



Jumping into conversational AI - Alexa



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Slides: <http://tiny.cc/gargsuchi>
Please preface all your questions with Q:
Thank you.



Agenda

- Introduction to conversational AI
- Different Options
- Why Alexa
- Why Drupal
- Some basic terms
- Demo
- Breakdown of the demo
- Question and Answers

Disclaimer: No animals were harmed in making of this presentation.



Conversational AI

The definition: Conversational AI is the set of technologies behind automated messaging and speech-enabled applications that offer human-like interactions between computers and humans.

Conversational AI can communicate like a human by

- recognizing speech and text
- understanding intent
- deciphering different languages
- and responding in a way that mimics human conversation.



Conversational AI

Conversational AI solutions can be offered over both **text** and **voice modalities** and hence various channels and devices that offer support these modalities – from SMS and web chat for text modality to phone call and smart speakers for voice modality.



Why is this important?

- Google reports that 27% of the online global population is using voice search on mobile.
- eMarketer predicted that over a third of the US population (111.8 million people) would use a voice assistant monthly in 2019, up 9.5% from 2018.
- ComScore reports that more than half of all smartphone users are engaging with voice search technology in 2020.
- A Gartner study predicts that 30% of all browsing sessions will include voice search by 2020.
- Voicebot.ai reports that over half of all adults have used voice search, with 33% using voice search monthly in early 2019, jumping up from 25% in 2018

Consumers are already using conversational AI platforms in place of email, phone calls and face-to-face communication to talk with family and friends

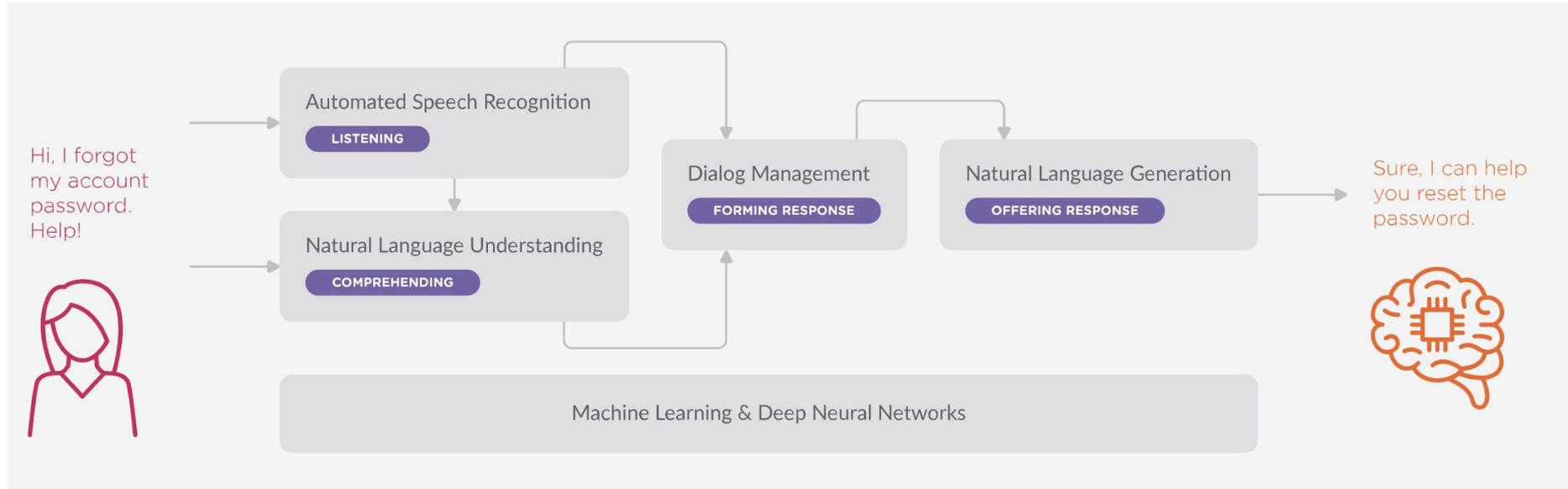


Conversational AI





How does Conversational AI work?



Source: <https://www.interactions.com/>



Main challenges for Conversational AI?

- **Constantly changing communication**
 - Languages, dialects, accents, pronunciation
 - Noisy surroundings and multiple speakers
 - Unscripted questions/ Unplanned responses
 - Tone/ Sarcasm
 - Slang/ jargon
- **Security and Privacy**
 - Dealing with sensitive personal information that can be stolen
- **Discovery and adoption**



Voice Assistants

On a technical level, the divide between text- and voice-based chatbots is modest. They both rely on artificial intelligence or simple decision tree structures to carry on conversation with users.

Some examples of voice assistants:

- Echo (Alexa)
- Google Home
- Apple's SIRI
- Microsoft Cortana
- etc.



Why Alexa? And not Google home...

	Alexa	Google
Documentation	Great once you get over the initial skill barrier	Great for initial skill
Cloud integration	Great cloud support, need to improve documentation	Great cloud support, need to improve documentation
Codeless skills	Skill templates are great	Not that great
Current installed base	70%	25%



Why Drupal?

- We are at DrupalCon - thats why!
- Content Management system
 - Workflows
 - Translations
 - Api
 - Content Modelling
- Also - Built in FE



Alexa Terminology

Alexa Skill

- Intents - the goal you want to achieve
 - Utterances - words expected by users
 - Entities/ Slots - Variables in the utterances



Demo:



accenture





Alexa side of the demo:

Intent:

- **CaptureIngredientIntent**
 - Utterance
 - Slot
- **FindRecipeIntent**
 - Utterance
 - Slot
- **RecipeIngredientsIntent**
 - Utterance
 - Slot



Intent

Interaction Model

Utterance Conflicts (0)

Invocation

Intents (8) + Add

- CaptureIngredientIntent** 🗑️
- Ingredient 🗑️
- FindRecipeIntent 🗑️
- recipe 🗑️
- RecipeIngredientsIntent 🗑️
- recipe 🗑️
- Built-In Intents (5)
- AMAZON.FallbackIntent
- AMAZON.CancelIntent
- AMAZON.HelpIntent
- AMAZON.StopIntent
- AMAZON.NavigateHomeIntent
- Slot Types (1) + Add
- AMAZON.Food 🗑️

Intents / CaptureIngredientIntent

Sample Utterances (2) ?

What might a user say to invoke this intent?

I have {Ingredient}

What can I make with {Ingredient}

Dialog Delegation Strategy ?

fallback to skill setting ▼

Intent Slots (1) ?

ORDER ?	NAME ?	SLOT TYPE ?
1	Ingredient	AMAZON.Food ▼
2	Create a new slot	+ Select a slot type ▼





Slot

Intents / CaptureIngredientIntent / Ingredient

Slot Type

AMAZON:Food

 Auto delegation is on for this intent (inherited from skill setting).

Dialogs **Validations**

Slot Filling

Is this slot required to fulfill the intent?

Alexa speech prompts

What will Alexa say to prompt the user to fill this slot?

Name the ingredient please.

User utterances

What might a user say in response to the above prompt(s)?

Ingredient is **(Ingredient)**

I have **(Ingredient)**

(Ingredient)

Slot Confirmation

Does this slot require confirmation?

Alexa Speech Prompt

What will Alexa say to prompt the user to confirm this slot value?

Do you want recipe for **(Ingredient)**



The Drupal side of the demo:

- D8 Install (of course)
- SSL certificate for the install
- Module - Alexa - <https://www.drupal.org/project/alex>
- Alexa PHP Library - <https://github.com/jakubsuchy/amazon-alex-php>
- Content (with correct modelling)
- Custom Module



The Drupal side of the demo:

- Custom Code - Create a **RequestSubscriber**

<https://gist.github.com/gargsuchi/7d587417823bbc376ed7245cfd5dc4c8>



Broad Steps in a nutshell

- Create an Alexa Skill
- In the Drupal install, create the content type and some sample content
- Install Alexa module
- Create a custom module - with the RequestSubscriber
- Change the endpoint of your skill to point to the Drupal install (/alexa/callback)
- Test using the inbuilt developer tool
- Test using an actual amazon device



Troubleshooting

- **I can not see my skill in the alexa app**
Make sure that you have logged into Alexa app using the same credentials as your alexa developer credentials.
- **I can see the skill in the app, but my echo device is not recognising the skill**
This mostly happens when there is a language mismatch between the skill and the language set for the echo device. You can change the language for the echo device in Alexa app
CAUTION: If you try to change the language of the skill - you will lose any Intents that you created in the skill. So make sure you start with the correct language when you are starting the skill.



Troubleshooting continued...

- **Alexa is not responding to my utterance**

Use the test simulator to test the utterance, and enable Device Log. That helps in debugging. As an example, in response was causing an error for me, so I had to replace from my responses.



Alexa Skill Manager

https://www.drupal.org/project/alex_a_skill_manager





Questions?

Feedback

<https://www.surveymonkey.com/r/DCGlobal20SessionEval?title=JumpingAI&id=30848>



Some Stats

- As per the economist, Over 4 billion people are using messaging services
- Mobile app usage is declining by 20 percent year over year.
- Most users spend 50 percent of their time using just one app, and that's typically a messaging app.
- 75 percent of smartphone users use at least one messaging app.
- The number of messaging users have surpassed the number of social network users.
- Five of the top 10 apps of all time are messaging apps.



SEO architecture?

Alexa Laughing

Privacy

