

# VOICE IS THE NEW KEYBOARD: VOICE INTERFACES IN 2019 AND BEYOND

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**LET ME KNOW WHAT YOU THINK  
OF THIS TALK**

**[HTTPS://JOIN.IN/TALK/EC3EB](https://join.in/talk/ec3eb)**

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**CURRENT:**

**“35.6 MILLION AMERICANS WILL USE A  
VOICE-ACTIVATED ASSISTANT DEVICE AT  
LEAST ONCE A MONTH.”**

**- *EMARKETER***

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**FUTURE:**

**“50% OF ALL SEARCHES WILL BE VOICE  
SEARCHES BY 2020”**

***- COMSCORE***

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**WHY?**

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YOU GET ONE ANSWER

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**SO HOW DO WE START?**

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# A STORY IN 3 PARTS

**CONTENT -> AUDIO**

**BRINGING CONTENT TO CONNECTED DEVICES**

**TAKING IT FURTHER WITH CUSTOM FUNCTIONALITY**

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# PART 1 | POST CONTENT -> AUDIO

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Amazon Polly



**AWS SDK FOR PHP**

**AWS POLLY FOR WORDPRESS**

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# WHAT IS AMAZON POLLY?

**AUTOMATED AUDIO PLAYER FOR PUBLISHED CONTENT**

**FEED TO TURN POSTS INTO PODCASTS**

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# WHAT IS AMAZON POLLY?

**DEEP LEARNING**

**“WE LIVE IN MINNEAPOLIS” VS “WE’RE LIVE IN  
MINNEAPOLIS”**

**DOZENS OF VOICES AND LANGUAGES**

**FREE FOR UP TO 5M CHARACTERS PER MONTH ON AWS  
FREE PLAN**

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# WHAT IS AMAZON POLLY?

```
$result_polly = $client_polly->synthesizeSpeech([
    'OutputFormat' => 'mp3',
    'Text'          => $polly_text,
    'TextType'     => 'text',
    'VoiceId'      => 'Amy'
]);

#Returned audio data

$resultData_polly = $result_polly->get('AudioStream')->getContents();
```



# DEMO

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# PART 2 | CONTENT -> DEVICES

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# CONNECTED DEVICES CAN HAVE SKILLS

HELPS AMAZON ALEXA AND GOOGLE HOME PERFORM MORE DIVERSE TASKS

BACKED BY EITHER A TEMPLATE (USING THEIR INFRA) OR CUSTOM API ENDPOINTS (USING YOUR INFRA)

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**SKILL -> INTENT -> FUNCTION -> RESPONSE**

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# WHAT CAN POWER A FUNCTION?

SKILL TEMPLATE

AWS LAMBDA

FIREBASE

CUSTOM API ENDPOINTS

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# SKILL TEMPLATE: FLASH BRIEFING

**“HEY ALEXA, WHAT’S IN THE NEWS?”**

**JUST ADD WATER...ER, FEED**

**AUDIO FEED OR TEXT FEED, UPDATED HOURLY/DAILY/  
WEEKLY**

**THIS MAKES IT VERY EASY TO GET A SKILL UP AND  
RUNNING...IF YOU DO NEWS**

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# DEMO

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# WHAT IF YOU DON'T DO NEWS?

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# YOU *CAN* WRITE CUSTOM SKILLS YOURSELF

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# PART 3 | NONE OF THE ABOVE

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# CUSTOM ALEXA SKILL

## CUSTOM API ENDPOINTS

ALEXA -> AWS LAMBDA (OPTIONAL) -> REST API -> AWS  
LAMBDA -> ALEXA

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# INFORMATION FLOW IN AN ALEXA SKILL



USER GIVES  
VOICE COMMAND



ECHO PROCESSES THE  
COMMAND AND TURNS  
VOICE INTO TEXT



AWS LAMBDA  
DETERMINES INTENT



REST API SERVES  
DATA BASED ON  
INTENT



AWS LAMBDA  
PREPARES RESPONSE



ECHO SPEAKS  
THE RESPONSE



USER HEARS  
RESPONSE



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# WHAT DOES ALEXA DO?

CREATE SKILL AND SET UP INTENTS (WHAT WAS THE LAST EPISODE OF...?)

PASS EVERYTHING (ONCE PARSED) TO LAMBDA

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# WHAT DOES ALEXA DO?






## Intents / GetLastEpisodeIntent

Sample Utterances (5) ?

[Bulk Edit](#) [Export](#)

What might a user say to invoke this intent? +

Custom

last episode summary for {series_name}	
what was the last episode of {series_name}	
the last episode of {series_name}	
about {series_name}	
when was the last episode of {series_name}	

< 1 – 5 of 5 > [Show All](#)



# WHAT DOES LAMBDA DO?

DECIDES WHAT WE'RE TRYING TO DO

PASSES INTENT, ALONG WITH ANY PARAMETERS TO  
ENDPOINT

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**{{ CODE }}**

**[HTTPS://GITHUB.COM/KKOPPENHAVER/LAST-EPIISODE](https://github.com/kkoppenhaver/last-episode)**

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# WHAT DOES OUR API DO?

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<!-- ENDPOINTS -->

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# WHAT DOES LAMBDA DO?

WAITS FOR DATA

BUILDS THE VOICE RESPONSE FOR ALEXA

(P.S. LAMBDA CAN RUN PHP NOW\*)

\*SORT OF ([HTTPS://AWS.AMAZON.COM/BLOGS/APN/AWS-LAMBDA-CUSTOM-RUNTIME-FOR-PHP-A-PRACTICAL-EXAMPLE/](https://aws.amazon.com/blogs/apn/aws-lambda-custom-runtime-for-php-a-practical-example/))

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# DEMO

**ALEXA, OPEN LAST EPISODE**

**ALEXA, ASK LAST EPISODE, WHAT WAS  
THE LAST EPISODE OF THE OFFICE?**

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# HELP ALEXA SPEAK

**CAN RETURN TEXT OR CAN RETURN SPEECH SYNTHESIS  
MARKUP LANGUAGE (SSML)**

**SSML CAN HELP WITH AWKWARD CADENCE OR BAD  
INTERPRETATION (NUMBERS, TONE, ETC)**

**RESPONSE IS SPOKEN OUT TO THE USER**

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**<SPEAK>**

**<SAY-AS INTERPRET-AS="CARDINAL">12345</SAY-AS>**

**</SPEAK>**

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**<SPEAK>**

**STEP 1, TAKE A DEEP BREATH. <BREAK TIME="200MS"/>**

**STEP 2, EXHALE.**

**STEP 3, TAKE A DEEP BREATH AGAIN. <BREAK STRENGTH="WEAK"/>**

**STEP 4, EXHALE.**

**</SPEAK>**



**<SPEAK>**

**I WANT TO TELL YOU A SECRET.**

**<AMAZON:EFFECT NAME="WHISPERED">I AM NOT A REAL  
HUMAN.</AMAZON:EFFECT>.**

**CAN YOU BELIEVE IT?**

**</SPEAK>**

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**<SAY-AS INTERPRET-AS="EXPLETIVE">**

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# QUESTIONS?

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