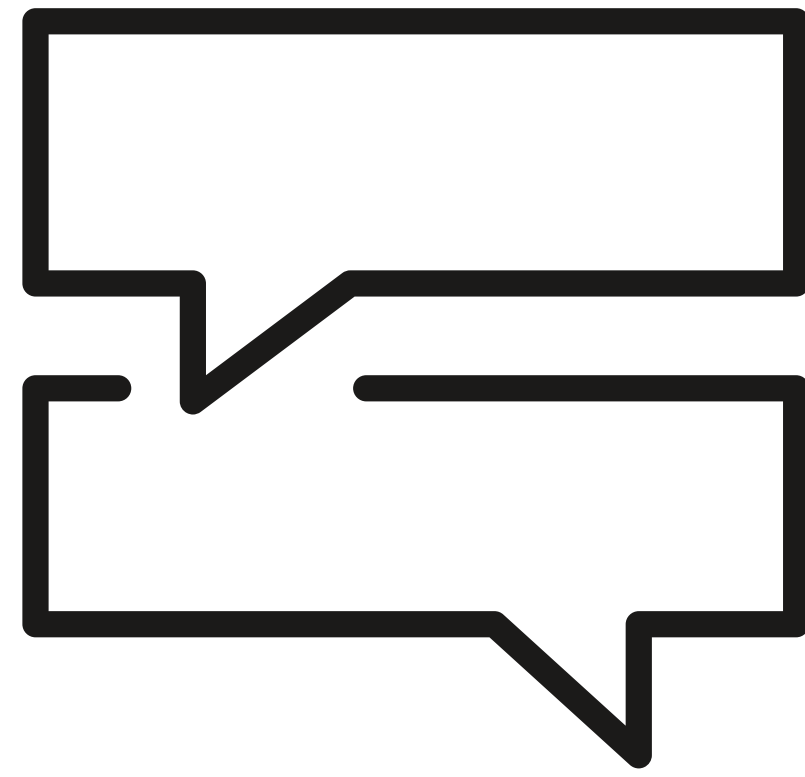
# Close-Ended

What is a top-rated bike pump?

The top-rated bike pump is the Vibrelli High Performance Bike Pump for \$37.98.

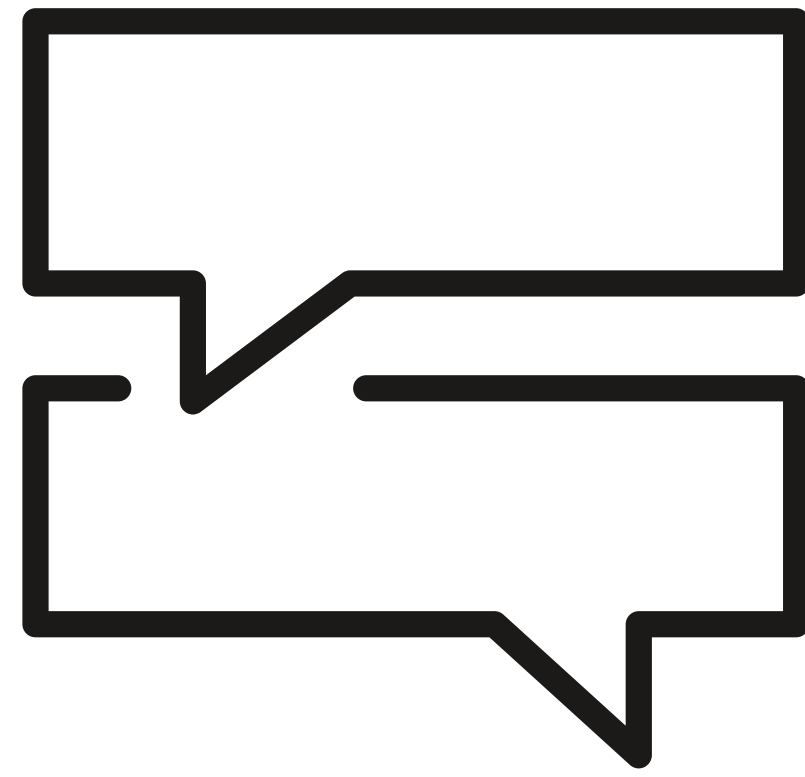
Would you like to hear the rest?

No.



Close-ended





Options

# Options

# Options

Would you like french fries or a salad?

# Options

Would you like french fries or a salad?

Yes.

# Options

Would you like french fries or a salad?

Yes.

don't do this

# Options

# Options

Which side would you like: french fries or salad?

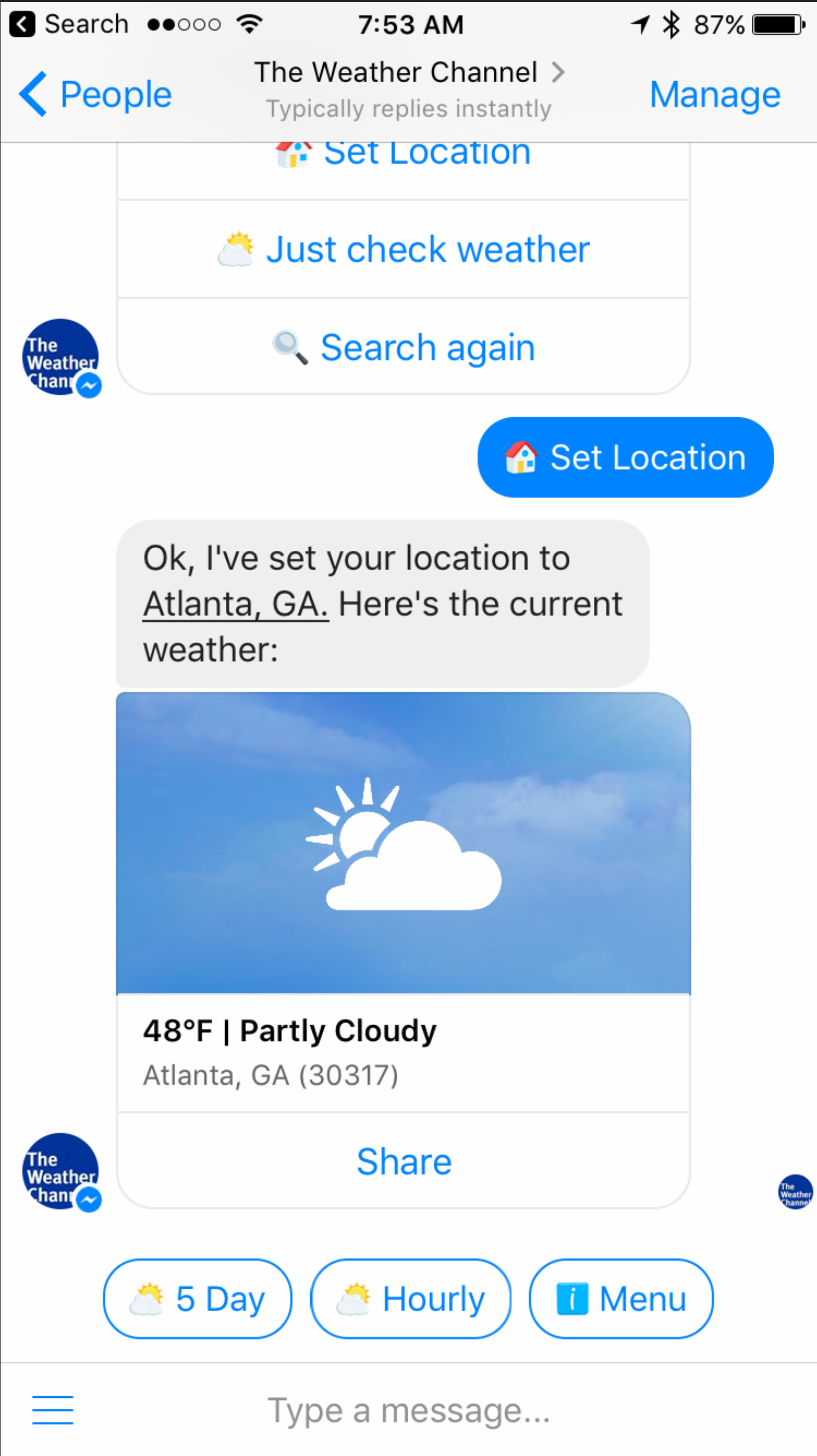
# Options

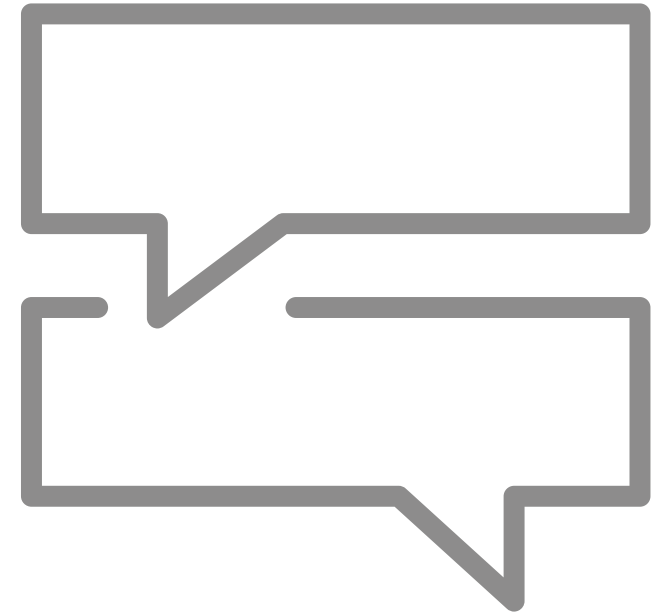
Which side would you like: french fries or salad?

Salad.

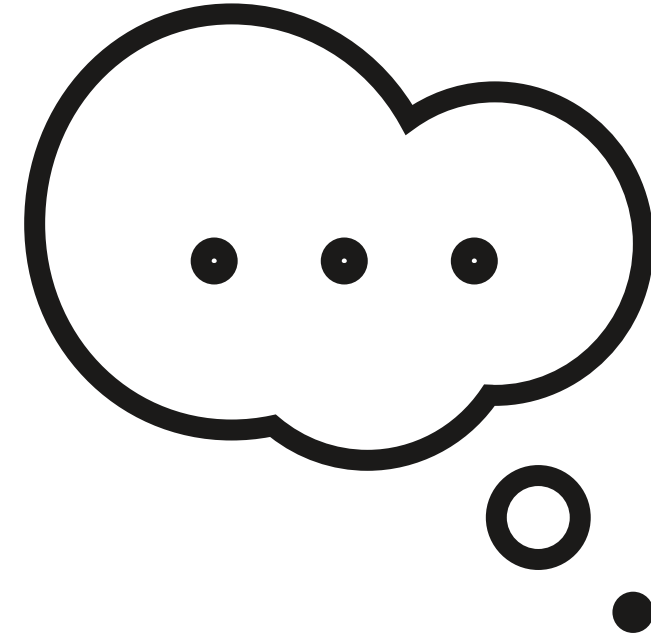


# Options

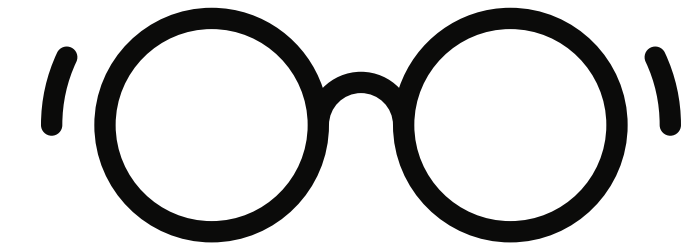




1. Prompt-and-Response



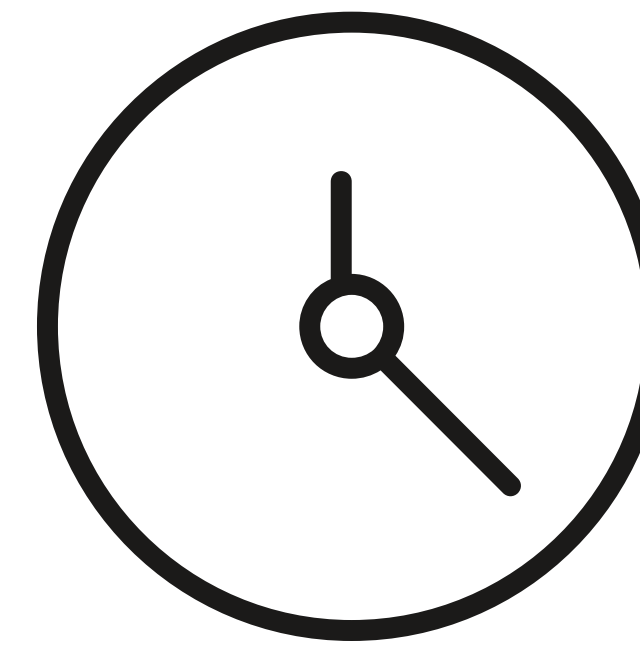
2. Recognition over Recall



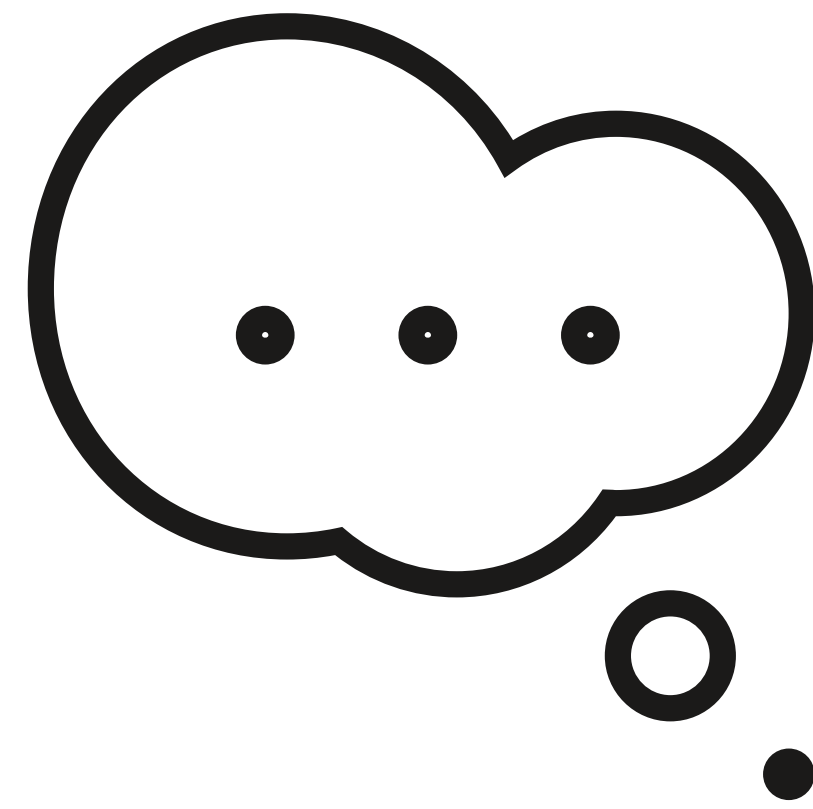
3. Speech Requires Focus



4. Always Provide a Fallback



5. Respect People's Time



## 2. Recognition over Recall

“When there’s no graphical user interface (icons, labels, etc.)  
in a product to guide us, our memory becomes the UI.”

- Luke Wroblewski

Help

# Help

Score Keeper. You can give a player points, ask for the score, or say help. What would you like?

Help

Score Keeper. You can give a player points, ask for the score, or say help. What would you like?

Help.

# Help

Score Keeper. You can give a player points, ask for the score, or say help. What would you like?

Help.

Here are some things you can say:



# Help

Score Keeper. You can give a player points, ask for the score, or say help. What would you like?

Help.

Here are some things you can say:

# Help

Score Keeper. You can give a player points, ask for the score, or say help. What would you like?

Help.

Here are some things you can say:

add John,

# Help

Score Keeper. You can give a player points, ask for the score, or say help. What would you like?

Help.

Here are some things you can say:

add John,  
give John 5 points,

# Help

Score Keeper. You can give a player points, ask for the score, or say help. What would you like?

Help.

Here are some things you can say:

add John,  
give John 5 points,  
tell me the score,

# Help

Score Keeper. You can give a player points, ask for the score, or say help. What would you like?

Help.

Here are some things you can say:

add John,  
give John 5 points,  
tell me the score,  
start a new game, or

# Help

Score Keeper. You can give a player points, ask for the score, or say help. What would you like?

Help.

Here are some things you can say:

add John,  
give John 5 points,  
tell me the score,  
start a new game, or  
reset all players.

# Help

Score Keeper. You can give a player points, ask for the score, or say help. What would you like?

Help.

Here are some things you can say:

add John,  
give John 5 points,  
tell me the score,  
start a new game, or  
reset all players.

# Help

Score Keeper. You can give a player points, ask for the score, or say help. What would you like?

Help.

Here are some things you can say:

add John,  
give John 5 points,  
tell me the score,  
start a new game, or  
reset all players.

So, how can I help?



# Help

Score Keeper. You can give a player points, ask for the score, or say help. What would you like?

Help.

Here are some things you can say:

add John,  
give John 5 points,  
tell me the score,  
start a new game, or  
reset all players.

So, how can I help?

Got it.

Great! You're all set. You can ask me the weather, get your horoscope, or chat with me anytime.

Try a few of these commands:

- Weather
- Is it snowing in New York?
- Do I need an umbrella today?
- What's the 5 day forecast?
- Stop notifications!
- Change settings

And if you ever need help, just type "HELP".

- Forecast
- 5-Day Forecast
- Settings



Type a message...

## ALSO SUPPORTED

### PRICE

Cost  
Price tag  
How much  
What's it cost  
How much is it  
How much does it cost  
What's the price  
What's the price tag  
Where can I buy it  
How can I get it  
Where do I get it  
When does it come out  
When can I buy it  
How do I buy it?

### DETAILS

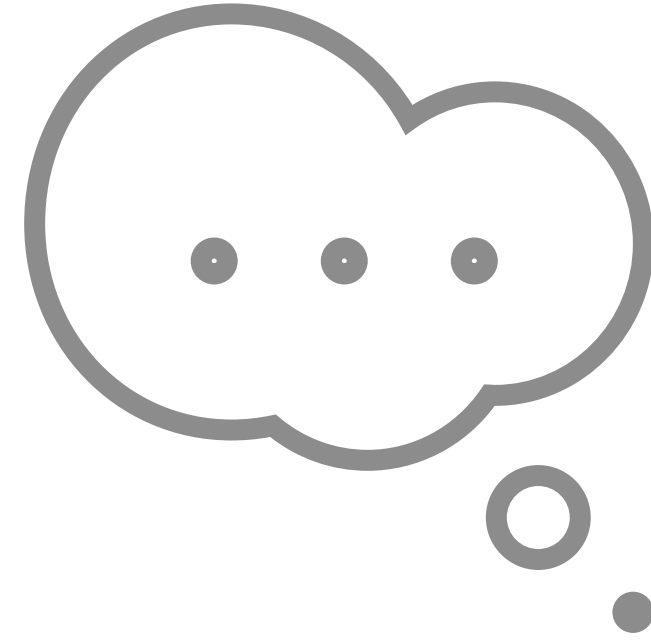
What are the details  
Which details  
What kind of details  
What are the features  
Tell me the features  
Tell me the details  
Tell me about the details  
Tell me about the features  
Tell me more details  
Tell me about it  
Tell me more  
More details  
What else  
What's it like

### COOL FACTOR

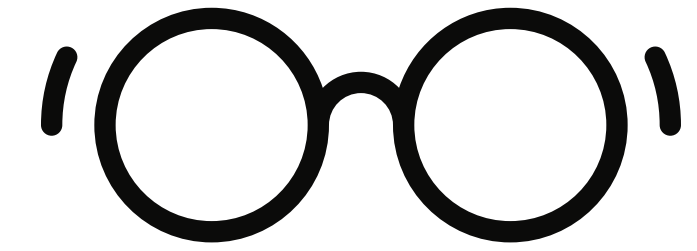
What's cool  
Why is it cool  
What's cool about it  
Why is it special  
Why does it matter  
So what  
Why do I care  
Review  
Summary  
Tell me the cool factor  
Give me the cool factor  
What's the cool factor  
Is there a cool factor  
I want the cool factor



1. Prompt-and-Response



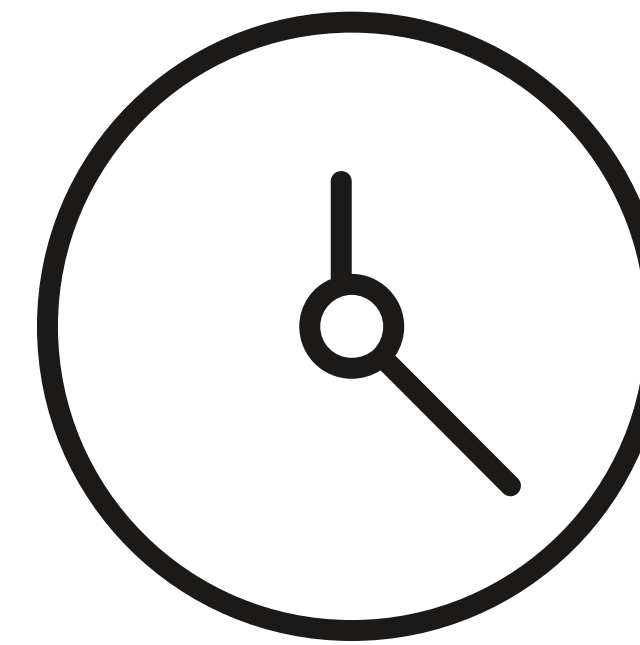
2. Recognition over Recall



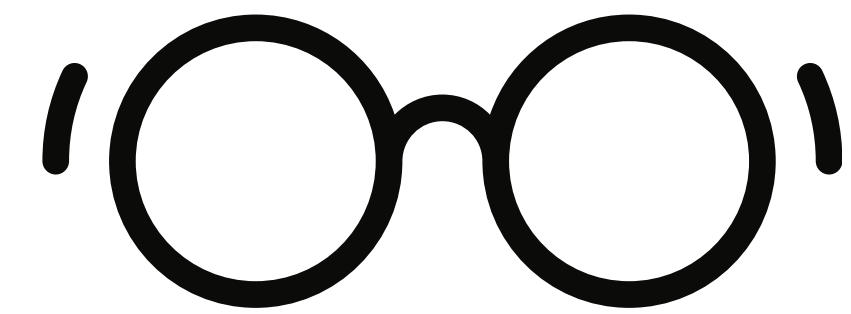
3. Speech Requires Focus



4. Always Provide a Fallback



5. Respect People's Time



### 3. Speech Requires Focus

“[People] lose attention after 10-15 seconds of listening  
to a prompt.”

–Human Factors and Voice Interactive Systems

T-Mobile

12:55 PM

24%

# Voicemail

Edit

Greeting

11:53 AM  
0:12



Jeff Benjamin  
home



Zac Hall  
home

July 6, 2016 at 11:44 AM

Transcription Beta (low confidence)

"The small brown fox jumped over the mountain I  
was tiger zebra zebra tiger  
..."

0:00 | Speaker

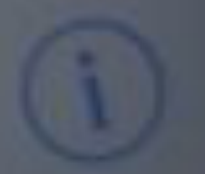
Call Back

-0:15

Delete

Jeff Benjamin  
home

11:36 AM  
0:08

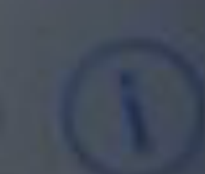


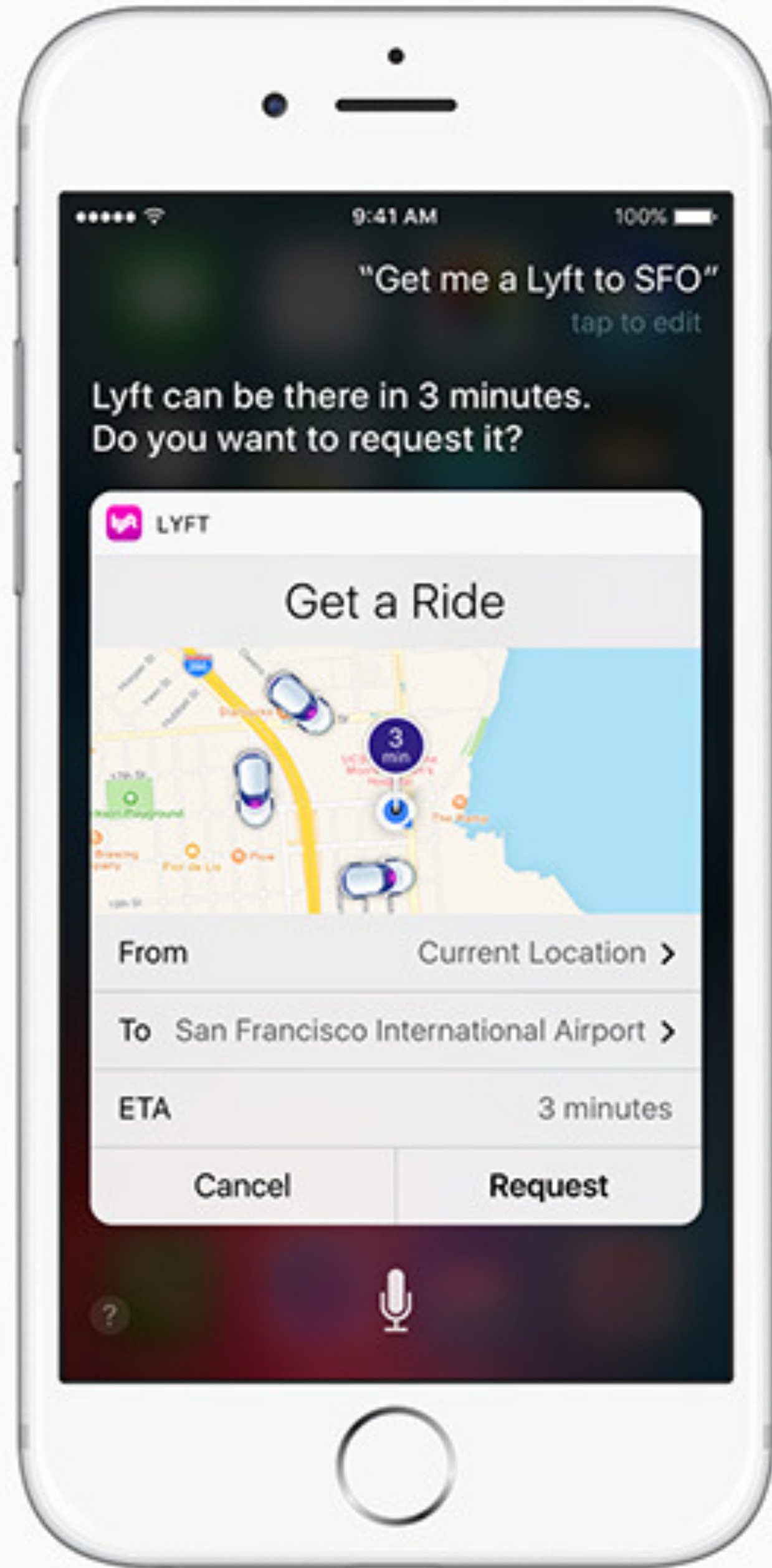
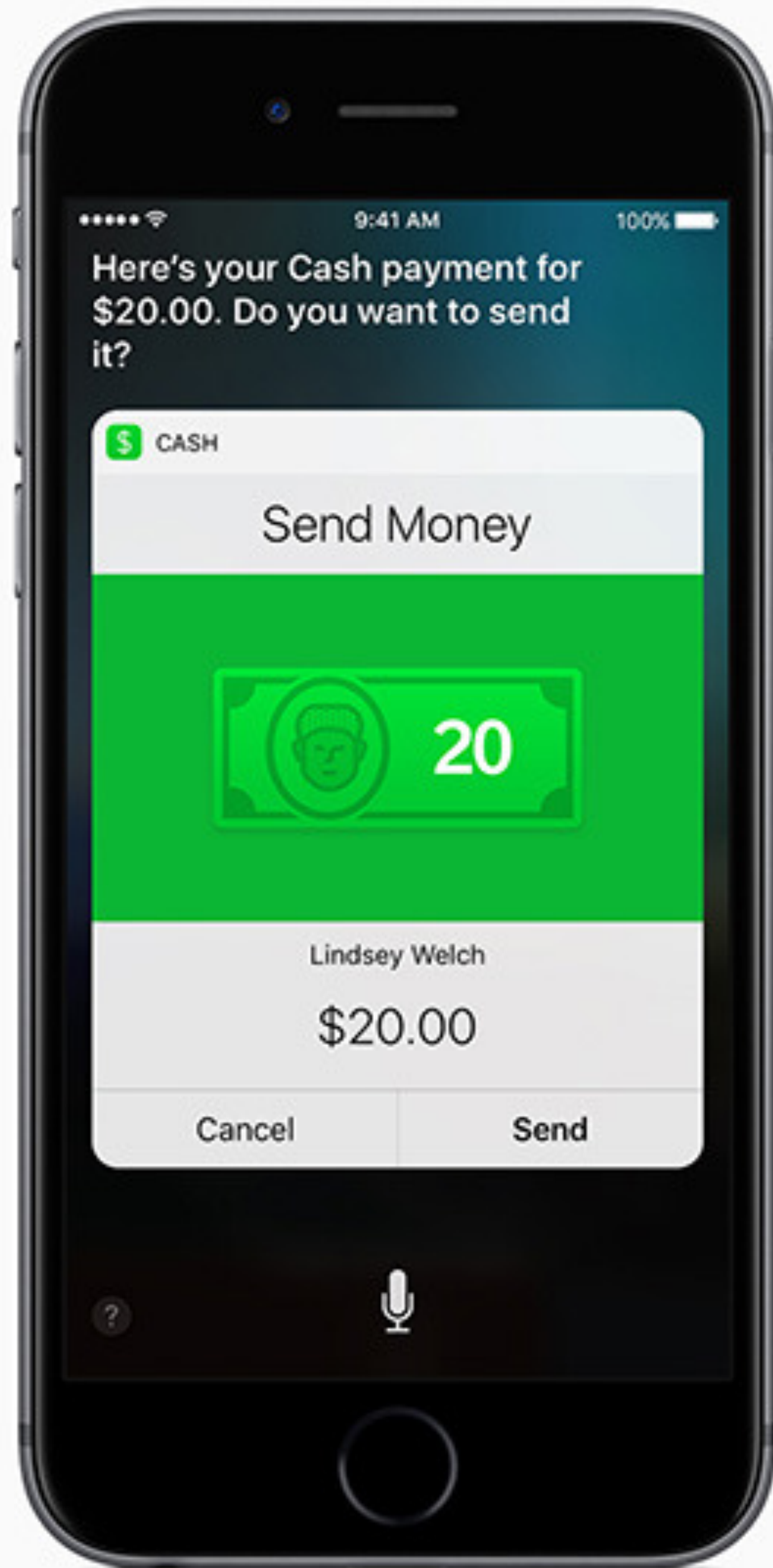
Jeff Benjamin

8:44 AM  
0:08



7:36 AM

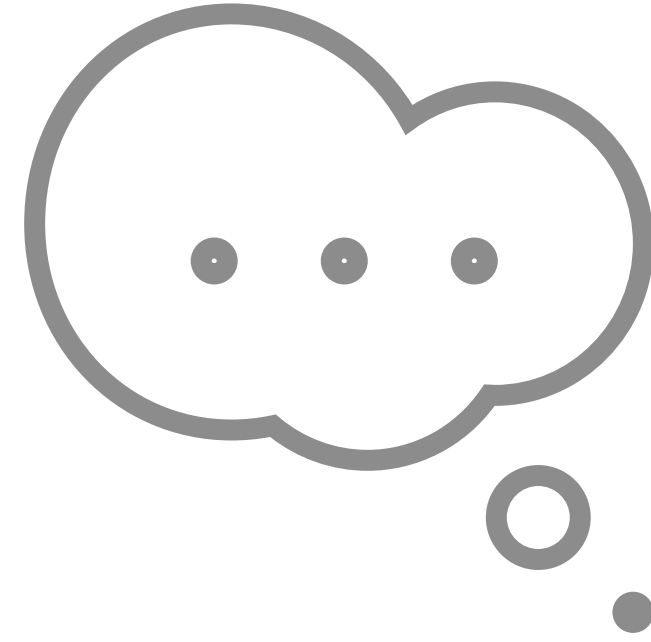




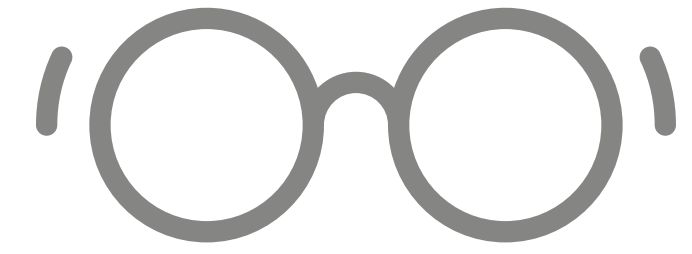




1. Prompt-and-Response



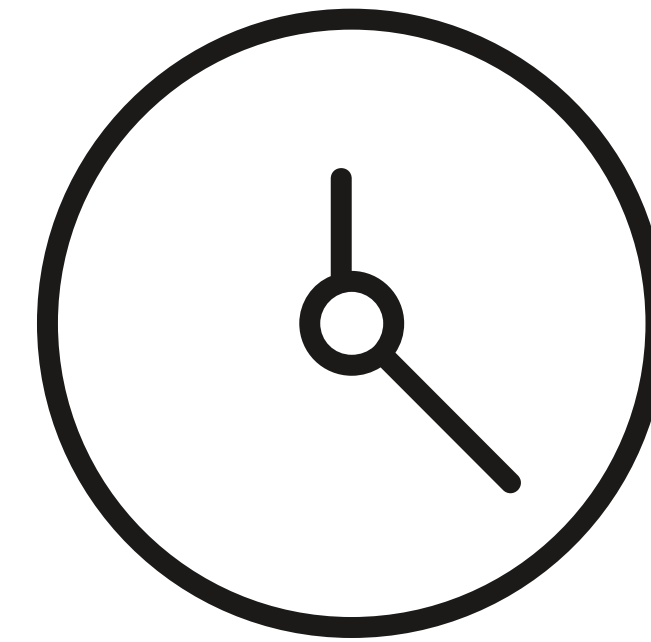
2. Recognition over Recall



3. Speech Requires Focus



4. Always Provide a Fallback



5. Respect People's Time



4. Always Provide a Fallback

Fallback

# Fallback

Get off the couch!

# Fallback

Get off the couch!

I'm sorry, Angie, but I didn't understand "get off the couch".

# Fallback

Get off the couch!

I'm sorry, Angie, but I didn't understand "get off the couch".

# Fallback

Get off the couch!

I'm sorry, Angie, but I didn't understand "get off the couch".

The available colors are: purple, orange, red, green, and blue.

# Fallback

Get off the couch!

I'm sorry, Angie, but I didn't understand "get off the couch".

The available colors are: purple, orange, red, green, and blue.



# Fallback

Get off the couch!

I'm sorry, Angie, but I didn't understand "get off the couch".

The available colors are: purple, orange, red, green, and blue.

Which will it be?"

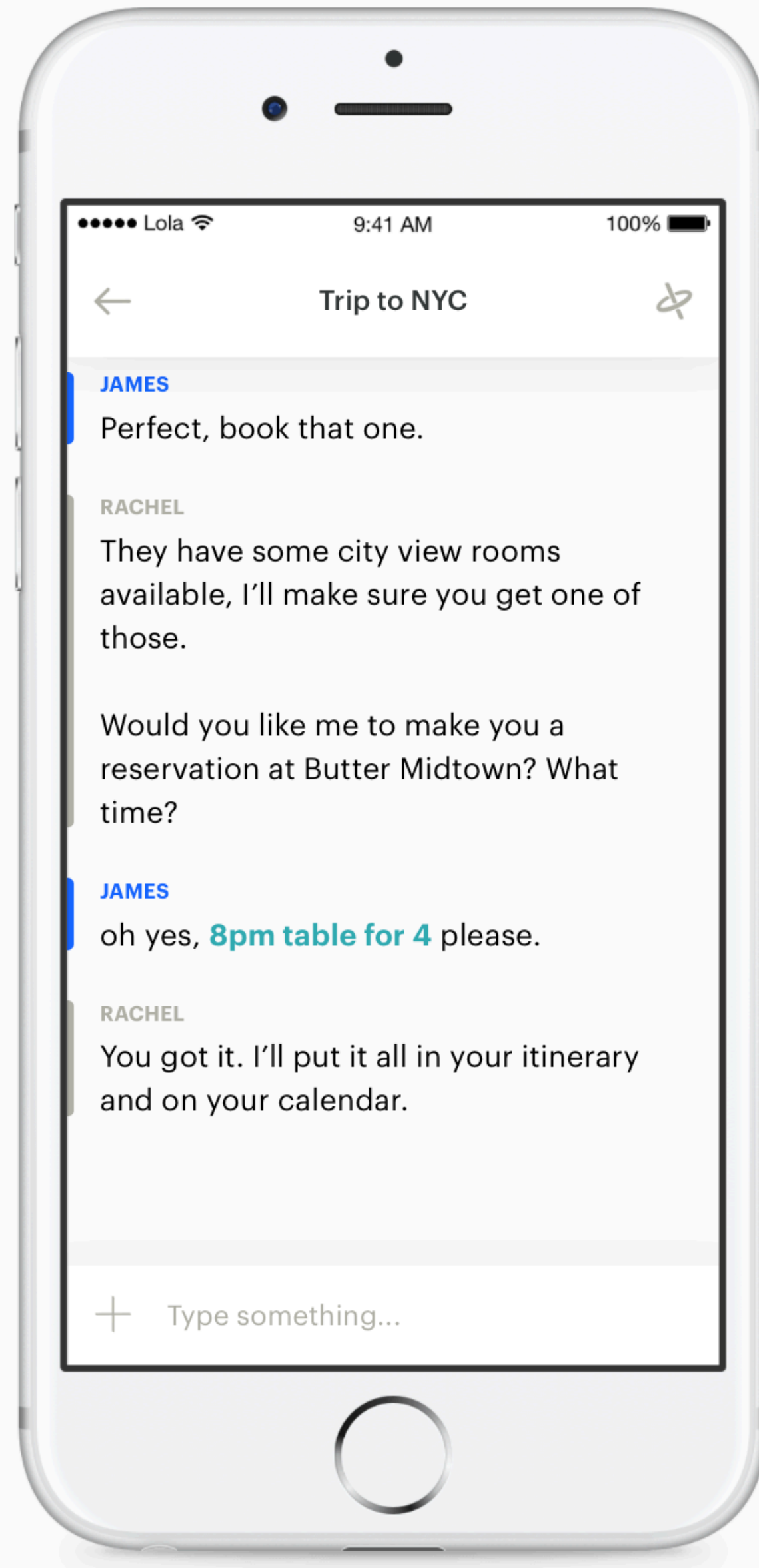
# Fallback

Get off the couch!

I'm sorry, Angie, but I didn't understand "get off the couch".

The available colors are: purple, orange, red, green, and blue.

Which will it be?"



# lola

Instant access to a personal travel service for hotels, flights and anything you need for your trip.

[GET LOLA APP](#)


Currently requires iPhone 5 or newer with iOS 9 and only available in the US.

So I need a rain jacket?

I'm an automated response that can provide a very simple, fast way to get your hourly and daily forecasts, weather notifications plus weather news powered by IBM Watson. Currently I'm not able to answer all of your questions or send your messages to a 'real' person, but I'm working on it.



 5 Day

 Hourly

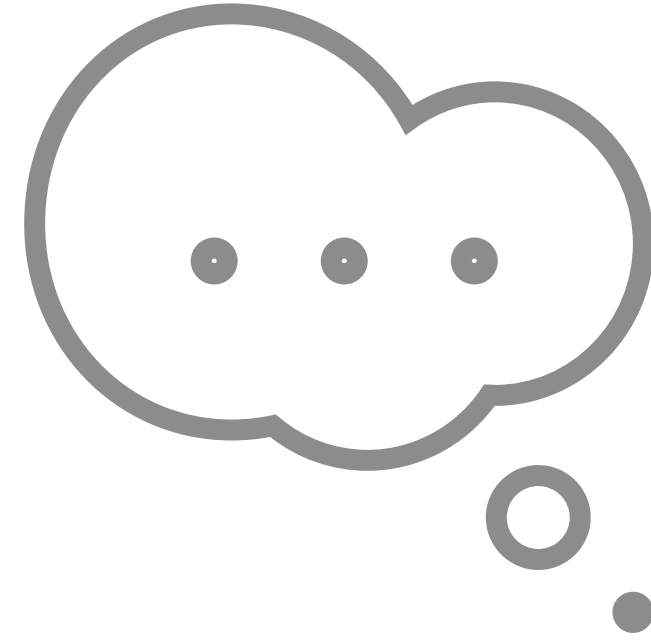
 Menu



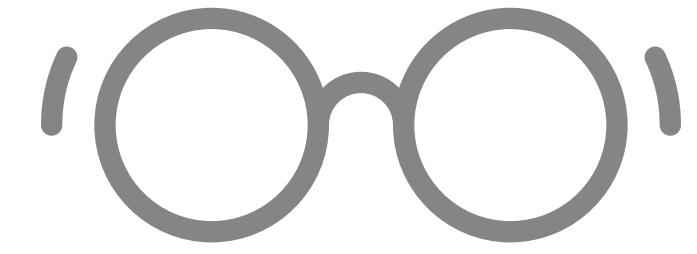
Type a message...



1. Prompt-and-Response



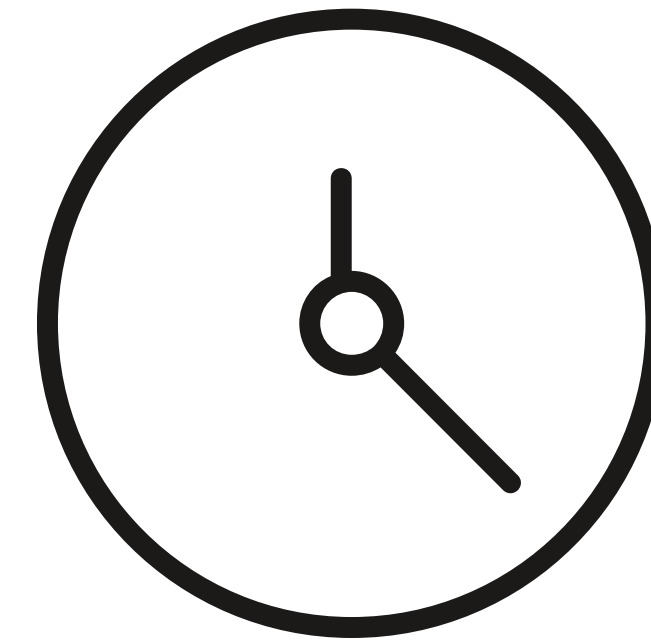
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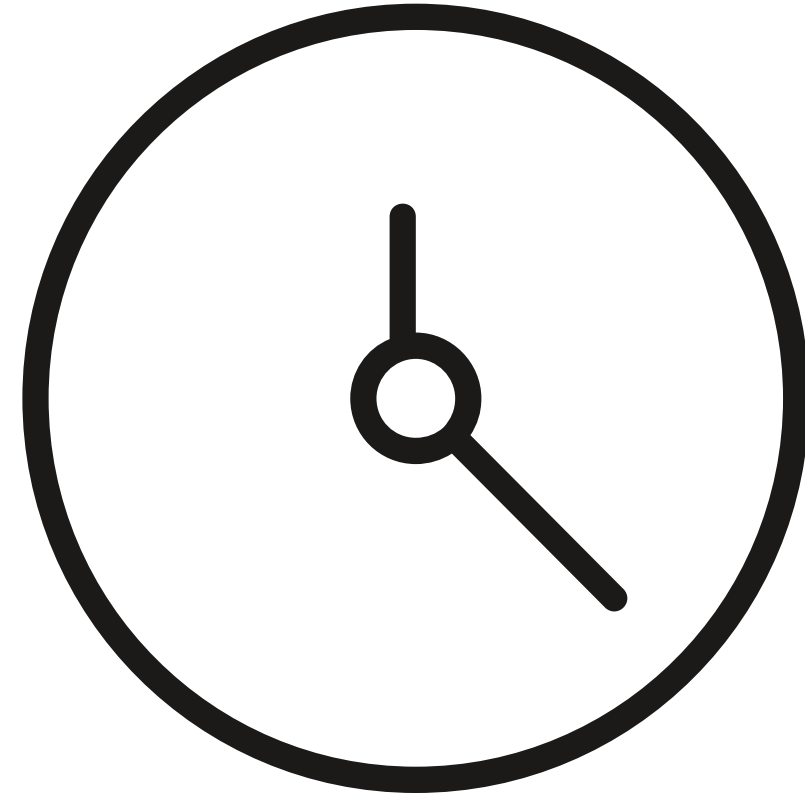
3. Speech Requires Focus



4. Always Provide a Fallback



5. Respect People's Time



## 5. Respect People's Time







EMPLOYEES OF THE MONTH

JANUARY



ETHEL

FEBRUARY



MATT

MARCH



FRANK

APRIL



CAROL

MAY



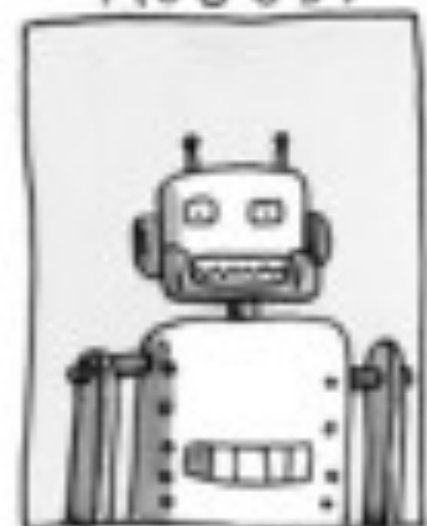
MARJORIE

JULY



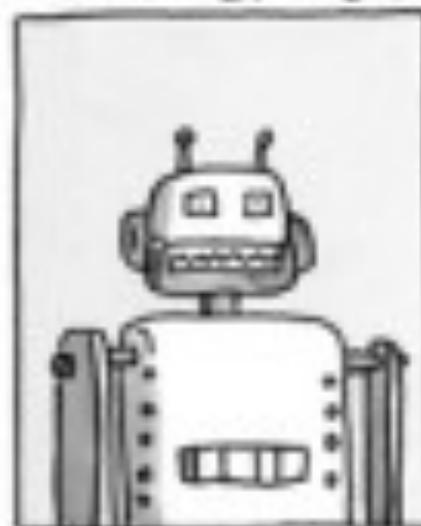
TOM

AUGUST



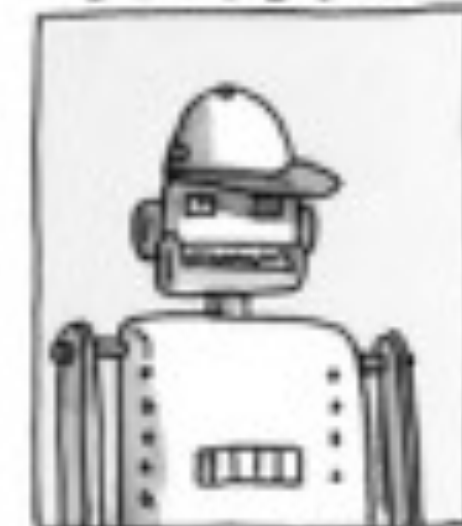
AUTOTRON

SEPTEMBER



AUTOTRON

OCTOBER



AUTOTRON

NOVEMBER

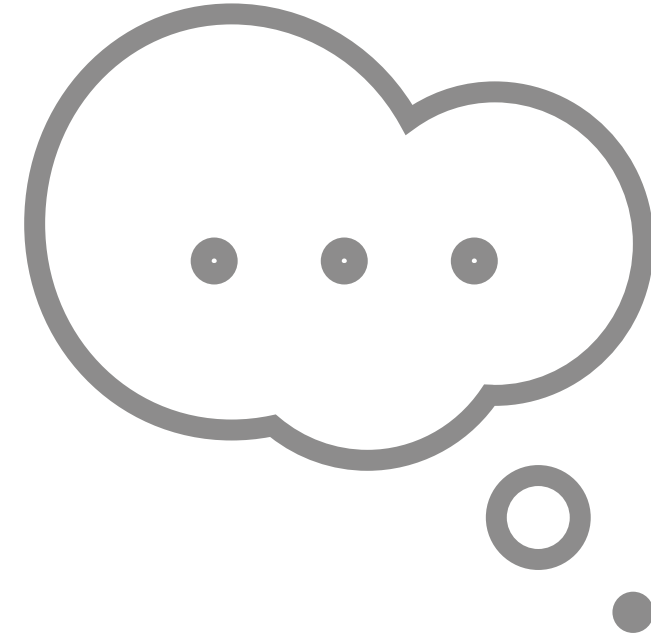


AUTOTRON

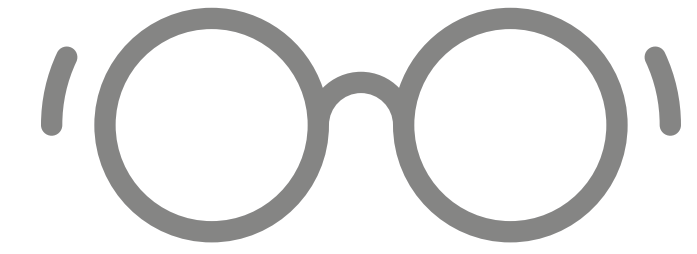
GN  
COLLECTION  
Kanin



1. Prompt-and-Response



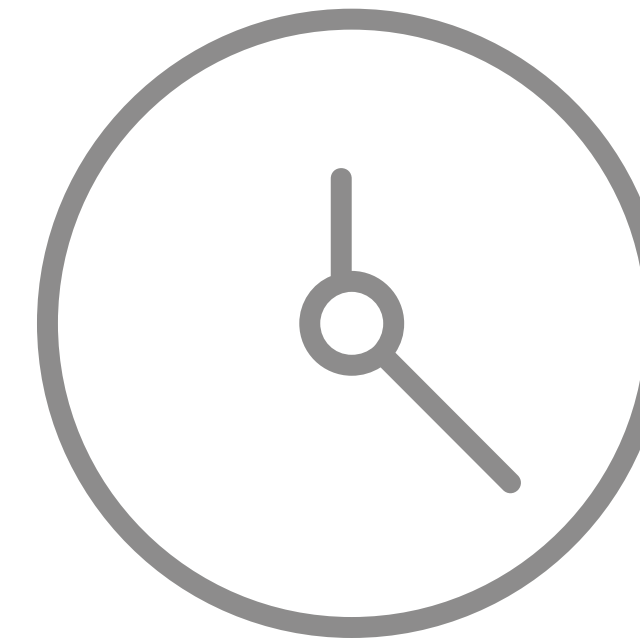
2. Recognition over Recall



3. Speech Requires Focus



4. Always Provide a Fallback



5. Respect People's Time

# Recap

- At the present, we cannot interact with machines like humans
- Designing a conversational UI does not free us from the most substantial problems of user interface design
- Employ the 5 guidelines for conversational UI



Thank you.