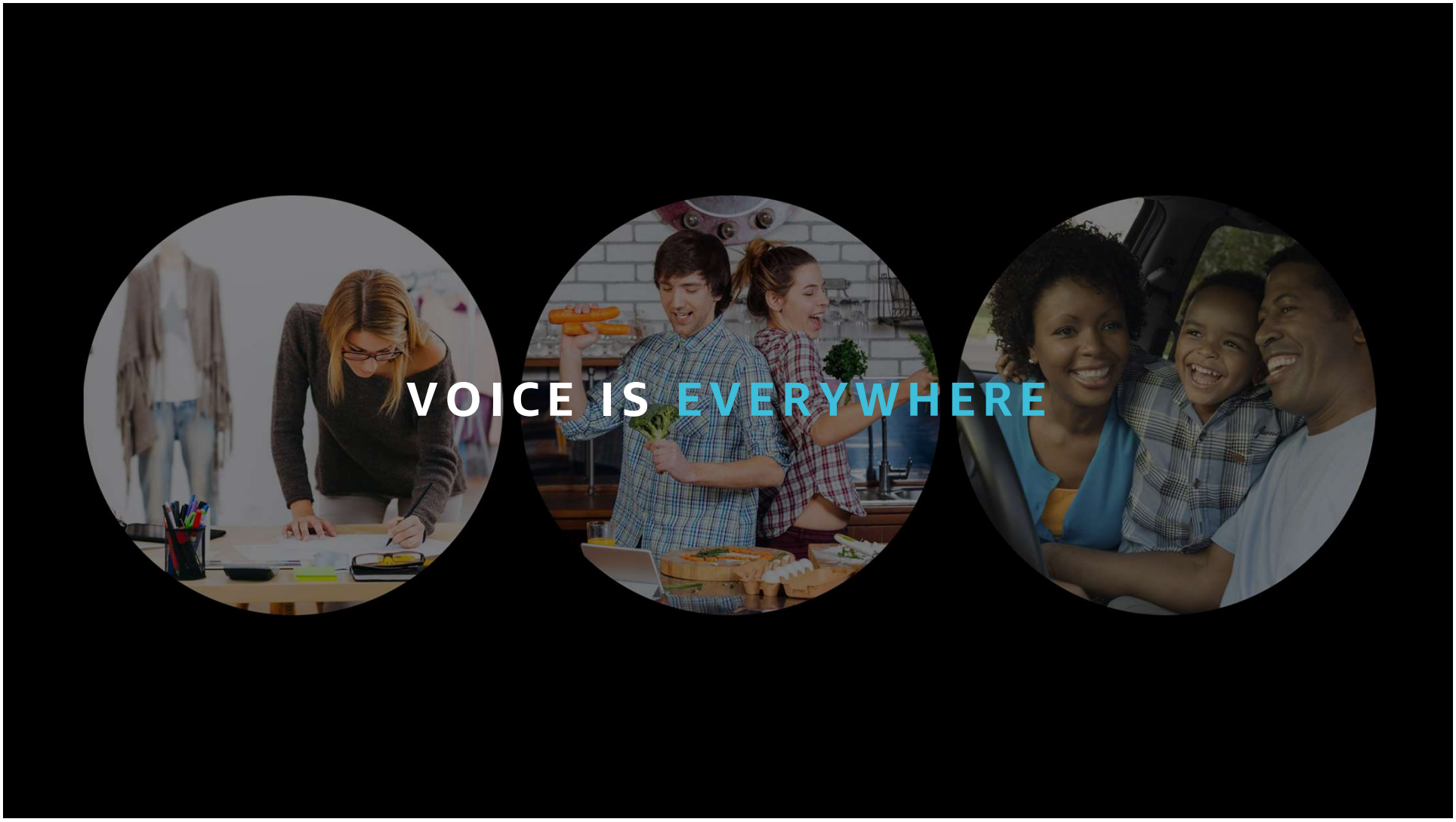
Designing Voice Experiences

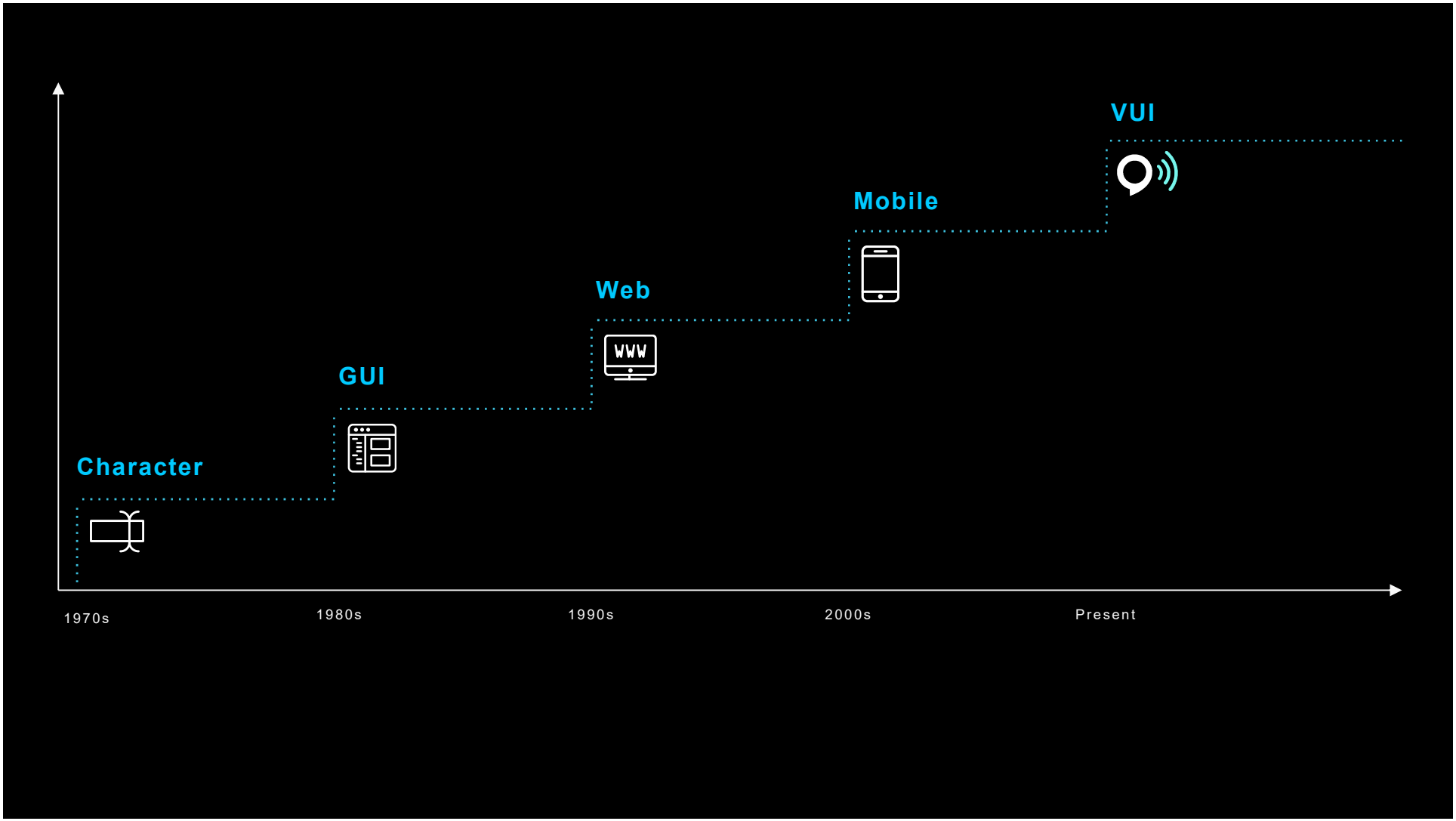
@JohnCoyne

Alexa SA Smart Properties

amazon alexa


VOICE IS EVERYWHERE

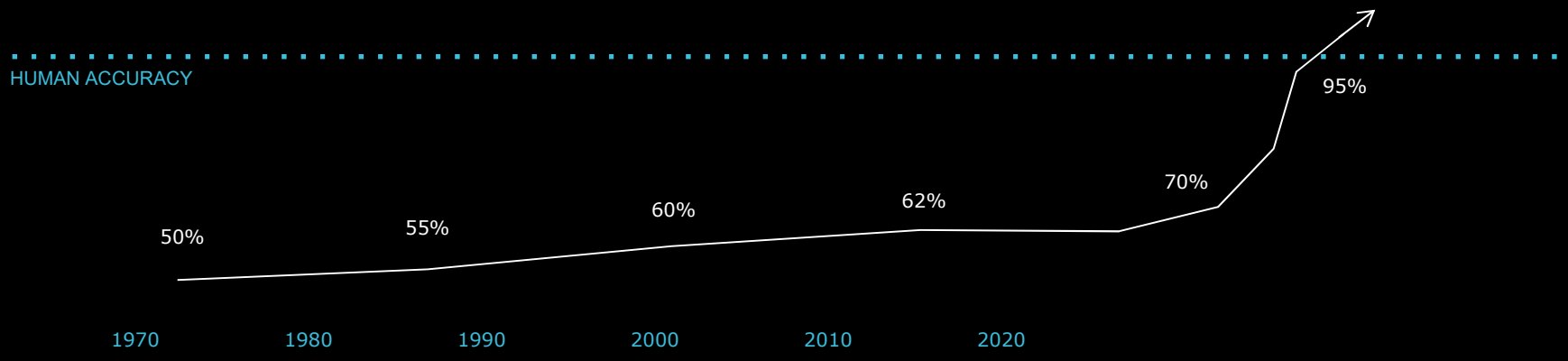
File Edit View Special
System 1.1 Finder 1.1g
11 items
240K in disk
557K available
NOKIA
10:25


VUI
Mobile
Web
WWW
GUI
Character
1970s
1980s
1990s
2000s
Present

MACHINE ASR ACCURACY

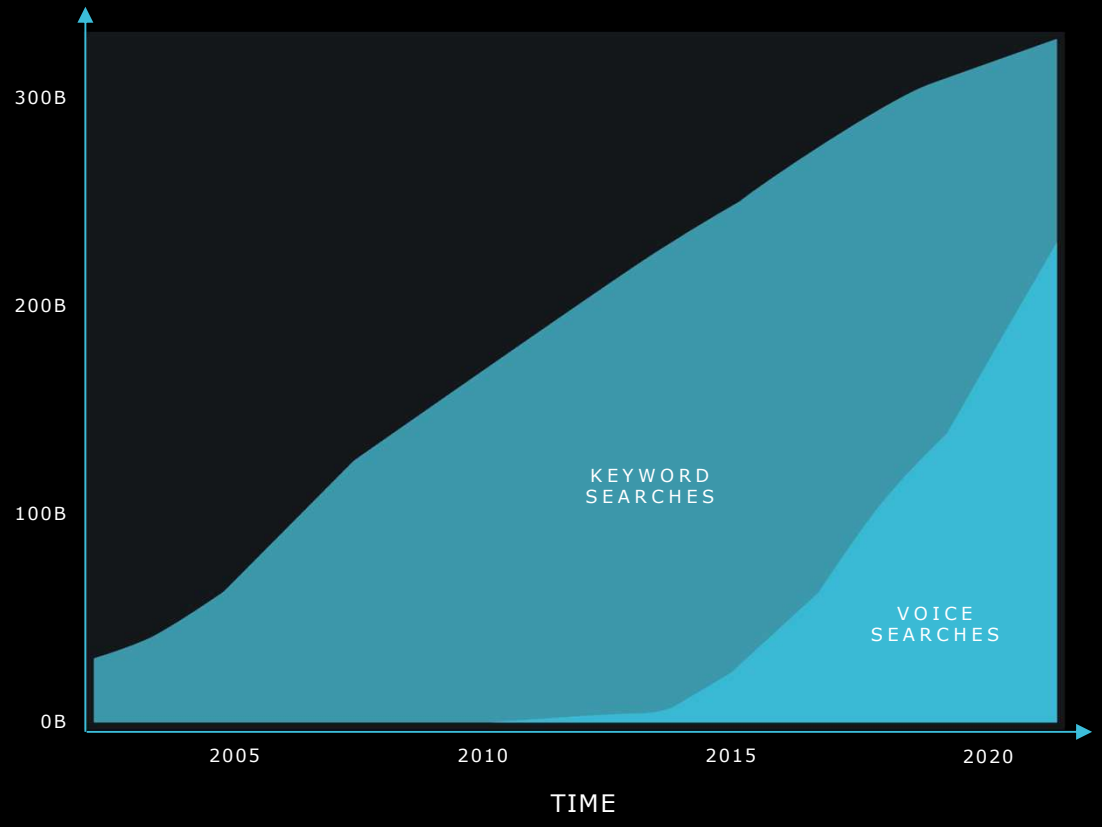
ASR accuracy has dramatically increased in the last 4-5 years.

This inflection point has created sustained momentum in consumer adoption of voice technology



Source: MindMeld

VOICE IS NOW THE NEW STANDARD



WORLD WIDE SEARCHES PER MONTH

A massive shift in voice has already begun.

- In 2014, voice search traffic was negligible. Today it exceeds 10% of all search traffic.
- Virtual assistants exceed 50B voice searches per month.
- Amazon Echo became the fastest-selling Bluetooth speaker in history.
- By 2020, over 200 billion searches per month will be done with voice.

Source: MindMeld

VOICE IS POWERFUL

By 2021, the number of consumers worldwide using AI voice assistants will reach 1.83 billion users.

Source: Statistica: Digital Assistants - Always at Your Service

30% of Interactions

By 2018, **30%** of our interactions with technology will be through conversations with smart machines

Source: Design News: "UX Design: The Age of Voice Is Here

45 MM Homes

Connected Home Install Base
2017 Projections driving over
$12 BN in Revenue/Year

Source: Berg Insight

$11.7 BN/YR

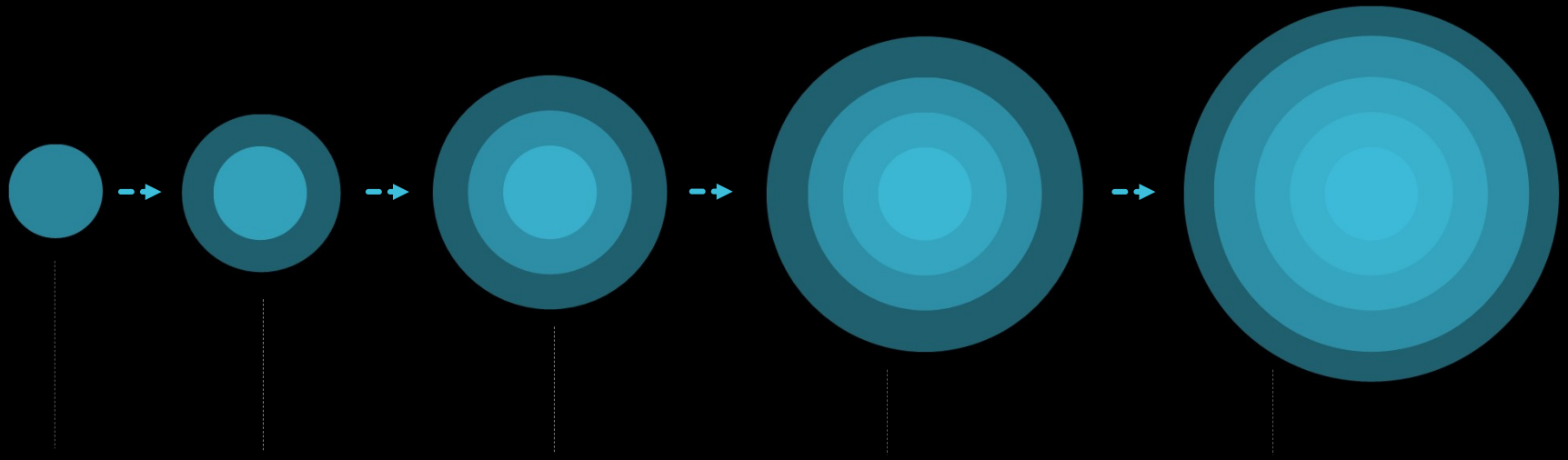
Voice Digital Assistant B2C
2021 Revenue Projections

Source: Tractica: Virtual Digital Assistants Report August 2016

Over 350% Growth

Alexa Skills Increasing Rapidly
Growing over 350%
from Sept 2015–Nov 2016

RAPID ADVANCEMENT



ASR

Automated Speech Recognition

What is the user actually saying?

NLP

Natural Language Processing

What is the intent of the user?

ACCESS

Democratizing Voice Technology

Better ASR and NLP has lead to better access and adoption

CLOUD

Scalable, Reliable & Secure

Ability to introduce features at scale, that continuously add value over time

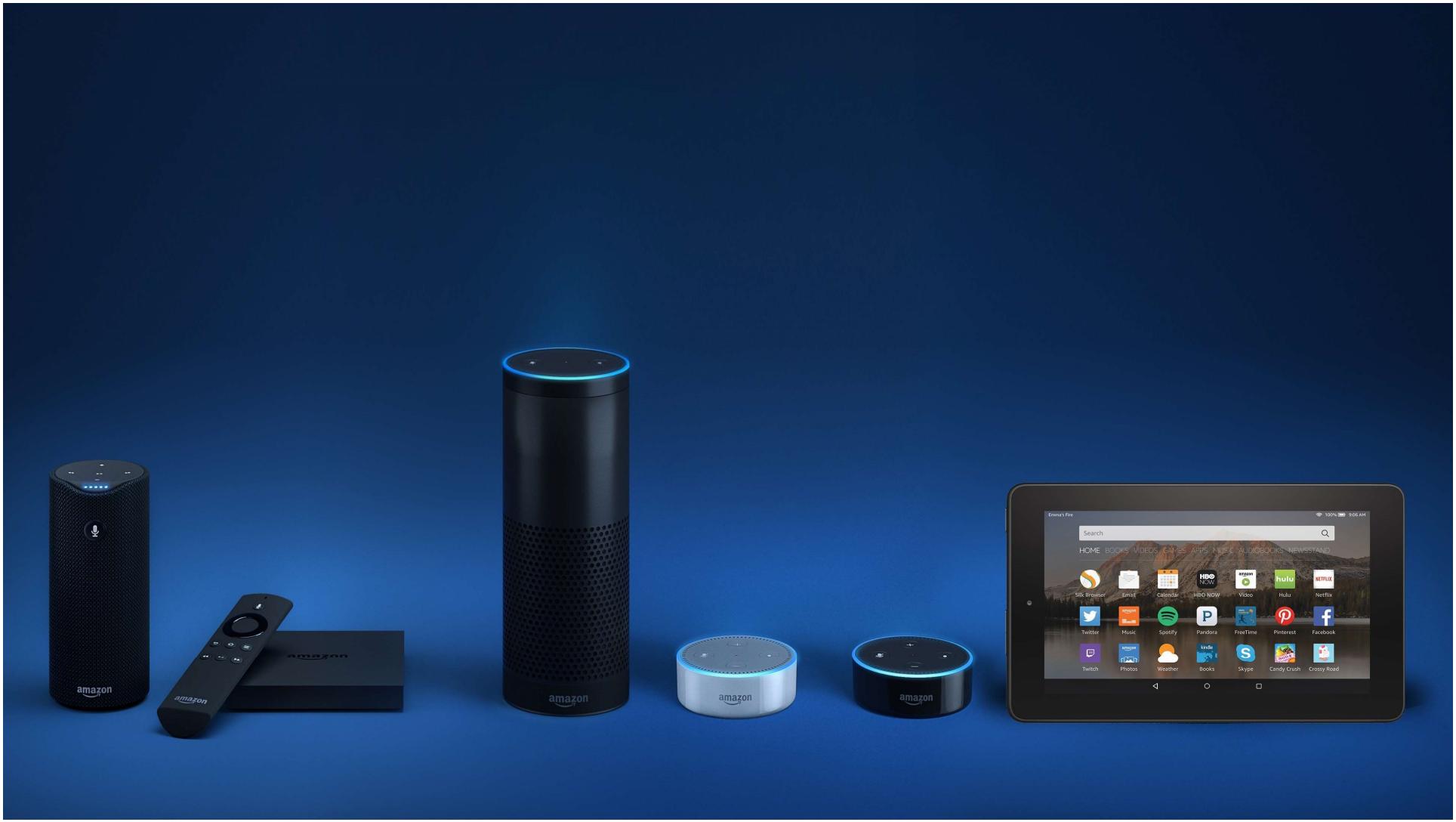
AI

Machine Learning and Intelligence

Provide extraordinary and advanced customer experiences

MEET

ALEXA


amazon
Emma's Fire
Search
HOME BOOKS VIDEOS GAMES APPS MUSIC AUDIOBOOKS NEWSTAND
Silk Browser
Email
Calendar
HBO NOW
Video
Hulu
Netflix
Twitter
Music
Spotify
Pandora
FreeTime
Pinterest
Facebook
Twitch
Photos
Weather
Books
Skype
Candy Crush
Crossy Road

FARFIELD
TECHNOLOGY

ECHO'S
SECRET
WEAPON

Technicolor bringing Amazon Alexa to next generation home gateways

LG Smart InstaView Door-in-Door refrigerator, the first smart refrigerator with Alexa

Ford: The intelligence and convenience of Alexa, now in your car

Dish Hopper 3: The World's Most Powerful DVR, Now with Amazon Alexa

Linkplay Technology accelerates development of hand-free products with Alexa

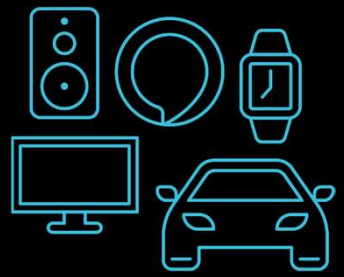
Polkaudio: Play and control music on Polk DTS Play-Fi speakers using Alexa

Huawei Mate 9: The first smartphone with Alexa

Lenovo Smart Assistant

THE ALEXA ECOSYSTEM

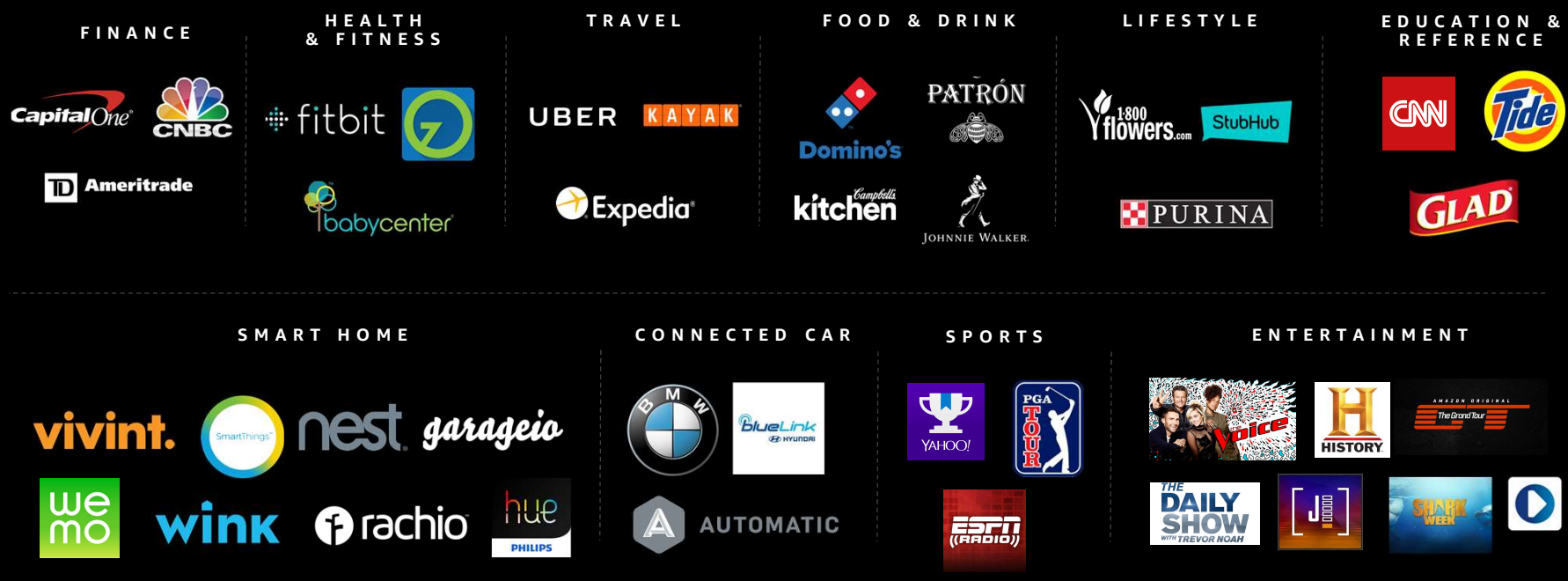
ALEXA
SKILLS
KIT



ALEXA
VOICE
SERVICE

AMAZON SMART HOME STORE
(amazon.com/smarthome)

POPULAR SKILLS CATEGORIES



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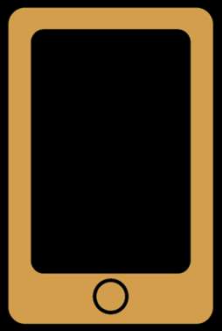
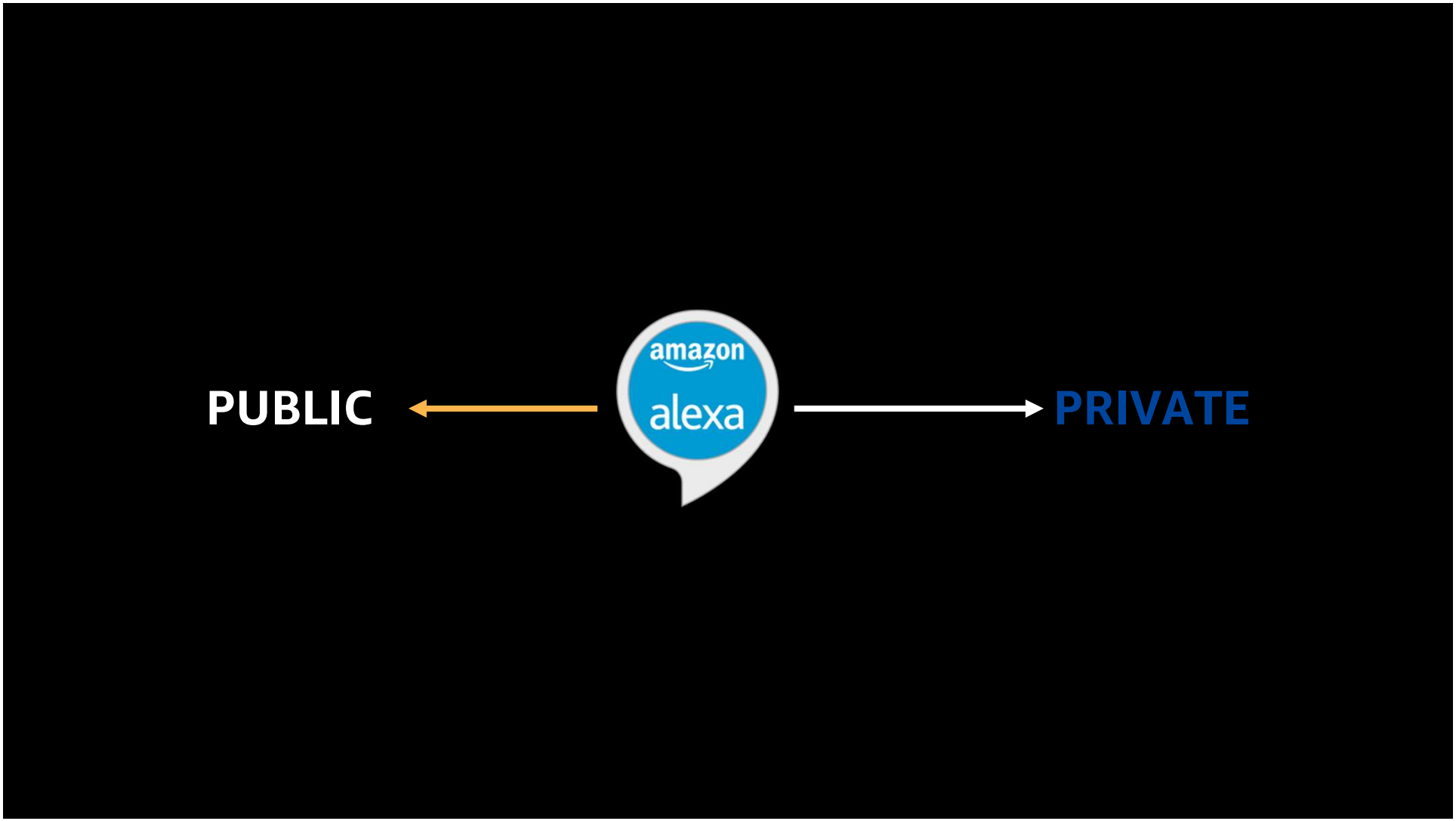
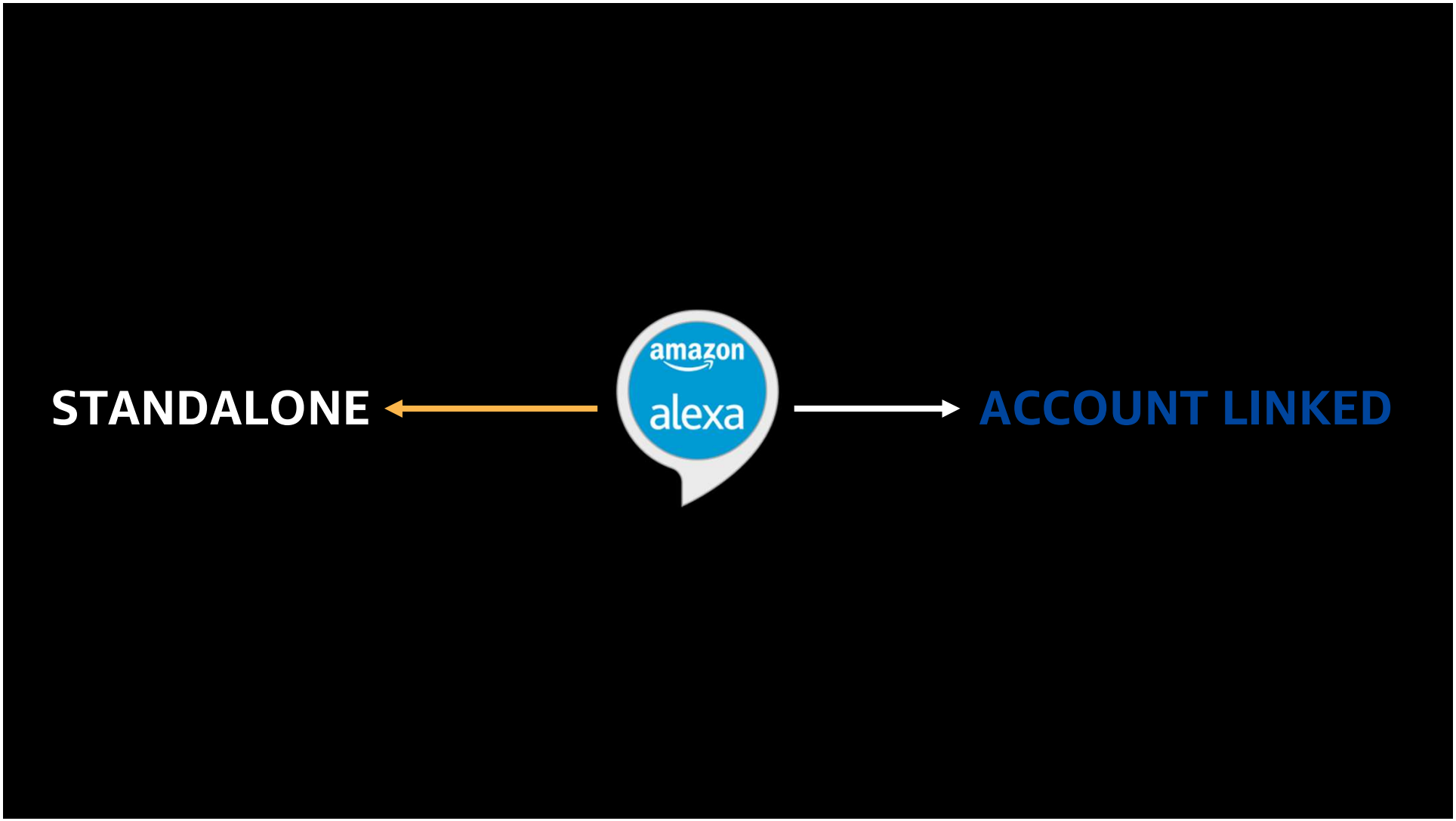


SKILL EQUIVALENT **APP**

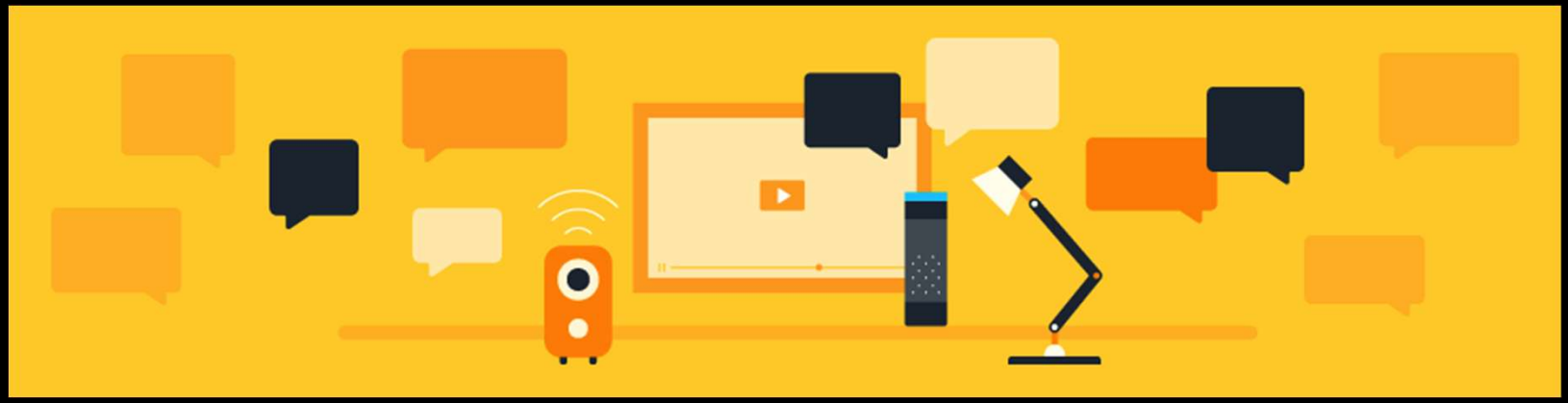

PUBLIC
amazon
alexa
PRIVATE


STANDALONE
amazon
alexa
ACCOUNT LINKED

New Alexa-Enabled Devices

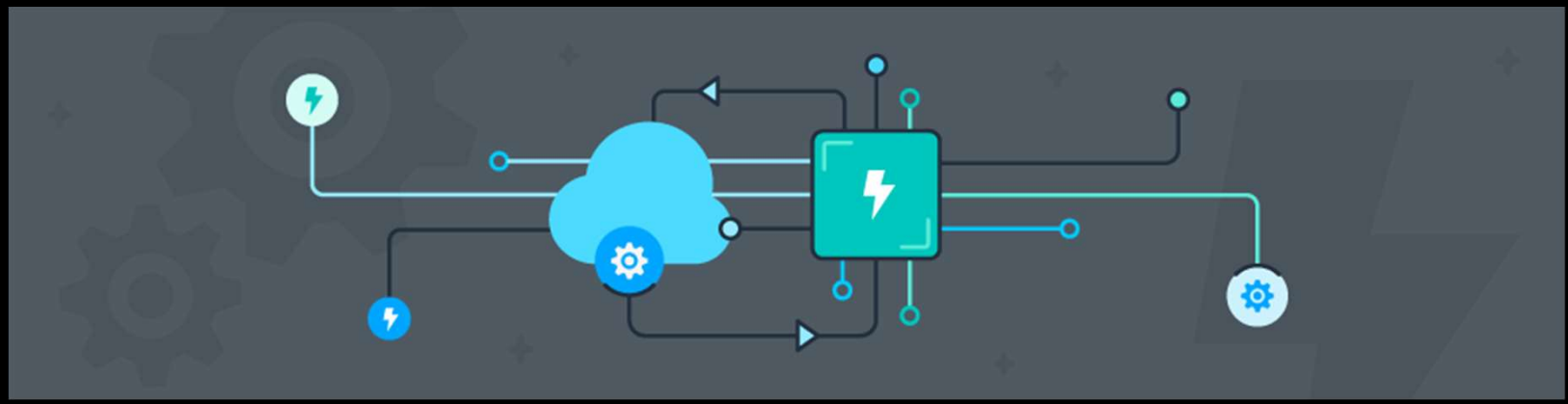
alexa.design/newdevices

New Smart Home Features



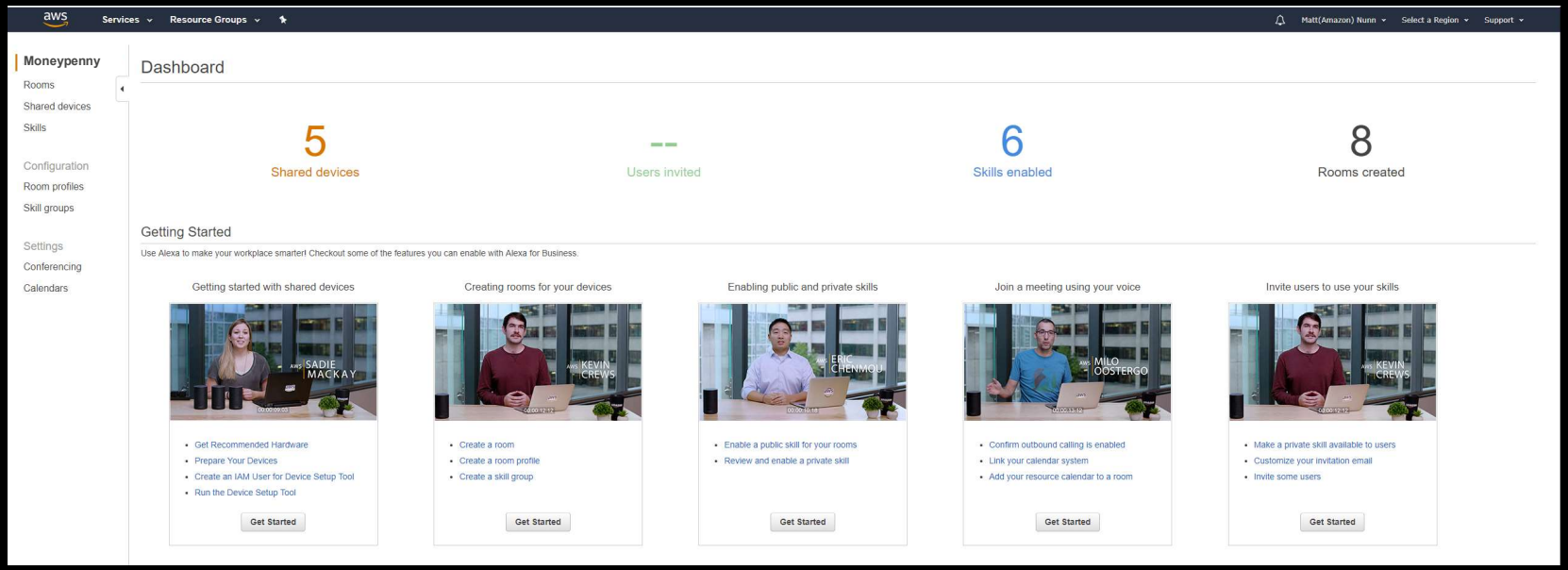
alexa.design/smarthome

Alexa Gadgets



alexa.design/alexagadgets

Private Skills & Managed Devices



demo

BUILDING YOUR
VOICE EXPERIENCE

HOW TO GET STARTED

A strategic approach to every stage.

DEFINE

Start By Asking The Right Questions

What are your consumers most interested in?

What are their needs from your brand or service?

What will surprise & delight them?

How can voice impact your consumer journey & help you achieve your business goals?

DEPLOY

Design, Build & Deploy Your Skill

Design your experience to drive the user to key conversion points.

Ensure best practices in voice design and development are baked into your skill.

Define your Go To Market plan & utilize your owned channels to promote it to your customer base.

OPTIMIZE

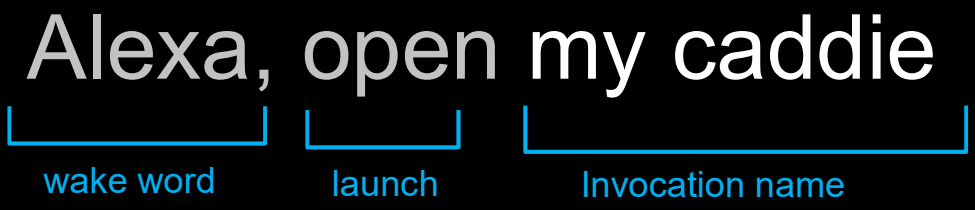
Listen to Your Users & Optimize the Experience

Review and utilize analytics and reviews to enhance the skill

Monitor reviews and respond to consumers & help address their interests/challenges in utilizing your skill

Anatomy of an **Interaction**

A Basic Skill Invoked by Customer



Basic skill invocation with a request

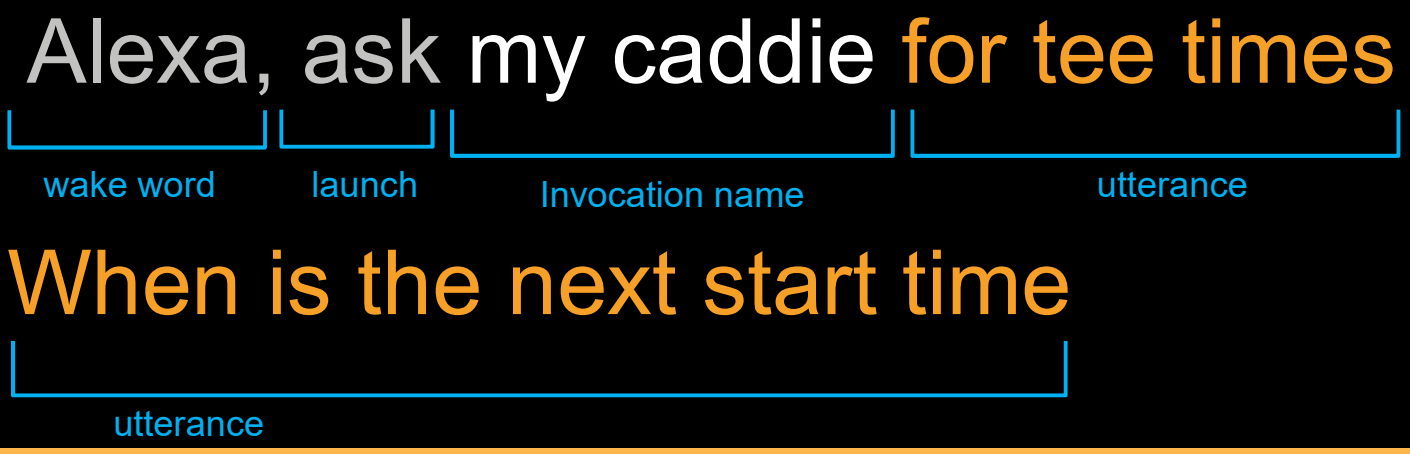
ASR – Automatic Speech Recognition

fȯr tē tīmz

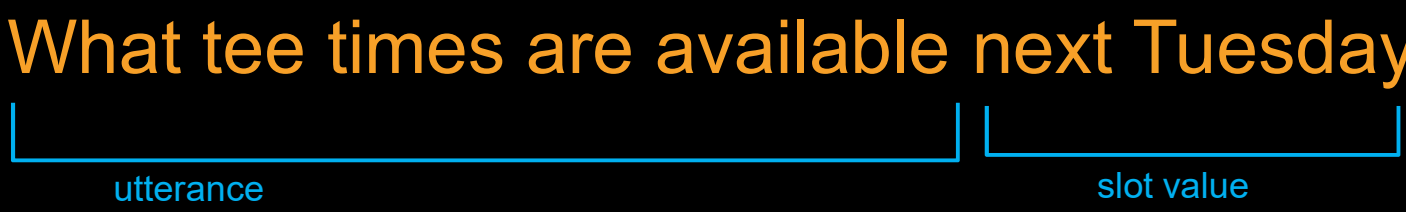
- Forty Times?
- For Tea Times?
- For Tee Times?
- Four Tee Times?

Utterances and Intents

Utterances and Intents

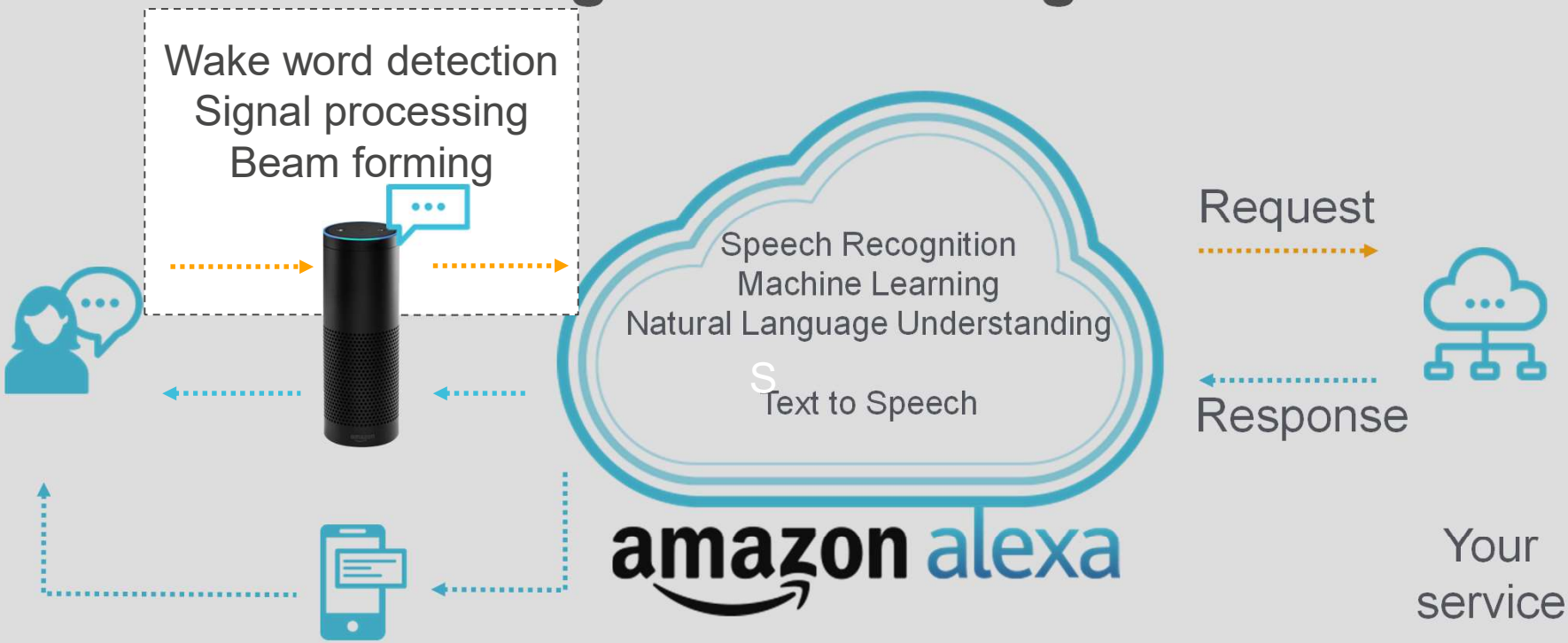


Utterances and Intents

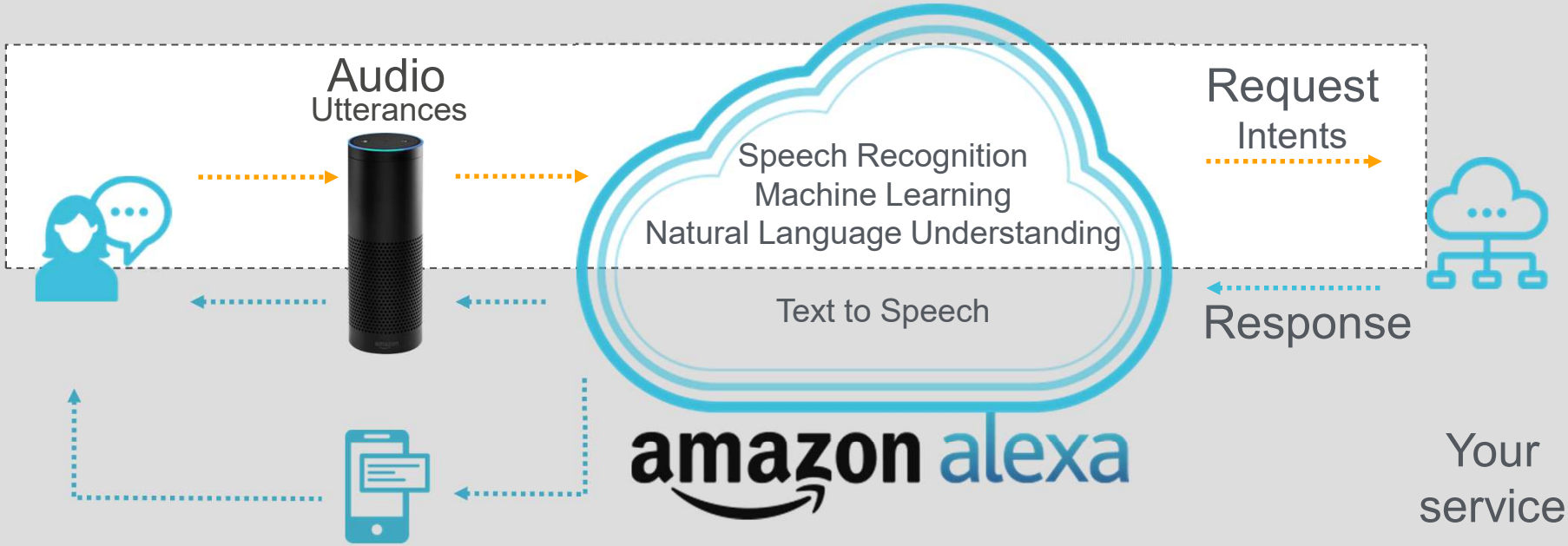


Audio
Speech Recognition
Machine Learning
Natural Language Understanding
Text to Speech
amazon alexa
Request
Response
Your service
Cards
Screens

Alexa Skills Kit: Signal Processing



Alexa Skills Kit: Utterances into Intents



Alexa Skills Kit: Output

THE PLAN

A high-level framework to help get you started.

We've put together a plan to take your projects **from inception to launch** with a honed process that includes multiple touch-points with the Alexa team.

SUPPORT AT EVERY STEP

There are a number of services that can provide support & ensure success.

BUILDING

ALEXA SKILLS KIT (ASK)

The Alexa Skills Kit is a self-service API that makes it fast and easy for you to add skills to Alexa.

TRAINING, DOCUMENTATION & FRAMEWORKS

We've got everything you need to get started from webinars, to documentation, down to skill frameworks.

PARTNERS

We've identified some of our best skill partners to help you build and promote your skill

SERVICES

Utilize 3rd party services to define, deploy & extend your skill (SMS, email, flow diagrams, code repositories & more).

DEPLOYING

AMAZON WEB SERVICES (AWS)

Use Amazon Web Services to host and deploy your skill.

ANALYTICS INSTALLATION & MONITORING

Incorporate & monitor analytics services into your skill to to track custom interactions and inform optimizations.

PROMOTING

AMAZON MEDIA GROUP (AMG)

Leverage the paid media opportunities to target potential customers and promote your skill across Amazon properties including Amazon.com, Amazon Music, Amazon Fire TV and other aspects of Amazon's vast media network.

SKILL STORE, DEEP LINKING & REVIEWS

Skills are easier to drive to with deep linking straight to an Amazon.com where users can discover and enable skills. Reviews can also be monitored and responded to using this page.

The Alexa App also features and improved skill store with improved search, filtering and detail pages for skills.

THREE SITES FOR ALL YOUR NEEDS

Everything you need to get started.

DEVELOPER.AMAZON.COM

Building great solutions requires great information. Everything you need to create new applications for Alexa is available in the Alexa Skills Kit located at Amazon developer portal. When you sign in you are taken to the Amazon Developer Console which provides you all the tools you need to configure, test and deploy your Alexa skills.

AWS.AMAZON.COM

The easiest way to build the cloud-based service for a custom Alexa skill is by using AWS Lambda, an Amazon Web Services offering that runs your code only when it's needed and scales automatically, so there is no need to provision or continuously run servers. You upload the code for your Alexa skill to a Lambda function and Lambda does the rest, executing it in response to Alexa voice interactions and automatically managing the compute resources for you.

ALEXA.AMAZON.COM

The Alexa app allows you to manage your Alexa implementations, set up all your echo devices and link skills and smart home devices to provide a full experience

@alexadevs