



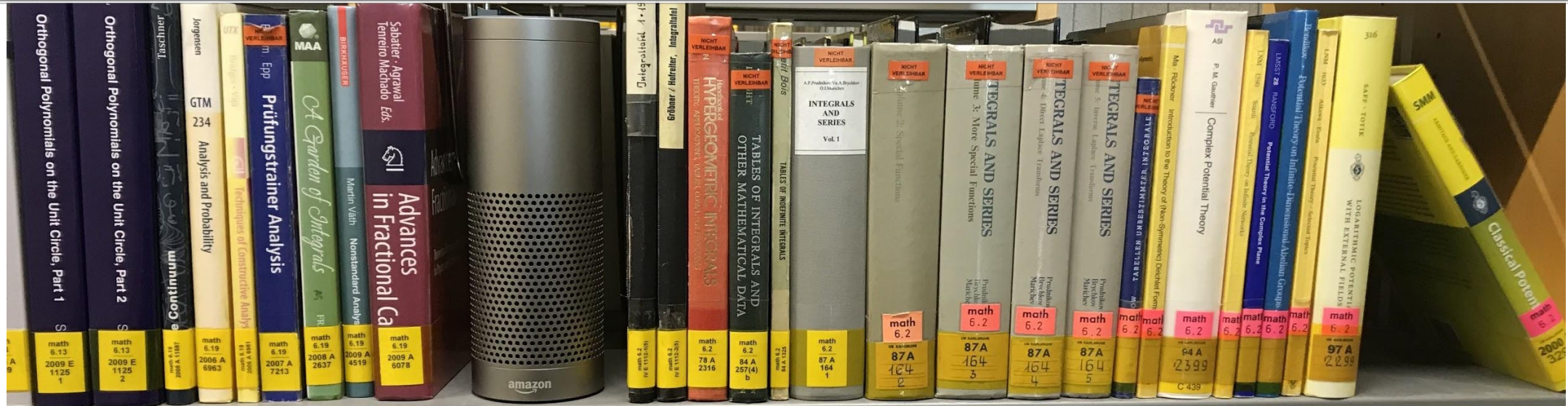
Karlsruhe Institute of Technology

Alexa joins the reference desk

Developing an Alexa skill for the library

Michael Skarupianski

KIT Library



Welcome

Alexa, ask k.i.t library to start presentation

Amazon Ec(h)osystem

Amazon Echo: [Amazon.com Link](#)

Amazon Echo Show: [Amazon.com Link](#)

Amazon Echo Dot: [Amazon.com Link](#)



Computer Mouse, Echo Dot (2nd Generation), Echo (2nd Generation), Echo Plus (1st Generation)

alexa built in devices

Headphones: [Amazon.com Link](#)

Alexa-Enabled 2-Port USB Car Charger : [Amazon.com Link](#)

Amazon Fire Tablet: [Amazon.com Link](#)

BMW's Alexa integration gets it right: [Amazon.com Link](#)

What Alexa can do for you

Wake-up-word & Action

Build in functionality (Time, Weather, News, Wikipedia)

Play Radio

Access Amazon Services (Amazon Music, Audible, Orders)

Limitations

Can't speak multiple Languages

Doesn't work without stable internet






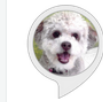
Does something you didn't want

No list of all commands it understands





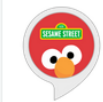

Can't distinguish between persons (not now)

Extending Alexa - Skills (Apps)







"Alexa, what are your top skills?"

 <p>"Alexa, what's my Flash Briefing?"</p> <p>Reuters TV (U.S.) ★★★★☆ 224</p>	 <p>"Alexa, Play Jeopardy!"</p> <p>Jeopardy! ★★★★☆ 2,430</p>	 <p>"Alexa, open Thunderstorm Sounds"</p> <p>Ambient Sounds: Thunderstorm Sou... ★★★★☆ 14,157</p>	 <p>"Alexa, what's my Flash Briefing?"</p> <p>Fox News ★★★★☆ 1,108</p>	 <p>"Alexa, ask Question of the Day."</p> <p>Question of the Day ★★★★☆ 3,811</p>	 <p>"Alexa, ask Jurassic Bark to bark"</p> <p>Jurassic Bark ★★★★☆ 86</p>
--	---	--	---	---	---







Staff Picks

 <p>"Alexa, ask AnyPod to play The Big Day"</p> <p>AnyPod ★★★★☆ 266</p>	 <p>"Alexa, start SpongeBob Challenge"</p> <p>The SpongeBob Challenge ★★★★☆ 38</p>	 <p>"Alexa, open the Wayne Investigation"</p> <p>The Wayne Investigation ★★★★☆ 163</p>	 <p>"Alexa, ask Chess Board to Delta 4"</p> <p>Chessboard ★★★★☆ 14</p>	 <p>"Alexa, open Sesame Street."</p> <p>Sesame Street ★★★★☆ 49</p>	 <p>"Alexa, open Box Fan Sounds"</p> <p>Sleep Sounds: Box Fan Sounds ★★★★☆ 1,078</p>
--	---	---	---	---	---

"Alexa, let's go back to school."

 <p>"Alexa, play Geo Quiz"</p> <p>National Geographic Geo Quiz ★★★★☆ 187</p>	 <p>"Alexa, ask SAT Word of the Day what is the word of the day."</p> <p>SAT Word of the Day ★★★★☆ 40</p>	 <p>"Alexa, Start Vocabulary Builder"</p> <p>Magoosh Vocabulary Builder ★★★★☆ 291</p>	 <p>"Alexa, play Word of the Day Quiz"</p> <p>Word of the Day Quiz ★★★★☆ 485</p>	 <p>"Alexa Open State Capital Game"</p> <p>State Capital Game ★★★★☆ 41</p>	 <p>"Alexa, start Amazon Math."</p> <p>Amazon Math ★★★★☆ 3</p>
---	--	--	---	---	---

"Alexa, what are your smart home skills?"

 <p>"Alexa, turn on Christmas Tree Light"</p> <p>VeSync ★★★★☆ 207</p>	 <p>"Alexa, turn on the porch light"</p> <p>Wink ★★★★☆ 253</p>	 <p>"Alexa, turn on the living room lights"</p> <p>Caséta and RA2 Select ★★★★☆ 107</p>	 <p>"Alexa, tell Vivint to lock my doors"</p> <p>Vivint.SmartHome - Complete ★★★★☆ 189</p>	 <p>"Alexa, turn on the Kitchen lights"</p> <p>LIFX Optimized for Smart Home ★★★★☆ 245</p>	 <p>"Alexa, ask Roomba to start cleaning."</p> <p>iRobot Home ★★★★☆ 541</p>
---	--	--	--	--	---

Screenshot - Alexa Skill Store (U.S. Version)

Extending Alexa - Hardware

Smart Plug: [Amazon.com Link](#)

Smart Thermostat: [Amazon.com Link](#)

Netgear Arlo Camera: [Amazon.com Link](#)

Philips Hue: [Amazon.com Link](#)

Extending Alexa - Hardware

LG TV with Alexa: [Amazon Link](#)

AmazonBasics Microwave: [Amazon.com Link](#)

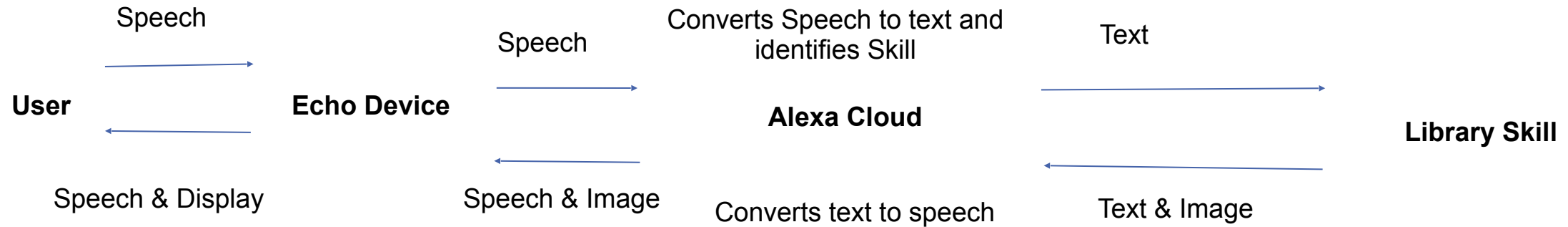
NissanConnect Services Skill with Amazon Alexa: [NISSAN U.S.A.](#)

The First Intelligent Heated Jacket: [Kickstarter](#)

Own Library Skill



How Alexa Skills work



Language & Invocation Name

German (DE) Remove

Choose language to add: ×

English (US)	English (AU)	English (CA)	English (IN)	English (UK)
French (FR)	Italian (IT)	Japanese (JP)	Spanish (ES)	Spanish (MX)

Skill Invocation Name ?

k. i. t. library

Skill Invocation Name ?

k. i. t. bibliothek

Intent

Intents

+ Add Intent

Filter intents



NAME	UTTERANCES	SLOTS	TYPE	ACTIONS
BookJokeIntent	4	-	Custom	Edit Delete
CountAllItemsIntent	4	1	Custom	Edit Delete
EventsInLibraryIntent	11	1	Custom	Edit Delete
LocationInfoIntent	10	3	Custom	Edit Delete
SeatFinderIntent	9	3	Custom	Edit Delete
BookSubjectSearchIntent	5	1	Custom	Edit Delete

Utterances / SeatFinderIntent

Intents / SeatFinderIntent

Sample Utterances (8) ?

 Bulk Edit  Export

What might a user say to invoke this intent?

+

find a place to read



find a place to learn



find a place to work



are there free seats



where are free seats



where can i read



where can i learn



where can i work





Slots


Sample Utterances (4) ?


 Bulk Edit  Export

What might a user say to invoke this intent? +

find a place to {thingsToDoInLibrary} 

are there free seats 

where are free seats 

where can i {thingsToDoInLibrary} 

Slots

Slot Types / thingsToDoInLibrarySlot

Slot Values (3) ?




 Bulk Edit  Export

Search



Enter a new value for this slot type



VALUE ?	ID (OPTIONAL) ?	SYNONYMS (OPTIONAL) ?		
work	Enter ID	Add synonym	+	
learn	Enter ID	Add synonym	+	
read	Enter ID	Add synonym	+	

Backend

```
29 "request": {
30   "type": "IntentRequest",
31   "requestId": "amzn1.echo-api.request.7518eb8f-744e-408c-b0b8-b84c",
32   "timestamp": "2018-10-01T13:32:40Z",
33   "locale": "en-US",
34   "intent": {
35     "name": "SeatFinderIntent",
36     "confirmationStatus": "NONE",
37     "slots": {
38       "thingsToDoInLibrarySlot": {
39         "name": "thingsToDoInLibrarySlot",
40         "value": "learn",
41       "resolutions": {
```

```
4 "response": {
5   "outputSpeech": {
6     "type": "PlainText",
7     "text": " In the K.I.T. Library South are no more free places. I
8   },
9   "card": {
10    "type": "Simple",
11    "title": "Freie Lernplätze",
12    "content": " In the K.I.T. Library South are no more free places
13  },
```

Test

Test is enabled for this skill

Alexa Simulator **ator** Manual JSON Voice & Tone

English (US)

alexla start k. i. t. library and ask for a place to learn

In the K.I.T. Library South are no more free places. In the K.I.T. Library North are enough free seats available.

Echo Show Display

Freie Lernplätze

In the K.I.T. Library South are no more free places. In the K.I.T. Library North are enough free seats available.

Finalising

- Logo
- Description
- Example Sentences
- Disclaimer (optional)
- Submit for Approval



◀ Zurück zu den Suchergebnissen für "bibliothek"



KIT-Bibliothek

von KIT-Bibliothek

☆☆☆☆☆ 0

Kostenlos aktivieren

"Alexa, sag mir die
Veranstaltungen für morgen von
der k. i. t. bibliothek."

"Alexa, frage k. i. t. Bibliothek wo
ich lernen kann."

"Alexa frage k. i. t. Bibliothek wo
der LST ist."

Diesen Skill verwalten

Skill deaktivieren

Durch die Aktivierung können Sie diesen Skill auf all Ihren verfügbaren Alexa-Geräten nutzen.

Teilen    

Beschreibung

Der offizielle Alexa Skill der KIT-Bibliothek unterstützt sie bei folgenden Fragen:

* Freie Lern- und Arbeitsplätze*

Alexa sagt die freien Lernplätze für die KIT-Bibliothek Süd und Nord an.

Fragen Sie einfach: Alexa, wo kann ich lernen von K.I.T. Bibliothek.

Analytics

Sessions ?

Total for Custom Range **▲ 58**
 (previous 273 days had 0)

Maximum per Hour **9**
 on 02/26/2018 at 11:00 UTC

Average per Hour **0**

Unique Customers ?

Total for Custom Range **▲ 19**
 (previous 273 days had 0)

Maximum per Hour **1**
 on 02/13/2018 at 07:00 UTC

Average per Hour **0**

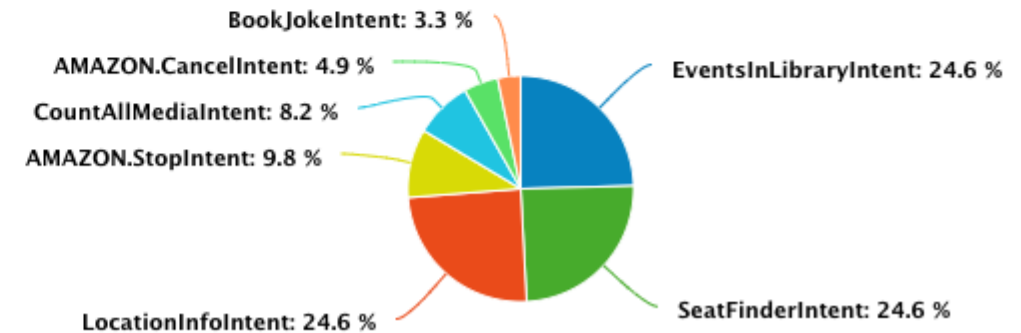
Utterances ?

Total for Custom Range **▲ 88**
 (previous 273 days had 0)

Maximum per Hour **18**
 on 07/05/2018 at 20:00 UTC

Average per Hour **0**

Intents ?



Main Lessons learned

- 6 Months online
- GDPR Restrictions
- Debugging is a pain
- “Library”

Outlook

New Devices

Location API

People are buying and using voice devices like crazy

Summary

Pros

- very cheap devices (or already included)
- fast development
- simple question
- future versions
- developer support

Cons

- developer support
- no multiple language support
- every language needs own configuration
- only text and images
- unclear gdpr

Questions

michael.skarupianski@kit.edu

With the exception of all photos and graphics, this slides are licensed under the Attribution-ShareAlike 4.0 International (CC BY-SA 4.0) Licence: <https://creativecommons.org/licenses/by-sa/4.0/>

