



# 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

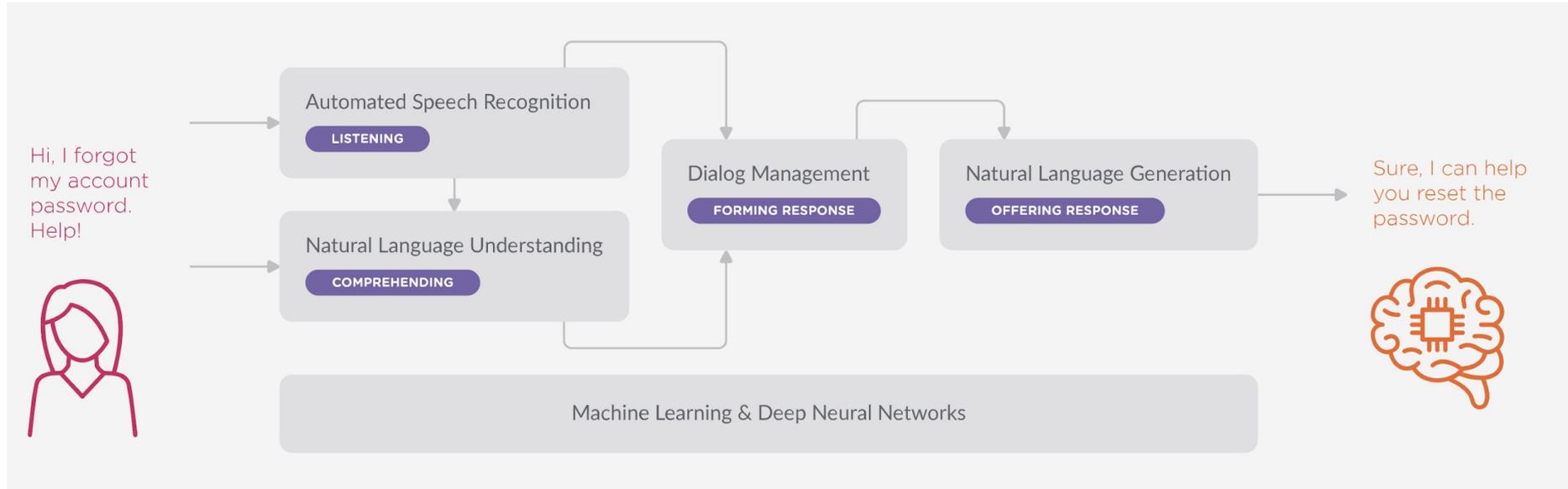


# Conversational AI





# 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...

	<b>Alexa</b>	<b>Google</b>
<b>Documentation</b>	Great once you get over the initial skill barrier	Great for initial skill
<b>Cloud integration</b>	Great cloud support, need to improve documentation	Great cloud support, need to improve documentation
<b>Codeless skills</b>	Skill templates are great	Not that great
<b>Current installed base</b>	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 <span>?</span>	NAME <span>?</span>	SLOT TYPE <span>?</span>
1	Ingredient	AMAZON.Food <span>▼</span>
2	Create a new slot	+ Select a slot type <span>▼</span>





# 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/alexaproject>
- Alexa PHP Library - <https://github.com/jakubsuchy/amazon-alexa-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, &nbsp; in response was causing an error for me, so I had to replace &nbsp; from my responses.



## Alexa Skill Manager

[https://www.drupal.org/project/alexa\\_skill\\_manager](https://www.drupal.org/project/alexa_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

