

AI/UX

Designing applications for
voice interface platforms

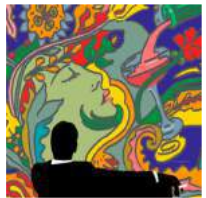
Philip Man, 2018.03.21





How are they able to have a conversation?
How did her designer create that?

Hello!



Currently a **product manager** at Starbucks Digital Ventures.

Before that product manager at smaller internet companies and startups.

Occasional **film maker**, written and directed some short films and documentaries.

Born and raised in the Netherlands.

Voice is the next evolution in design

The **voice interface** is the biggest revolution for UX and UI designers since the birth of the graphical user interface.



The Voice User Interface

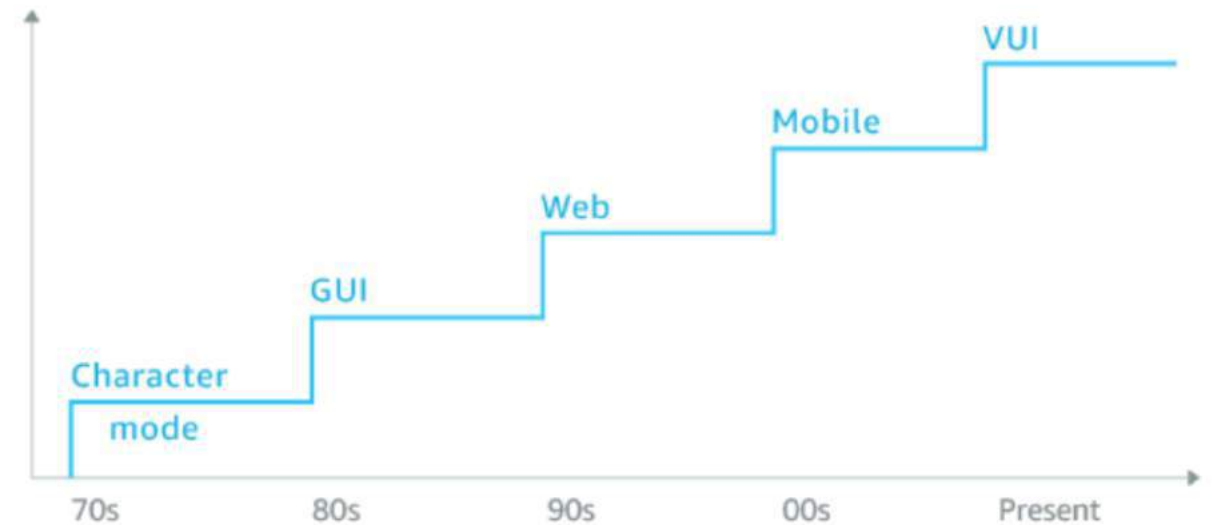
Speech is the most natural form of interaction

Write command lines

Point with a mouse!

Pinch with your fingers!

Command with your voice!



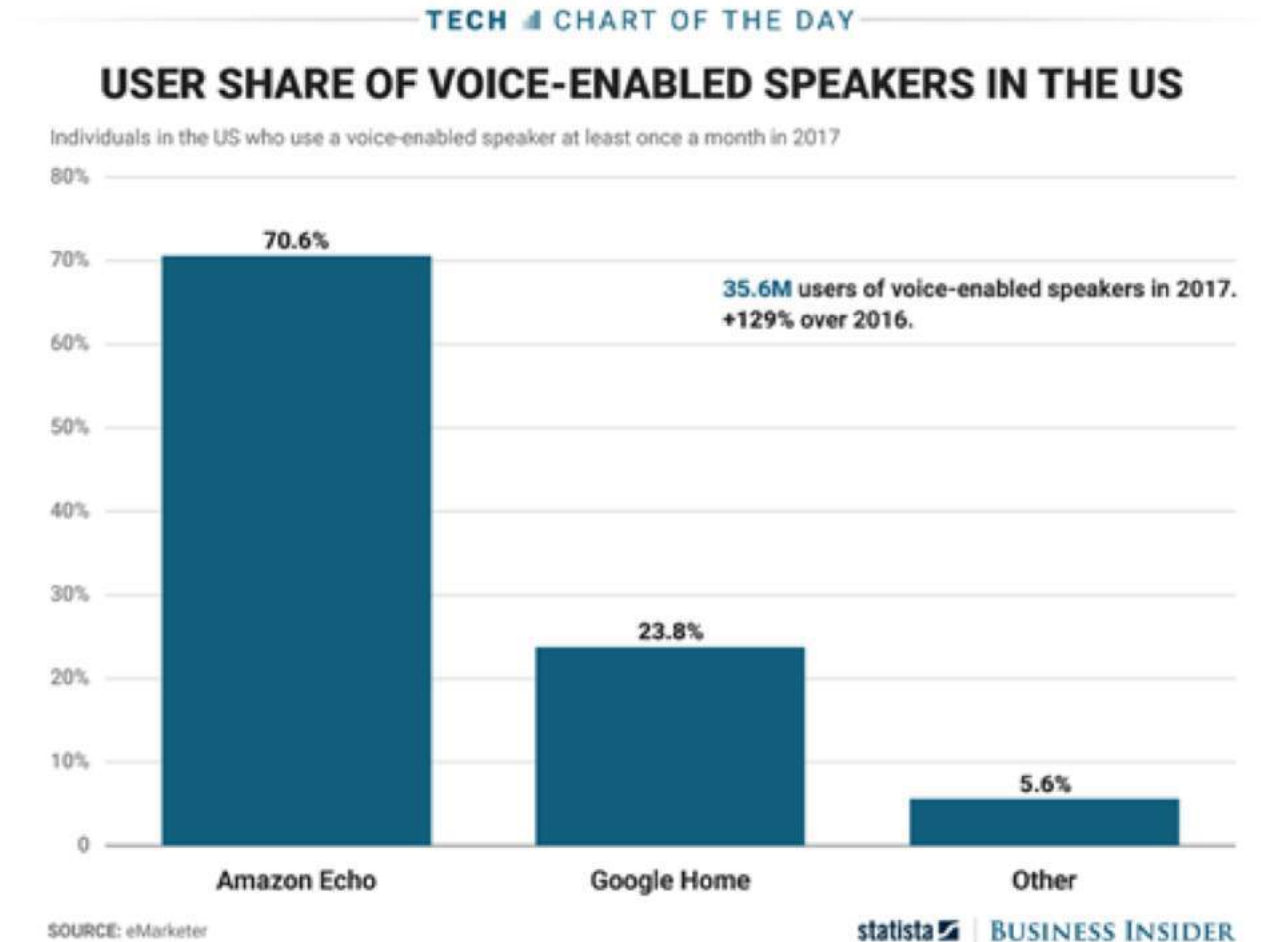
Voice is on the rise

35 million users of voice-enabled speakers in 2017

(+129% over 2016)

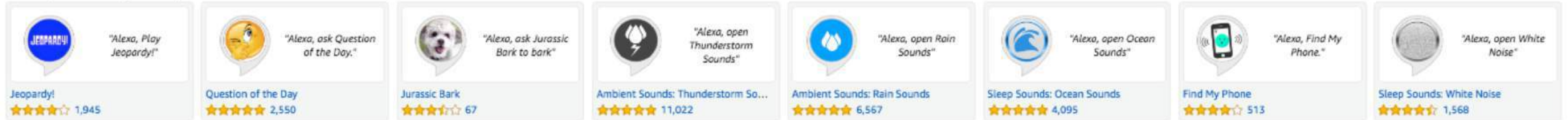
55 million households will have a smart home device by 2020.

Devices will be up to 175 million

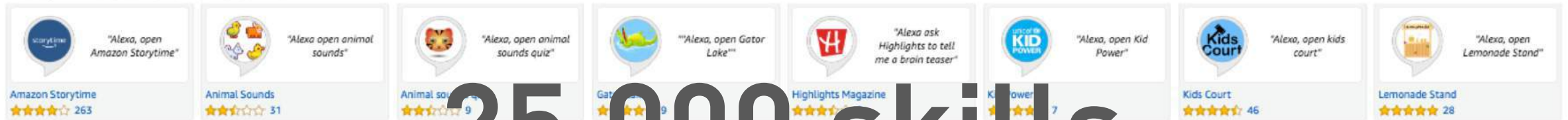


Building applications for voice

"Alexa, what are your top skills?"



"Alexa, what are some fun skills for kids?"



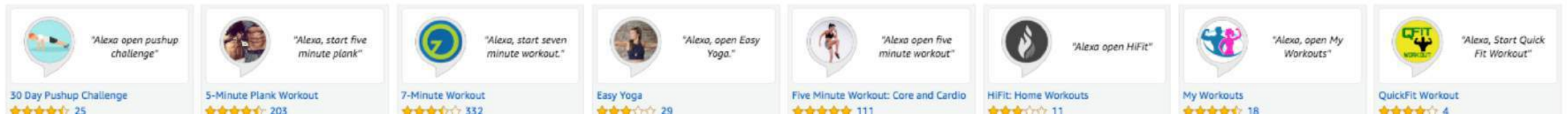
"Alexa, what are your games skills?"



"Alexa, what are your latest skills?"



"Alexa, help me workout."



25,000 skills
40million devices
for Alexa

The VX design process

Thinking through the design of a voice experience

- **Purpose and user stories**
- **Write scripts**
 - Create a personality
 - Develop the flow
- **Get ready to build**
 - Identity intents
 - Identity utterances

Machine learning is at the heart of voice applications

ASR

Automatic Speech Recognition

Transcribe speech into text



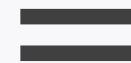
"Black Car"

NLU

Natural Language Understanding

Extract meaning from the text

"Black Car"



TTS

Text to Speech

Transform text to natural speech

"Audi A8"



From screen to speech...

Product design for screens



..the words become your UI

Product design for voice

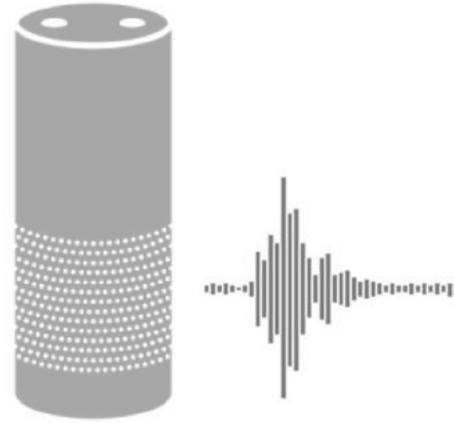


Design for utterances and intent



Screen

Click to subscribe



Speech

Subscribe me to the email news letter

Sign me up for the news letter

I want updates from this blog

I want to subscribe to this service

Building the right product

Purpose

Use case: what tasks are easier to complete? What things are more fun?

Eyes and hands free

Context: where is the user? Create for when eyes and hands are occupied.

Home device

It's not a personal device anymore, it's a **family and home** device.

Personal

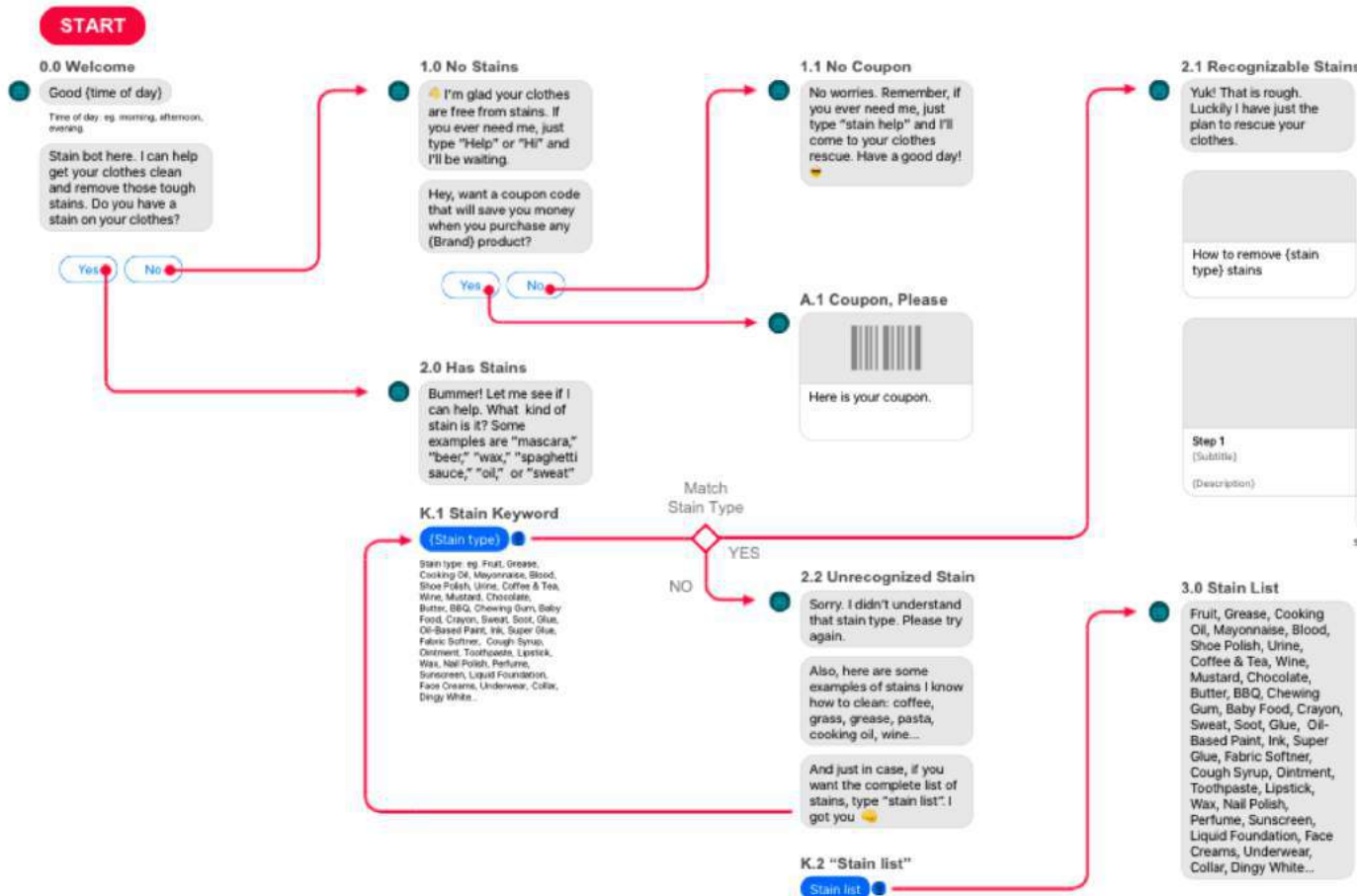
You're a person now: **learn** about the user from each conversation

Proactive

You're an assistant: design a **proactive** experience instead of reactive

Create the conversation flow

Write a script and possible flows. Consider them your **conversation wireframes**.



Just start writing in notepad!

DAN
Hi, I'm Dan.

DEREK
Pleasure to meet ya, Dan.

DAN
So, how was your flight?

DEREK
I rode.

Break down the speech

What is the user trying to do? Design for variations.



Utterances



Intent



Identify slots

Basically field inputs and checkboxes

Example of slots in the following utterances:

- "I'd like to go to **{toCity}**"
- "Help me book a trip for **{travelDate}**"
- "Plan a vacation to **{toCity}**"

AnswerIntent

Sample Utterances (5) ?

What might a user say to invoke this intent?

"a {AnimalAnswer}"

"that's a {AnimalAnswer}"

"the {AnimalAnswer}"

"an {AnimalAnswer}"

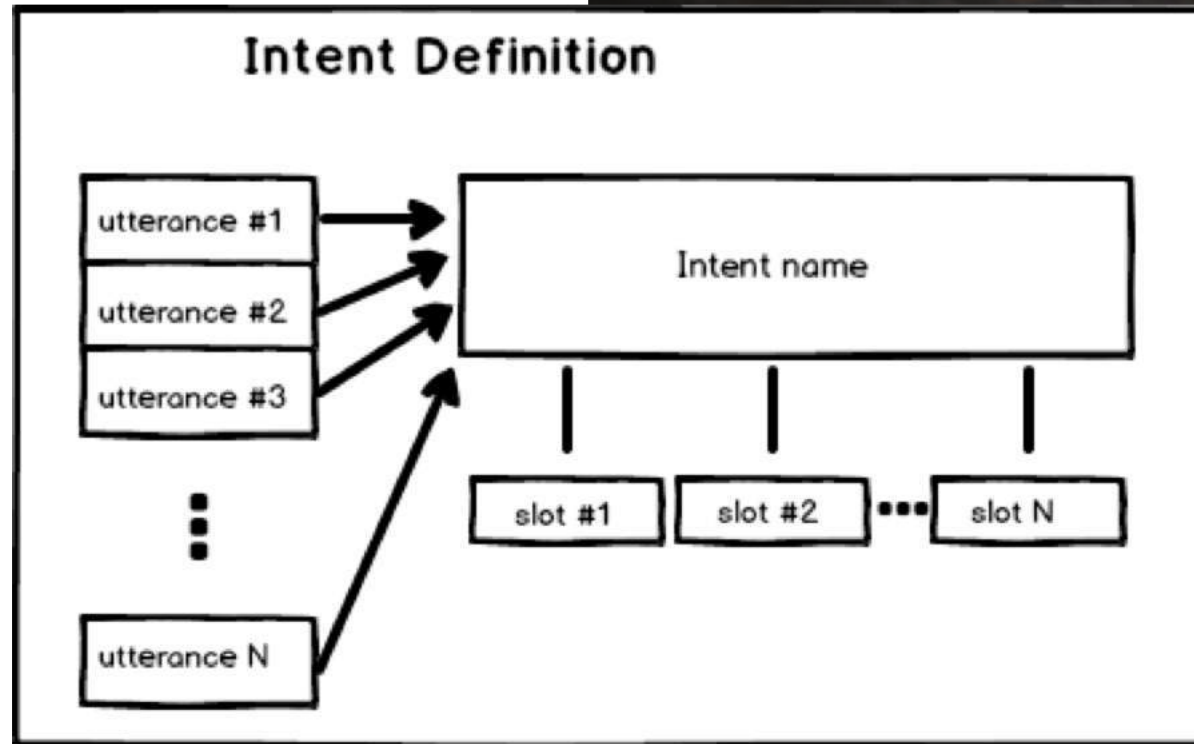
"the answer is {AnimalAnswer}"

Your app is a collection of intents



Cooking Skill Intents

- GetRecipe
- OrderIngredients
- ShareDinnerRequest
- StartRecipe
- SetAlarmClock
- PreheatOven
- PlayDinnerMusic



The output

goes in here



VI: Voice Identity

The meta information from the voice

Who's talking?

Gender, age, accent, tone, pace, etc.

Personality:

What does this person answer?

Is the person optimistic or pessimistic?

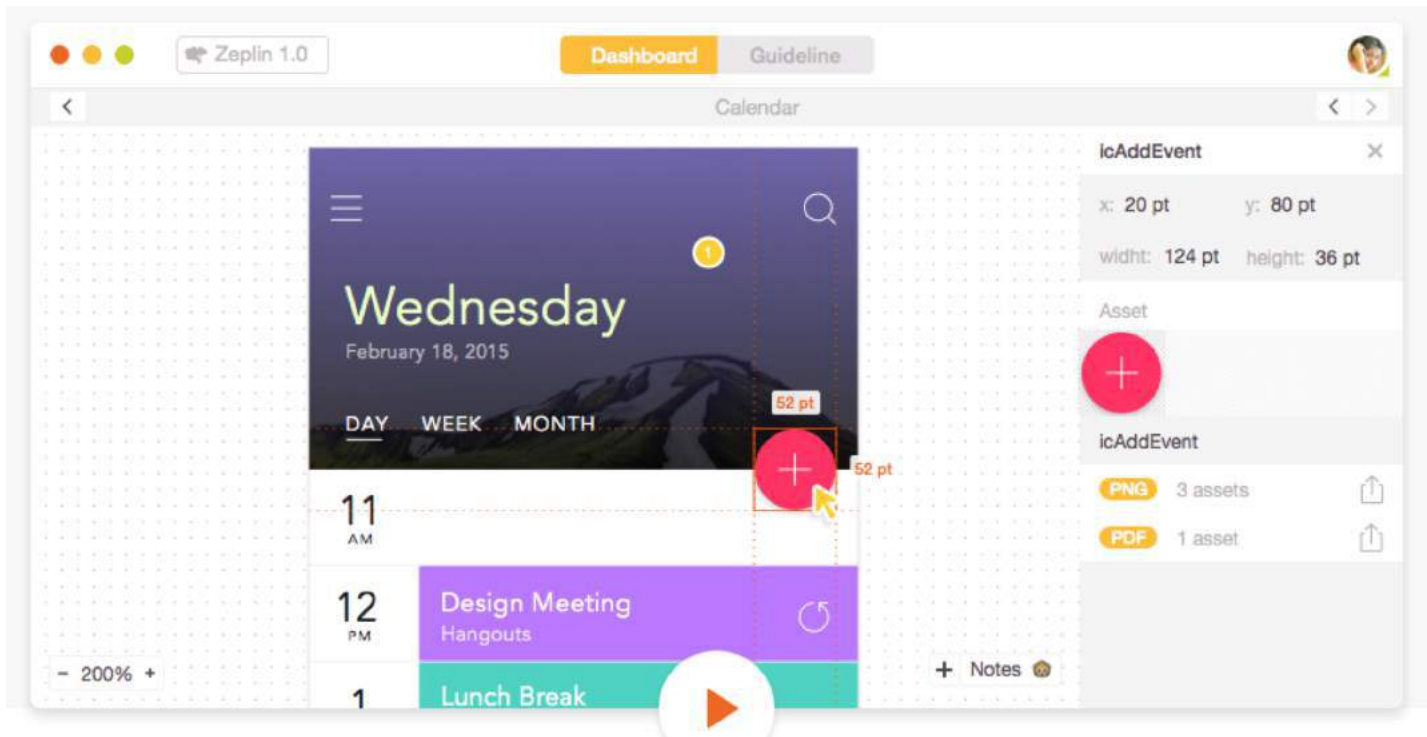
Emotion:

In what state is this person during the interaction? Happy? Disappointed? Surprised?



Pushing words and sounds

Be as demanding about words and sounds as you are about being pixel perfect.



"Sorry, you don't have enough money"

"Sorry, it seems like there's not enough money"



Help the user with speech navigation patterns



Timeline markers

"First"
"Then"
"Finally"

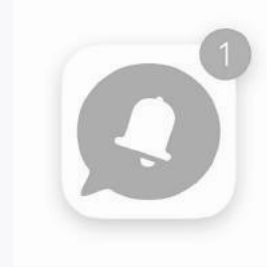
*Help set expectations
about duration and
next steps*



Acknowledgements

"Got it"
"Thanks"
"Okay"

*Feedback to show it's
understood and
confirmed*



Pointers

"This"
"That"
"Here is"

*Help identify subjects
previously mentioned
and referenced*



Transitions

"Now"
"So"
"Next"

*Help introduce
change when moving
to different topic*

Use parallel language

DON'T

"I can help you get a ride, tipping your driver, receipts for your last ride, or surge check."

DO

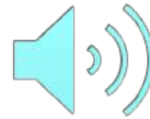
"I can help you get a ride, tip your driver, check your surge pricing, or get a copy of a receipt."

Speech synthesis markup language (SSML)

The HTML for speech

```
<speaK> I already told you, <emphasis level="strong">the UX/UI event is fully booked.</emphasis> Why don't you believe me? </speaK>
```

- Whisper
 - Break
 - Emphasis
 - Phonemic
 - Prosody
- and more...



This is your personal assistant, Google Home.



This is your personal assistant Google Home.

Create a character

A framework to understand personalities (*MBTI model*)

Favorite world - Extraversion or Introversion: *focus on inner or outer world?*

Information - Sensing or Intuition: *take in information or interpret and add meaning?*

Decisions - Thinking or Feeling: *make decisions by logic or people and feeling?*

Structure - Judging or Perceiving: *get things decided or stay open and optional?*

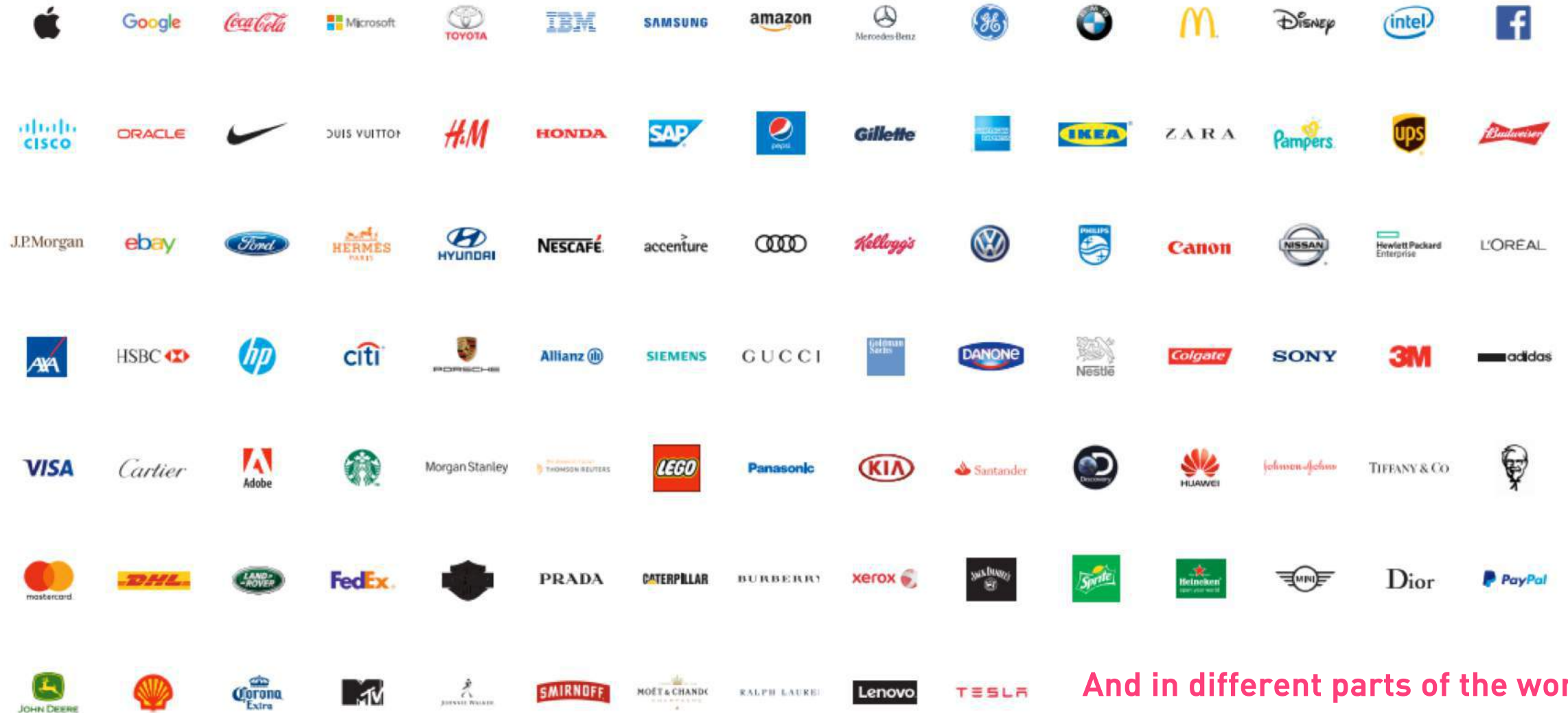


Define its personality in the script



- How does this person respond to critique?
- How does this person think about gay marriage?
- How does this person process new information?
- How does he or she make decisions?
- How does he or she prefers life to be structured?

What is their voice identity?



And in different parts of the world

A new paradigm



New kind of teams

VX designer
Casting director
SSML front end developer
Sound engineer
AI product manager
Audio designer
Script writer
Linguist
Production designer
Semantics designer
Character developer



New kind of companies

New business models
Analytics company
Advertising
Gaming
Social media
Legal and trademarking
Security and accessibility
New design patterns

Migrating your application to voice

Try it out yourself

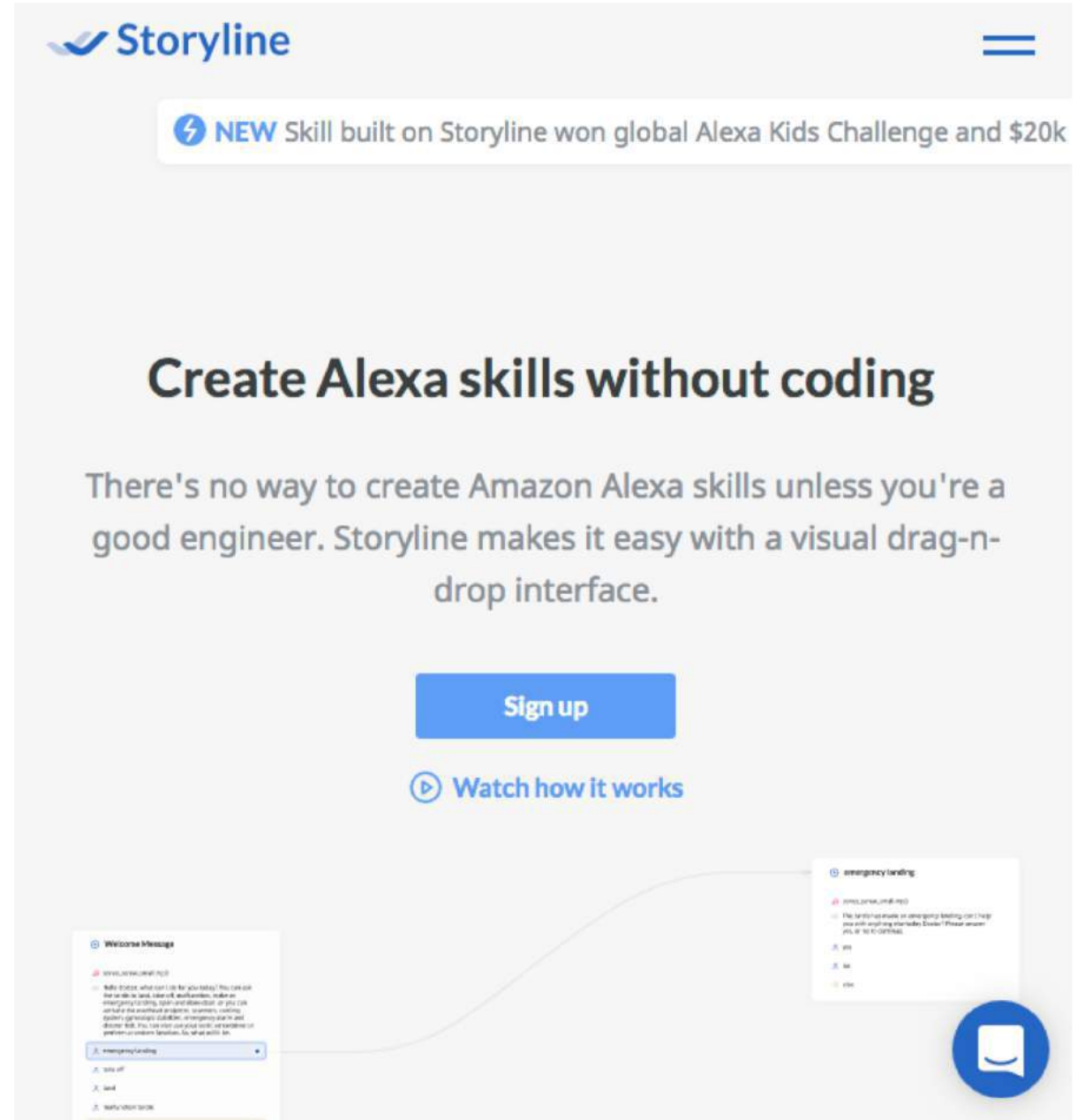
www.alpine.ai



Write your experience

Try it out yourself

www.getstoryline.com



The screenshot shows the Storyline website homepage. At the top left is the Storyline logo, and at the top right is a hamburger menu icon. Below the logo is a blue banner with a lightning bolt icon and the text "NEW Skill built on Storyline won global Alexa Kids Challenge and \$20k". The main heading is "Create Alexa skills without coding". Below this is a paragraph: "There's no way to create Amazon Alexa skills unless you're a good engineer. Storyline makes it easy with a visual drag-n-drop interface." There are two buttons: a blue "Sign up" button and a blue button with a play icon and the text "Watch how it works". At the bottom, there are two screenshots of the Storyline interface. The left one shows a "Welcome Message" dialog box with a list of skills: "emergencylanding", "tell me off", "ask", and "what's your book". The right one shows a "emergencylanding" dialog box with a list of skills: "emergencylanding", "tell me off", "ask", and "what's your book". A blue speech bubble icon is in the bottom right corner.

Storyline

NEW Skill built on Storyline won global Alexa Kids Challenge and \$20k

Create Alexa skills without coding

There's no way to create Amazon Alexa skills unless you're a good engineer. Storyline makes it easy with a visual drag-n-drop interface.

[Sign up](#)

[Watch how it works](#)

Welcome Message

- emergencylanding
- tell me off
- ask
- what's your book

emergencylanding

- emergencylanding
- tell me off
- ask
- what's your book

Alexa simulator

Try it out yourself

www.echosim.io

Alexa Skill Testing Tool

Click and **hold** the microphone button
or hold down the space bar on your keyboard to activate the microphone.

Ready...





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Design with your eyes closed