

Voice Assistants Failed Us: Can Design Save Them?

Clint Miller





unlimited,
fast delivery

movies and tv
streaming

prime

livraison rapide
et gratuite

prime

films et séries
en streaming

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online

consegne veloci
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Schnelle, kostenlose
Lieferung

Filme und Serien
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entregas rápidas
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BUY AN AMAZON ECHO



USE IT TO SET A TIMER

STORMTRACKER 2HD **WSEVERE WEATHER TEAM 2**

Ashevil
Chattanooga
Blairsville
Gree
Calhoun
Rome
Gainesville
Athens
Atlanta
Carrollton
Eatonton
Macon

Glenn Burns **AMS CERTIFIED** [@GlennBurnsWSB](#)

CHIEF METEOROLOGIST

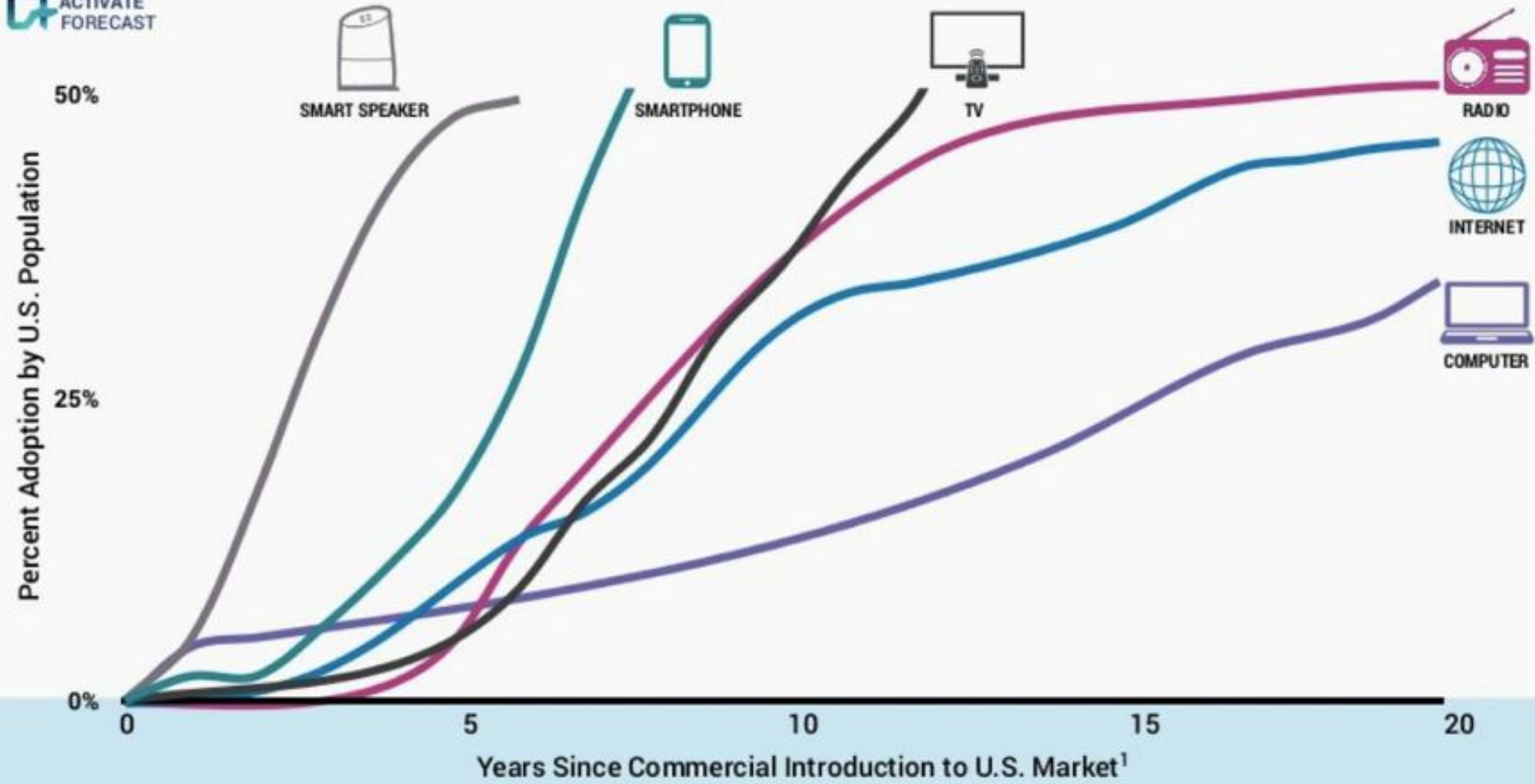
2 [@wsbt](#)

Detailed description: This is a weather forecast graphic for the Atlanta, Georgia area. It features a meteorologist, Glenn Burns, standing in front of a weather map. The map shows the Atlanta region with major highways (Interstates 20, 75, 85, 575) and several cities labeled, including Atlanta, Rome, Gainesville, Athens, and Eatonton. The map displays green and yellow radar echoes, indicating precipitation. The graphic includes a 'STORMTRACKER 2HD' title, a 'WSEVERE WEATHER TEAM 2' logo, and a lower-third banner with the meteorologist's name, title, and social media handles. A large, semi-transparent grey speech bubble is overlaid on the meteorologist's head.



SMART SPEAKER PENETRATION, U.S., YEARS FROM INCEPTION, % POPULATION

ACTIVATE FORECAST



YEARS FROM DEBUT

0 1 2 3 4 5

Mobile

2007

iPhone Debuts

2008

App Stores Debut

2009

Square
Venmo

2011

Uber
Waze

Voice

2014

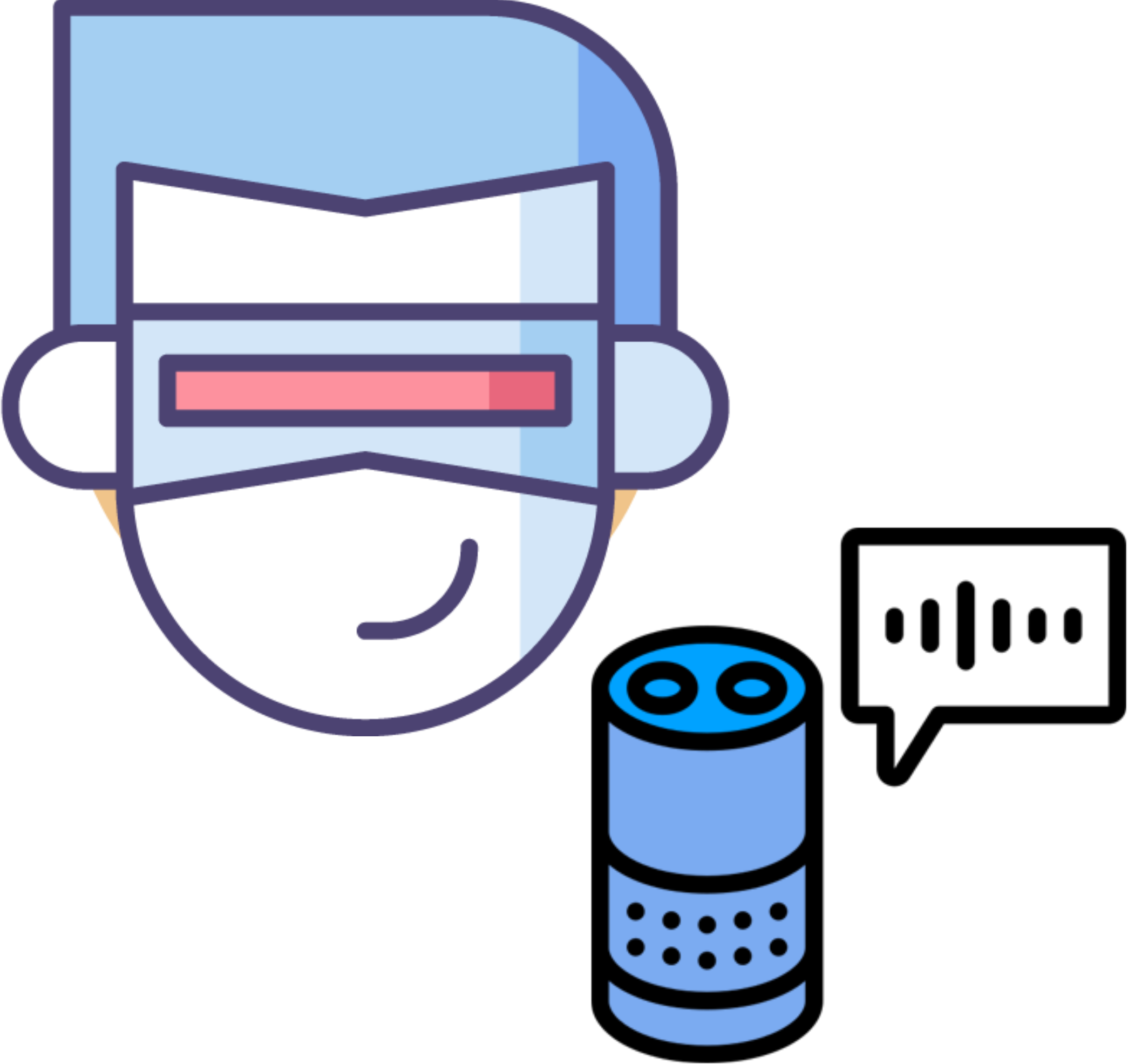
Alexa Debuts

2015

Skill Store Debut

2019

**Early adoption has caused
conversational interfaces to
be written off as a fad.**













About Me

Clint Miller, Lead Designer

Wunderman Thompson Mobile

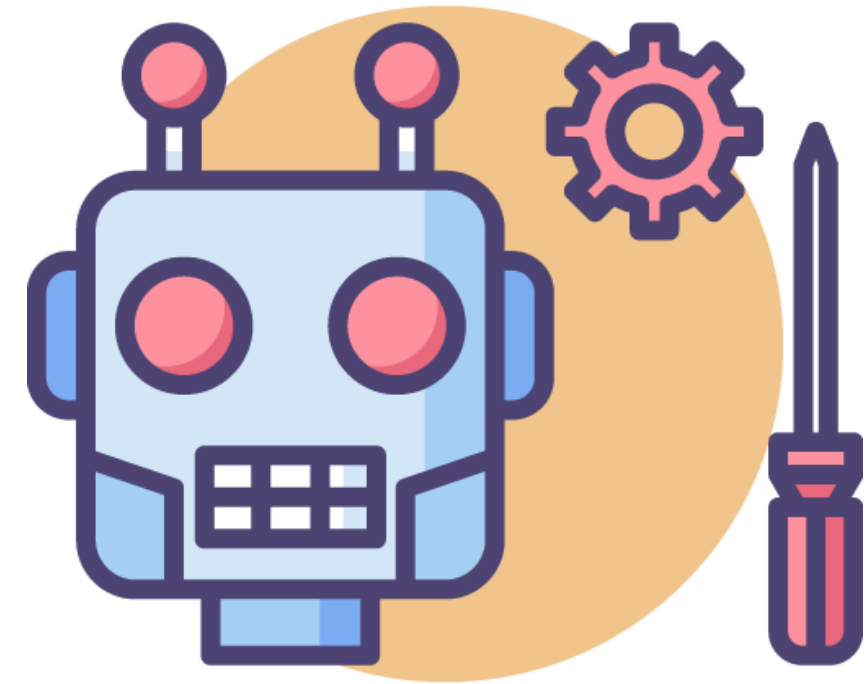
mrclintmiller.com

info@mrclintmiller.com





Voice Assistants Failed Us: Can Design Save Them?

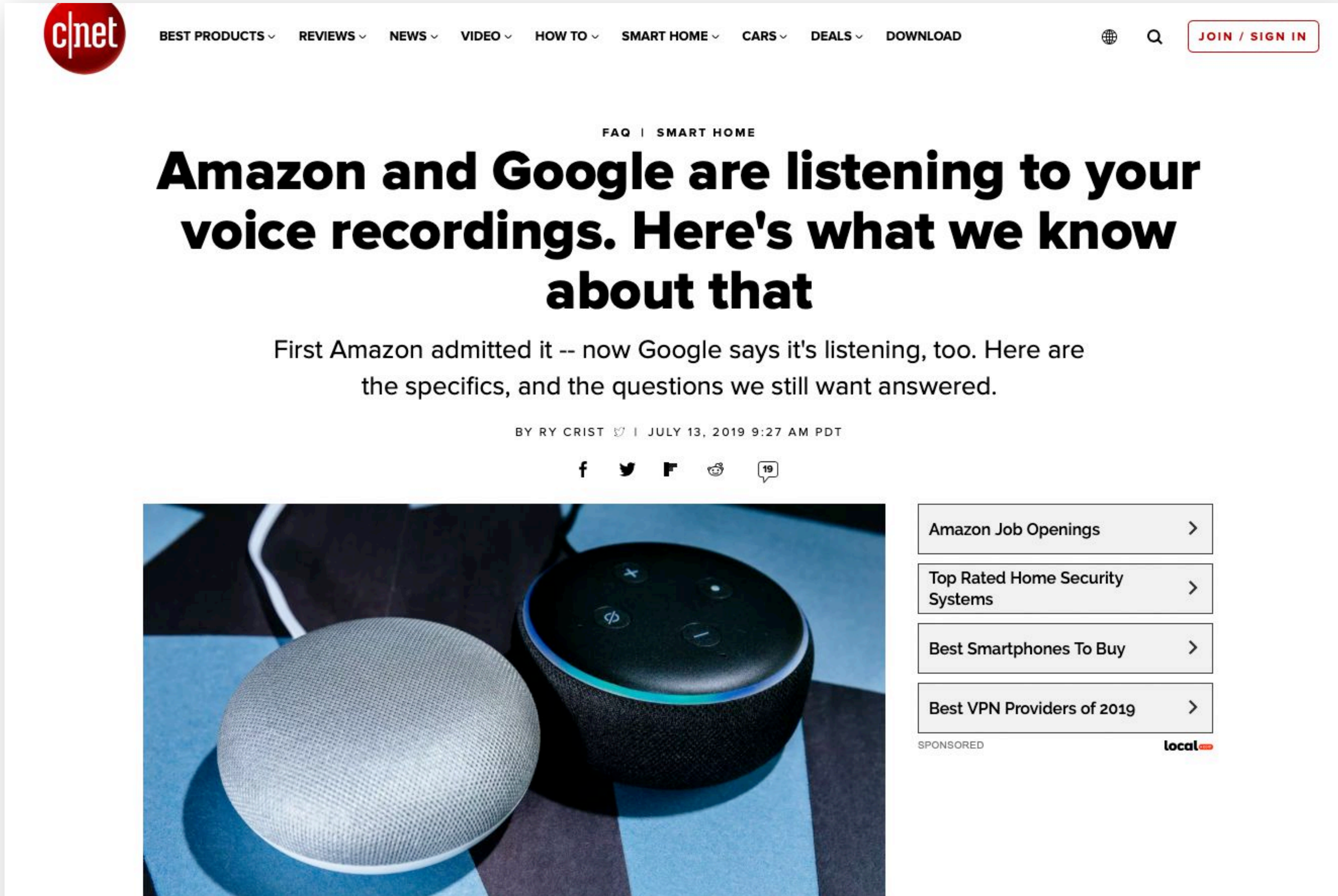


**The assistant that failed
you has been replaced.**

Improvements aren't readily apparent



“These things are spying on me.”



The image shows a screenshot of a CNET website article. At the top left is the CNET logo. The navigation bar includes links for BEST PRODUCTS, REVIEWS, NEWS, VIDEO, HOW TO, SMART HOME, CARS, DEALS, and DOWNLOAD. On the right, there are icons for a globe and search, and a button labeled 'JOIN / SIGN IN'. The article title is 'Amazon and Google are listening to your voice recordings. Here's what we know about that', with a sub-header 'FAQ | SMART HOME'. The lead text reads: 'First Amazon admitted it -- now Google says it's listening, too. Here are the specifics, and the questions we still want answered.' The author is 'BY RY CRIST' and the date is 'JULY 13, 2019 9:27 AM PDT'. Below the text are social media sharing icons for Facebook, Twitter, Facebook, and a comment icon with '19'. A large image shows a white Amazon Echo and a black Google Home smart speaker. To the right of the image is a sponsored sidebar with four items: 'Amazon Job Openings', 'Top Rated Home Security Systems', 'Best Smartphones To Buy', and 'Best VPN Providers of 2019'. The sidebar is labeled 'SPONSORED' and 'local'.

c|net BEST PRODUCTS ▾ REVIEWS ▾ NEWS ▾ VIDEO ▾ HOW TO ▾ SMART HOME ▾ CARS ▾ DEALS ▾ DOWNLOAD

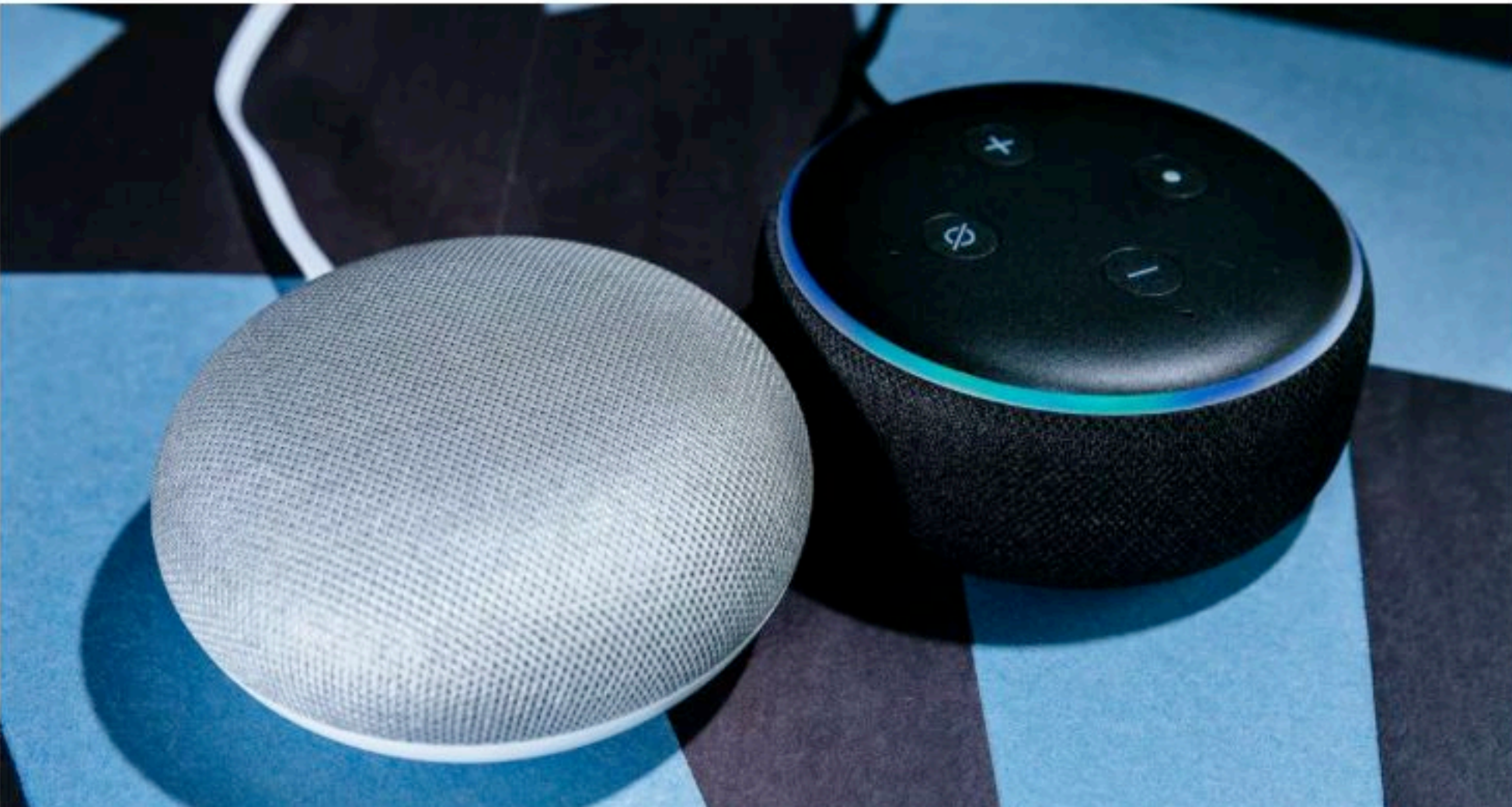
FAQ | SMART HOME

Amazon and Google are listening to your voice recordings. Here's what we know about that

First Amazon admitted it -- now Google says it's listening, too. Here are the specifics, and the questions we still want answered.

BY RY CRIST | JULY 13, 2019 9:27 AM PDT

f t F 19



Amazon Job Openings >

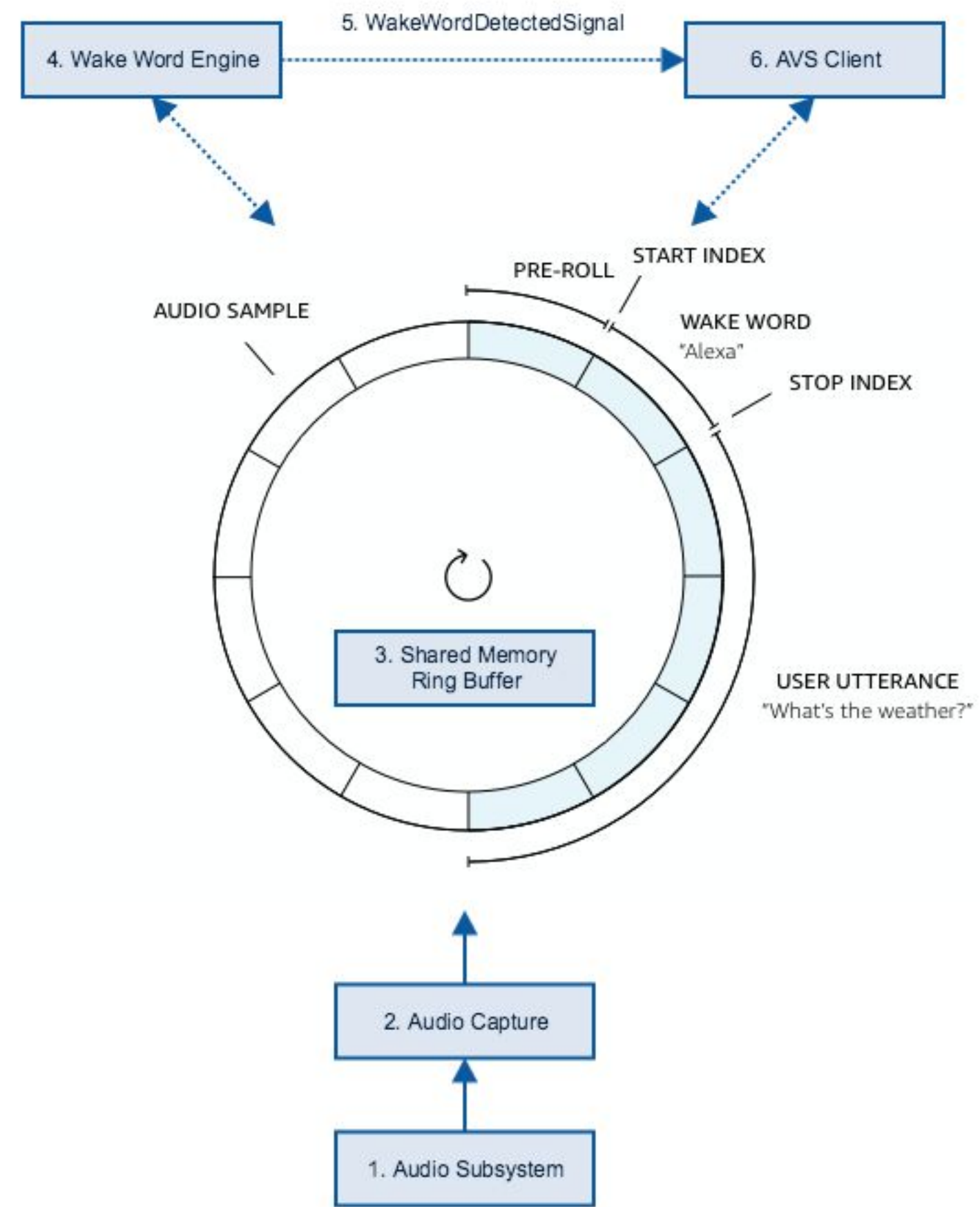
Top Rated Home Security Systems >

Best Smartphones To Buy >

Best VPN Providers of 2019 >

SPONSORED local

Any sufficiently advanced technology is indistinguishable from magic.



What are they doing to fix this?

The screenshot shows the Google My Activity interface for Voice & Audio Activity. On the left is a navigation sidebar with options: Bundle view, Item view (selected), Delete activity by, Other Google activity, Activity controls, Google Account, Help, and Send Feedback. The main content area features a header with a smart speaker and smartphone icon, followed by the title 'Voice & Audio Activity'. Below the title is an explanatory paragraph about how voice activity is used for personalization, a link to delete data or change settings, and a 'Change setting' button. A privacy notice states that only the user can see this data. At the bottom, a date separator for 'September 19' is shown, followed by an activity entry from the Assistant: 'Said set a timer for 5 minutes' at 8:13 AM, with a 'Play' button.

Google My Activity

Bundle view

Item view

Delete activity by

Other Google activity

Activity controls

Google Account

Help

Send Feedback

Voice & Audio Activity

Your Voice & Audio Activity helps Google give you more personalized experiences across Google services. For example, Google can better understand what you say when you speak to your Assistant.

You can delete some or all of this data or change this setting. [Learn more](#)

[Change setting](#)

Only you can see this data. Google protects your privacy and security. [Learn more](#)

September 19

Assistant

Said [set a timer for 5 minutes](#)

8:13 AM • Details

Play

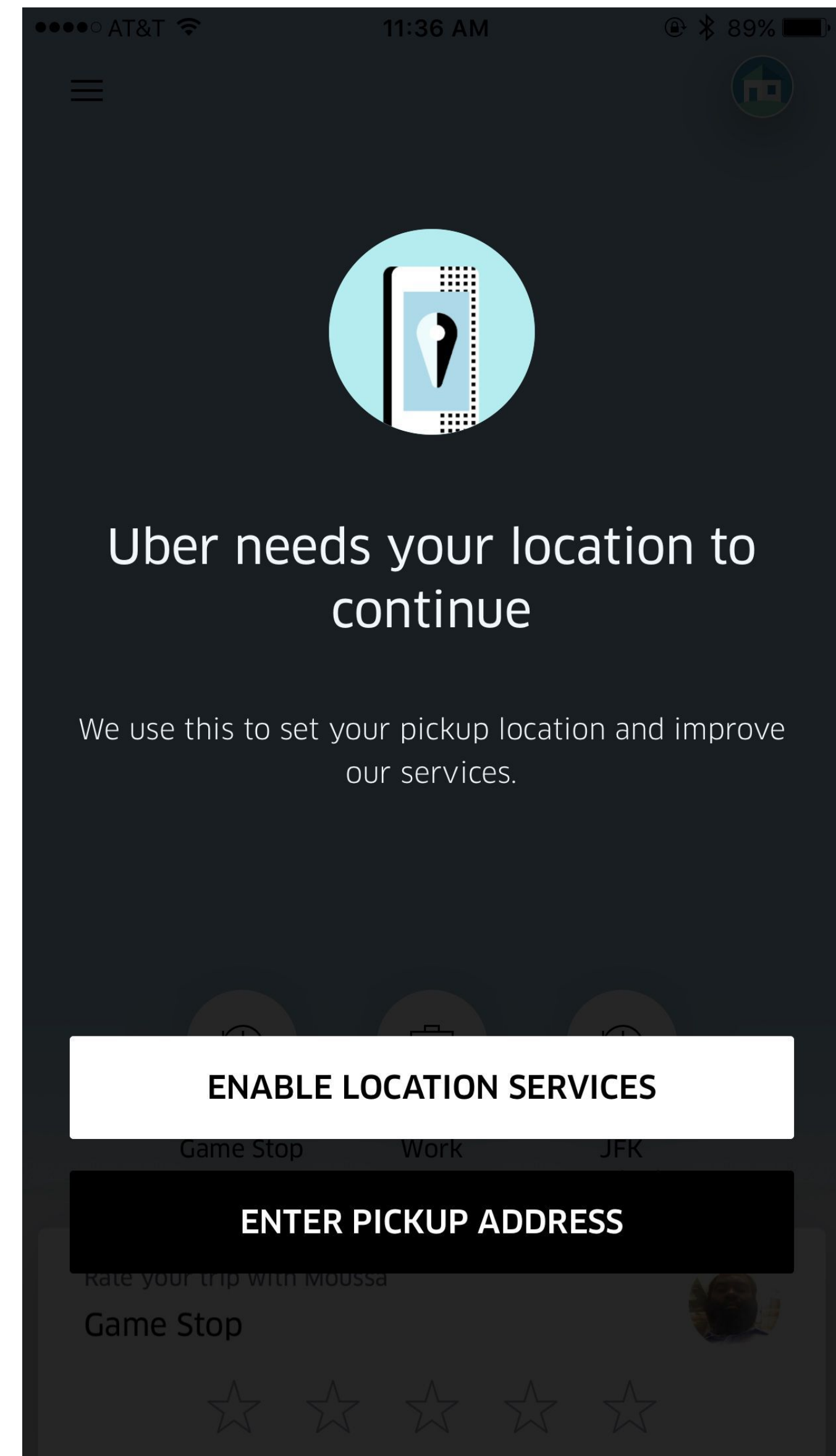
Privacy • Terms

What can you do?



**We need transparency over what is
shared and what isn't!**

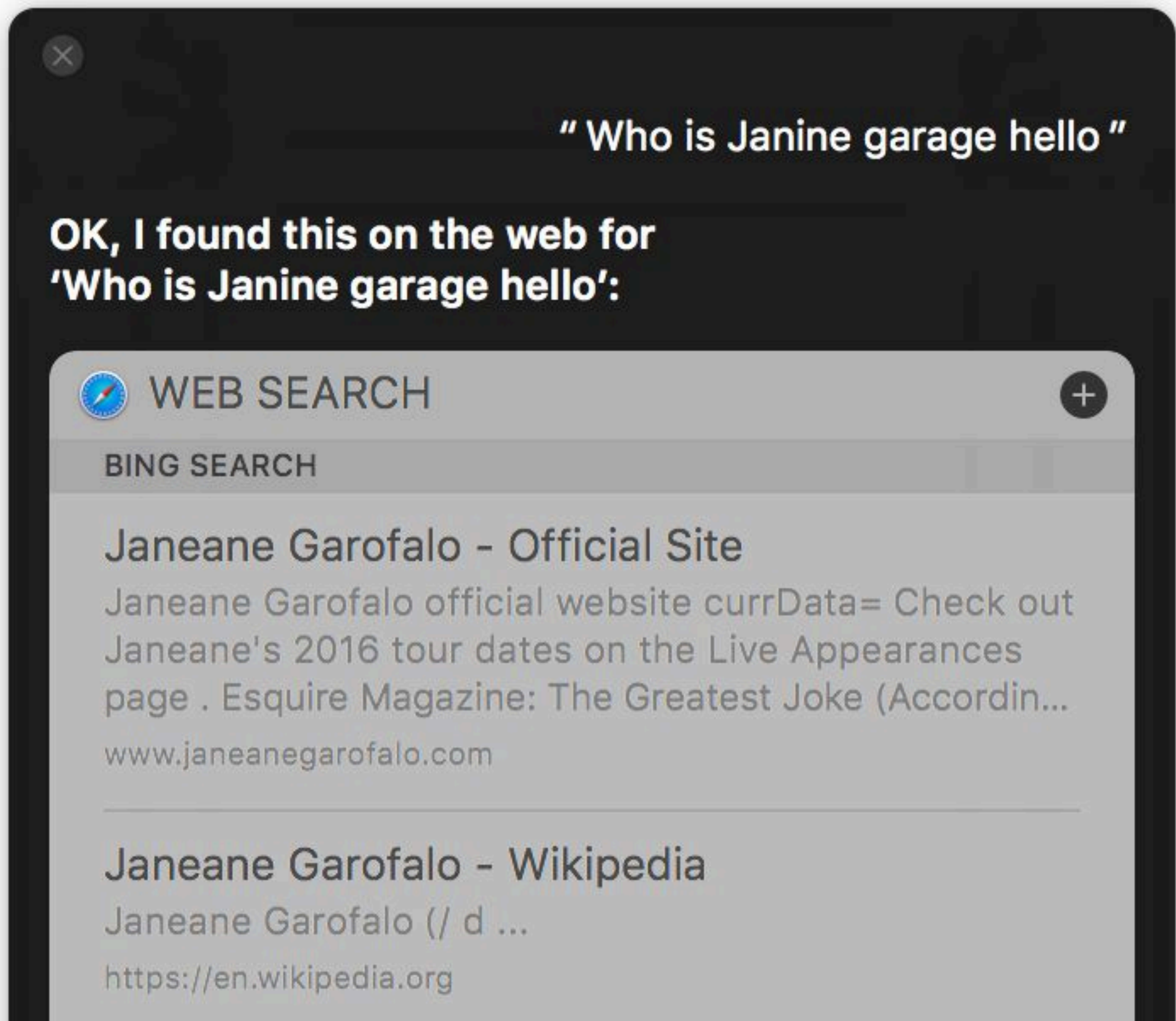
**Because we want
them to have as
much relevant data
as possible.**



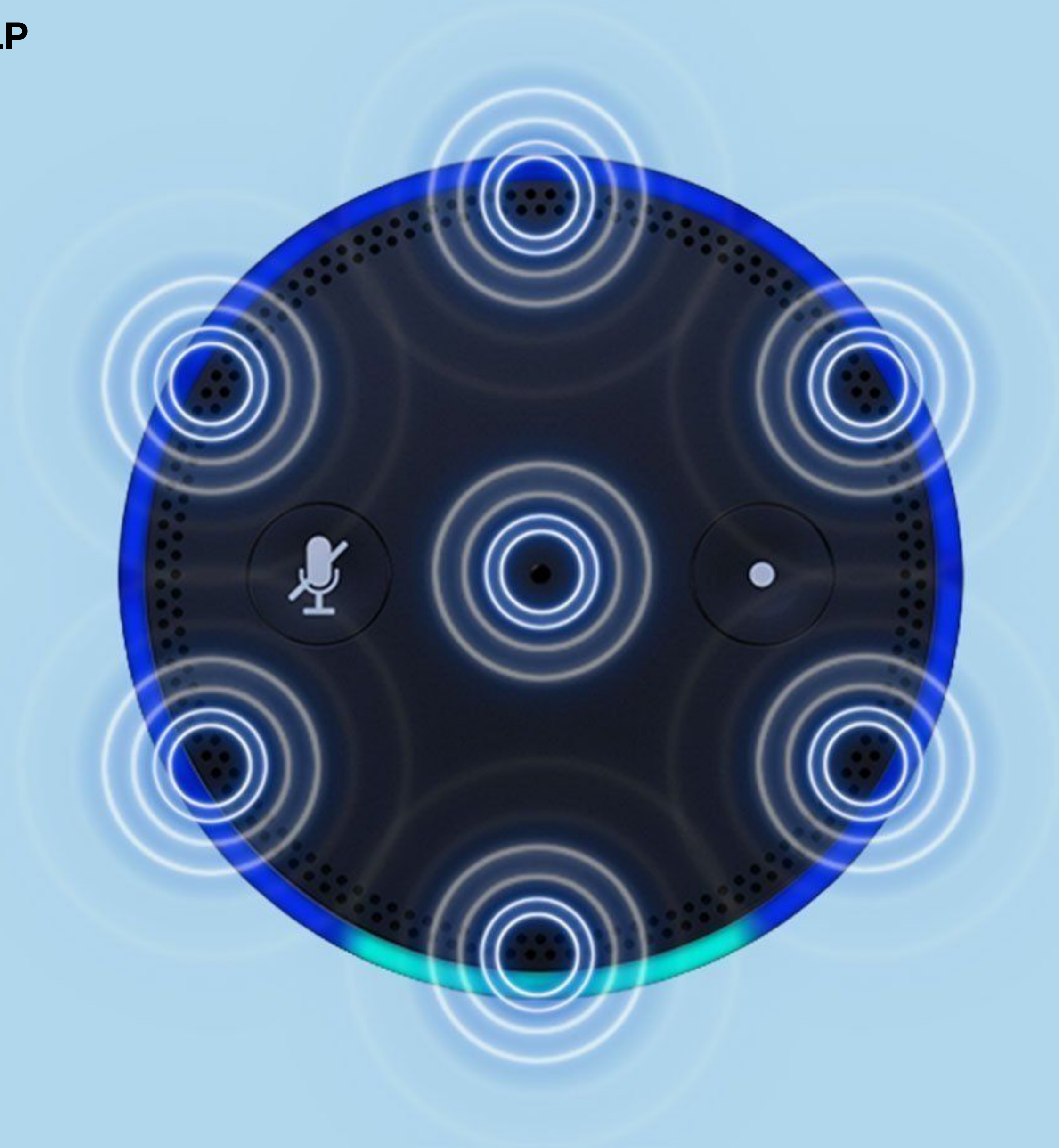
**“I have to talk to it like I’m
doing a google search.”**

“Alexa, Weather!”

“She doesn’t understand what I’m saying.”



Other Advances in NLP



**Everyone's voice should be
understood.**

“Nobody uses 3rd party functionality.”

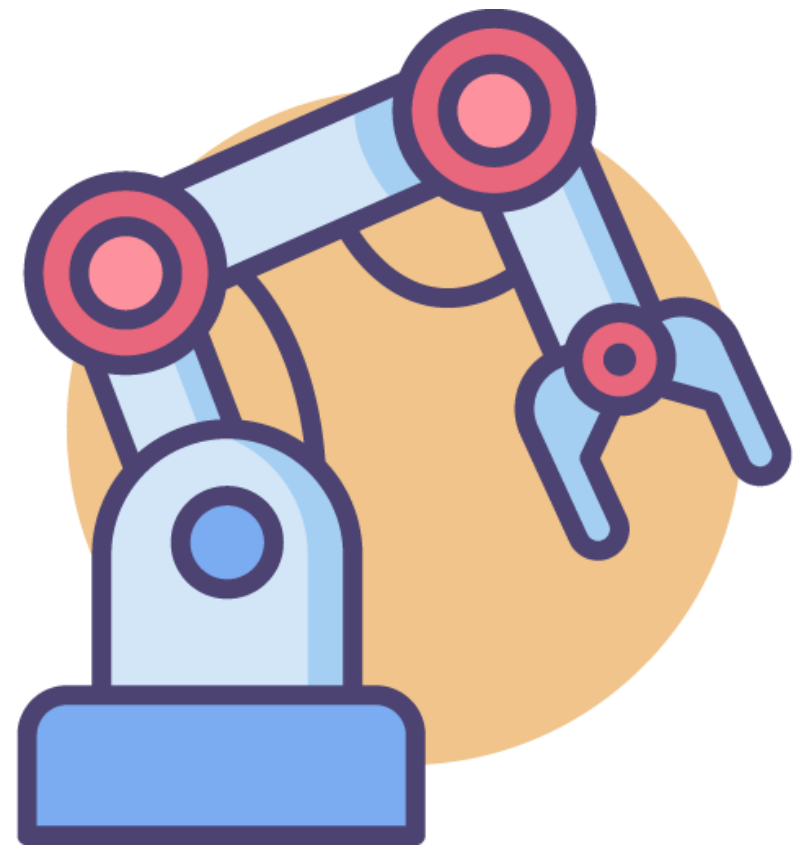
**“Alexa ask Big Sky what
the weather is?”**

“Nobody uses 3rd party functionality.”



**“Alexa ask ~~Bing~~ what
the weather is?”**

Voice Assistants Failed Us: Can Design Save Them?



**What would you say...you
do here?**

WHAT WOULD YOU SAY



YOU DO HERE?

Heads up



My eyes are up here.



Succinct Personalized Content



“Good Morning Clint, the weather is a bit rainy this evening at Lakewood Amphitheater. It looks like it’s about 50 bucks to upgrade your Radiohead tickets from lawn to covered seating. Would you like to do that?”

Average

45 WPM



Average

40 WPM



Average

135 WPM





Skill Permissions



Headspace: Guided Meditation for
Everybody

Emotion Detection



Allow this skill to access this device's emotion detection score which is based off your voice's pitch, timbre and speed during interactions with Alexa.

[Learn More](#)

SAVE PERMISSIONS

7:42 AM Monday Frustration 92/100

**“Damn it Alexa, that’s
not what I wanted”**

11:06 AM Monday Frustration 65/100

**“Can you PLEASE play
the new Lizzo track?”**



9:06 AM Tuesday

Alexa, Open Headspace.

Users Frustration Average > 75

**“Good Morning Celia. Would like to try
a new Acceptance meditation?”**

Hey, Mike.
Can you make
this really
hot?

SURE.

Gaah, gooh
gaah!!

Diana, are these
dishes clean or
dirty?

Tony, please
open your lid.

MY CURRENT LOAD IS AS
YET UNWASHED.

NICE
SHOT!

FRANK
MK I

Mike RoWave

COOKIN'
COLIN

DIANA
DISH QUEEN

TONY 1

Frank, do you
contain any
chocolate milk?

Woof!
woof?!
woof??

PLEASE
REPEAT
THAT...

SORRY. THERE IS
NO CHOCOLATE
MILK. HOW ABOUT
A GLASS OF ALMOND
MILK INSTEAD?

SORRY, I DO
NOT UNDERSTAND.

VALO.1



Voice Assistants Failed Us: Can Design Save Them?



D.R.E.A.M
Design Rules Everything
Around Me



Method Man

**What's our
method?**

Intent

Daily Weather Intent

Utterances/
Training
Phrases

Ok Google, What's the
temperature **<today>**?

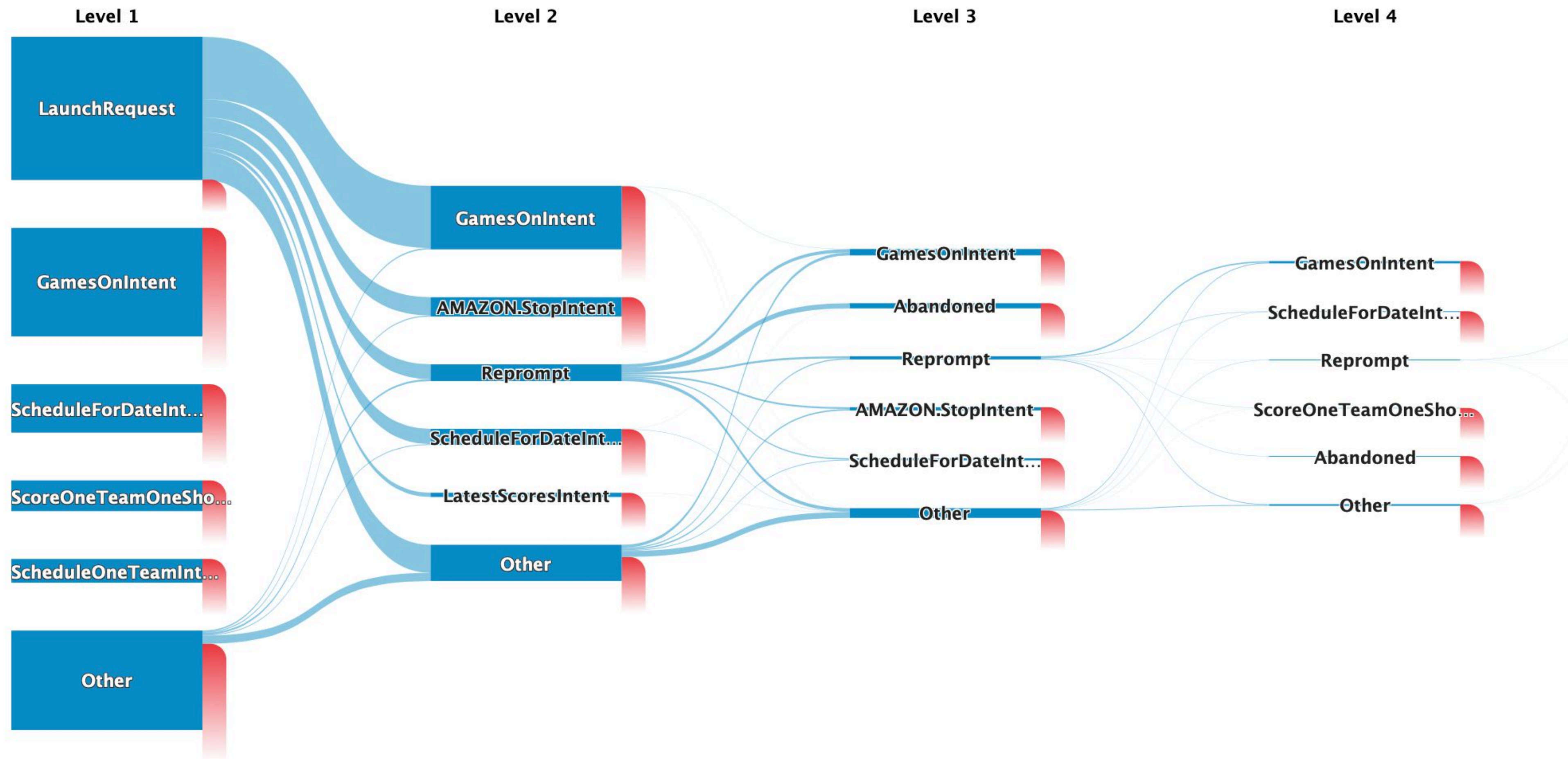
Ok Google, Tell me the weather
<tomorrow>.

Ok Google, What's it like outside
<Wednesday>?

- Wake Word

- Slot

Interaction Path Analysis ?



SSML

For instance, when speaking with others

```
<break strength="x-strong">
```

a dramatic pause conveys emotion.

```
<prosody rate="fast">
```

When I'm excited, I tend to speak very fast.

```
</prosody>
```

Advanced Sound Design Techniques

Ok Google, Open Big Sky.”

Lightning Strikes & Rain Sound effects

Welcome to Big Sky...

Conversation Variance

Sample Response Combinations

- 1 Female Zombie + I'm worried we can't stop 5 of them + I'm scared
 - 2 Zombie Hiss + Oh God, there's 5 of them in here. + I'm not sure we will make it out alive
 - 3 Aggressive Zombie + We've got 5 of those creeps after us + (No Flavor Text)
- And 33 other possible combinations.

● Sound Effects ● Transactional ● Flavor

UNDEAD DESTRUCTION



Flowcharts vs. Situational Design

Topic

EXAMPLE UTTERANCE

-enter what the user says to receive this response-

SITUATION

-enter details about the context of the situation-

CHANGES

-describe any changes to the context

RESPONSE

-enter the prompt in the response that drives the conversation forward-

PROMPT

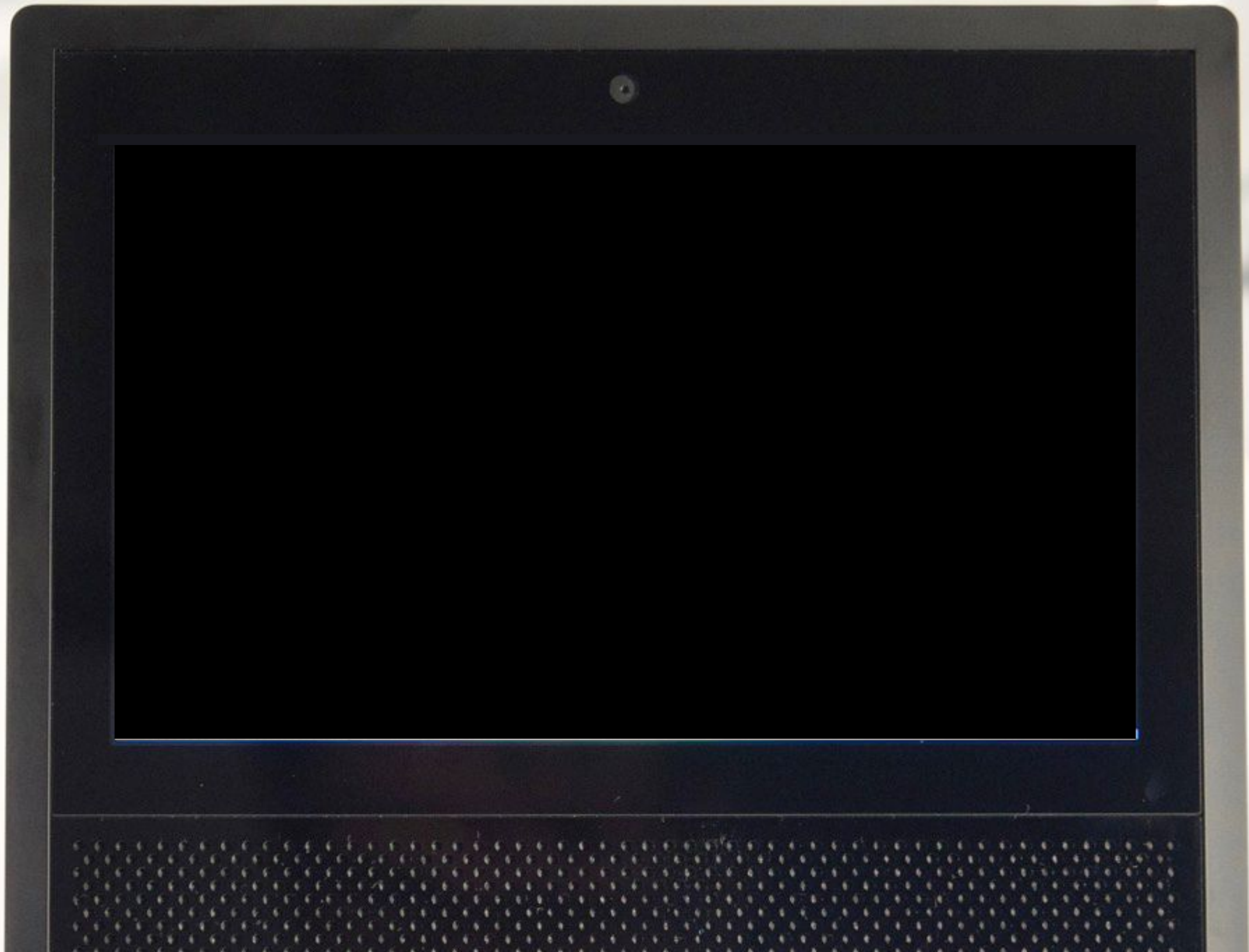
-enter the prompt in the response that drives the conversation forward-

REQUEST NOTES

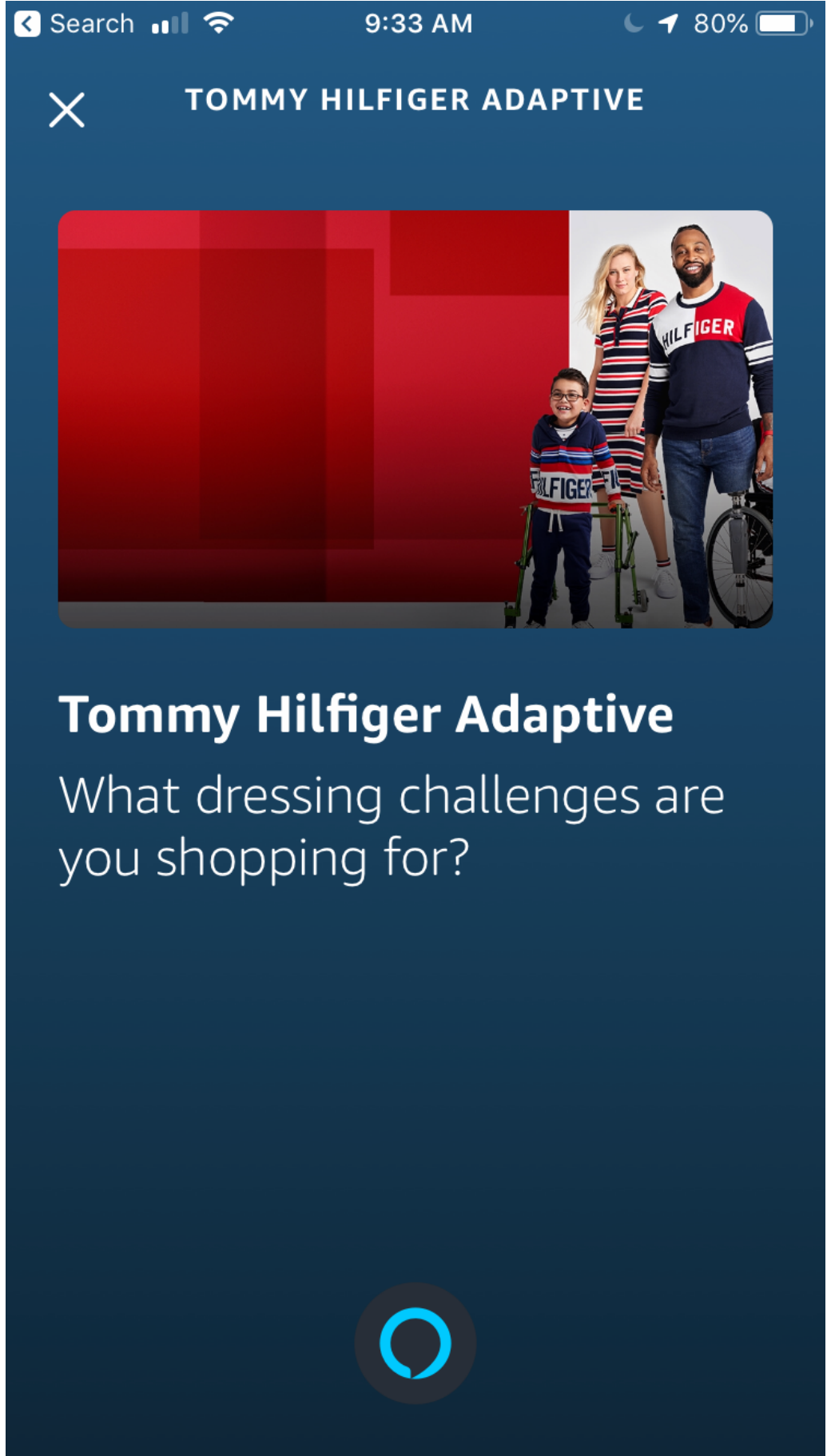
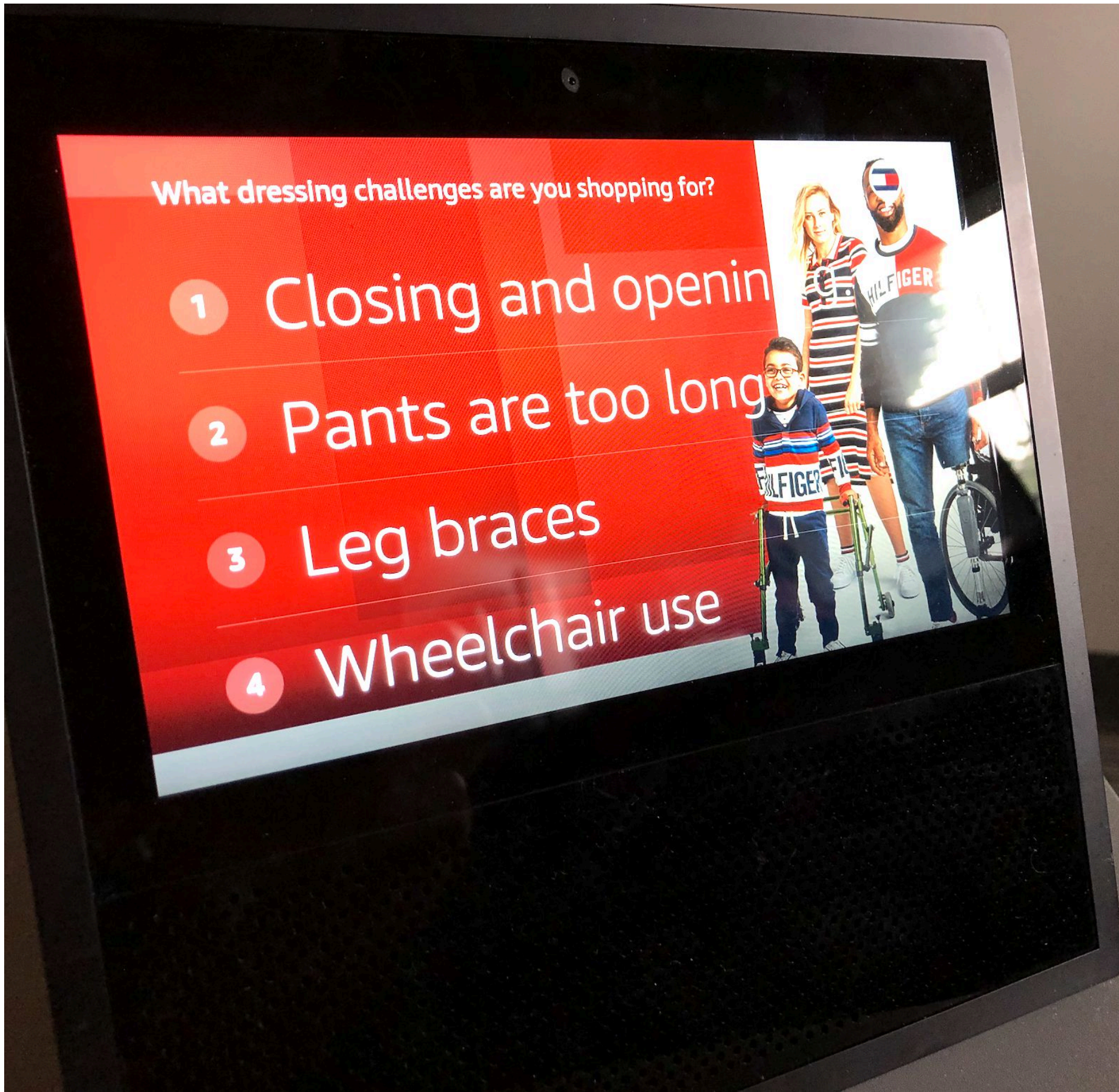
- What request type is it
- Intent, slots, etc are used
- What logic is used to determine the situation
- If you're using the SDK, this card represents a handler and the top half of the card is a canHandle.

RESPONSE NOTES

- -enter how to respond to the user's utterance, with placeholders for any dynamic slot values and required SSML
- enter the prompt in the response that drives the conversation forward, with placeholders for any dynamic slot values and required SSML-
- If you're using the SDK, this top half of the card is the handle.



Multi-modal



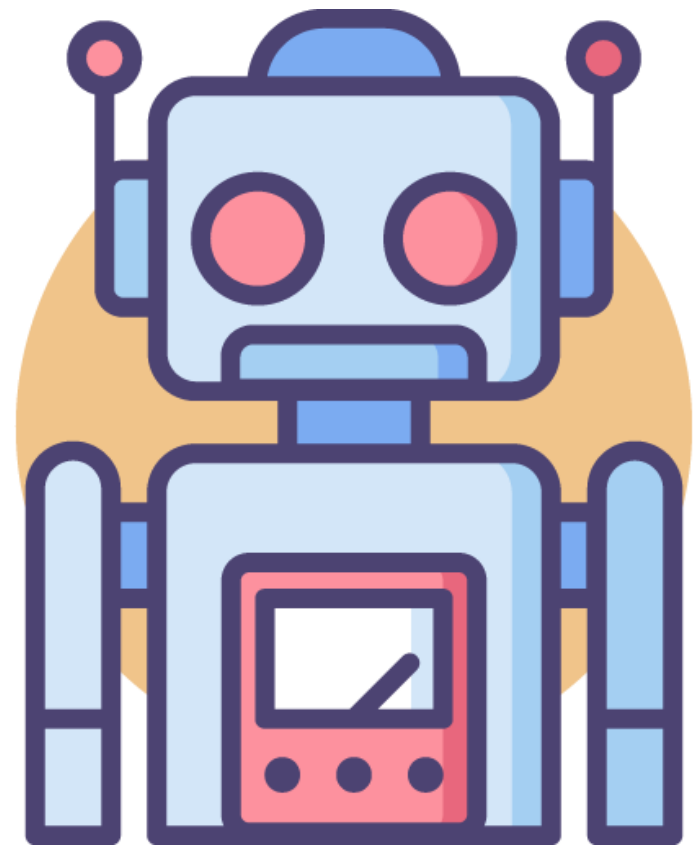


“Good design is as little design as possible.”

Less, but better – because it concentrates on the essential aspects, and the products are not burdened with non-essentials. Back to purity, back to simplicity.

Dieter Rams

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Welcome to the Future



Plain text SSML ⓘ

Hi! My name is Joanna. I will read any text you type here.

Show default text Clear text

58 characters used

Engine ⓘ

- Standard
- Neural

Language and Region

English, US

Voice

- Salli, Female
- Joanna, Female
- Ivy, Female
- Kendra, Female
- Kimberly, Female
- Matthew, Male
- Justin, Male
- Joey, Male

▶ Listen to speech

Download MP3

Sample rate: 22050Hz

Change file format

Synthesize to S3

Change S3 task settings







Conversation Design









See you
next time!
K.I.T.
Clint

Thank you!

Questions?

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