



Talk to me Drupal

Using Drupal to power a Voice App

Hello My Name Is Frank

I am a Christian, Father, and Technology Enthusiast.

- *Online my name is **frob** (IRC, d.o, github)*
- *On Twitter I am **@frobdfas***
- *My Blog is www.frobiovox.com*
- *I work for Clarity Innovations Inc.*



Technology Enthusiast

Jack of all Technologies



Live Demo

I would Ask Alexa for something

It would respond

I would edit something in Drupal and ask again

It would respond differently

Realization

Everyone here has likely seen the node edit page.



<https://twitter.com/chrisferrel/status/972861513928032256>

Numbers are cool

By 2020, 30% of *web* browsing will be done without a screen.

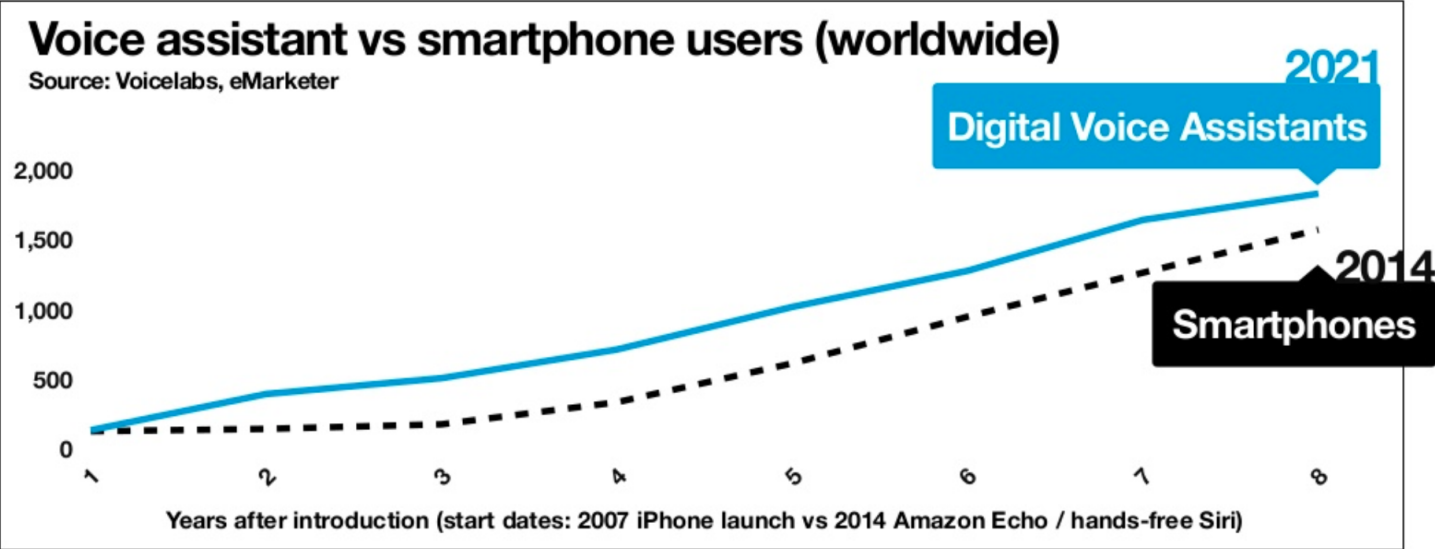
Gartner research

Voice first is the new mobile first



Best viewed on Internet Explorer at 800x600 resolution.

Voice Assistants Adoption



Much cooler than the node edit page.

So you have decided to build a **Voice App**

We want a voice app that tells one new joke every day

This can be done multiple *bad* ways

Foreshadowing

- Cool stuff
- Voice App 101
- Architecture
- Natural Language Processing
- Current Market
- VUI design tips
- Bringin it Home
- Questions

Intents, Utterances, and Slots

Intents

The goal, function, or command you want to happen

Utterances

The words you expect a user to say to make the intent happen

Entities

Data that the intent needs

Intent Parameters

Fulfillment

- This is what happens when the app thinks it know the intent of the user and all the data slots are filled
- This can be any https REST endpoint
- This can also be a straight up lambda function

High level architecture

- I talk to Alexa
- Alexa calls Drupal
- Drupal gives the response to Alexa
- Alexa talks back to me

Theres a module for that

Chatbot API

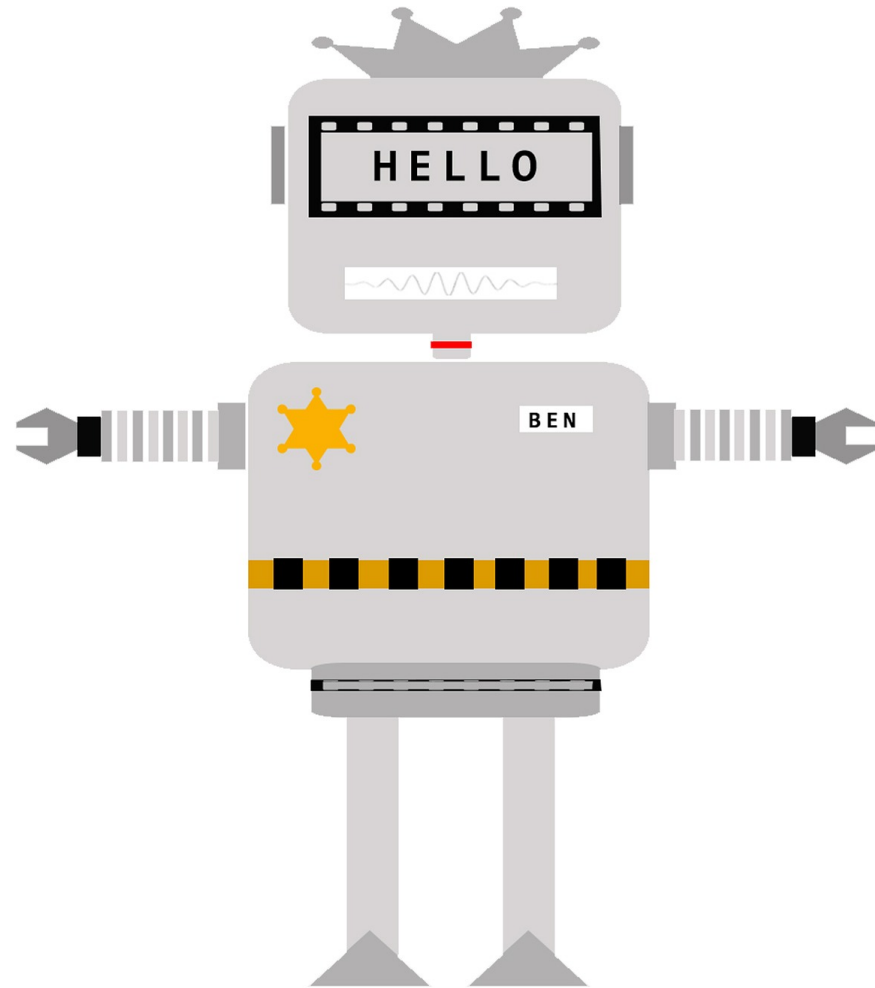
Currently the following platforms are supported:

- [Alexa](#), by using the internal `chatbot_api_alex` submodule together with the [Alexa](#) module.
- [Dialogflow](#), by using the internal `chatbot_api_ai` submodule together with the [Dialogflow Webhook](#) module

More integrations are coming. Also if you've written a driver or an useful plugin let us know!

Open Source Voice and NLP

Natural Language Processing is hard.



Italian grandmother learning to use Google home



NLP is hard



NLP in 4 easy steps

Open Source Language Parsing libraries

NLTK for Python

NLPTools for PHP

Do lots of data science processing to format the spoken language into something the computer can understand.

Lemmatization

Sentence breaking

Morphological segmentation

Stemming

Do Machine Learning

TensorFlow

Roll your own Machine Learning library

Can't be to hard, this guy did it in Excell

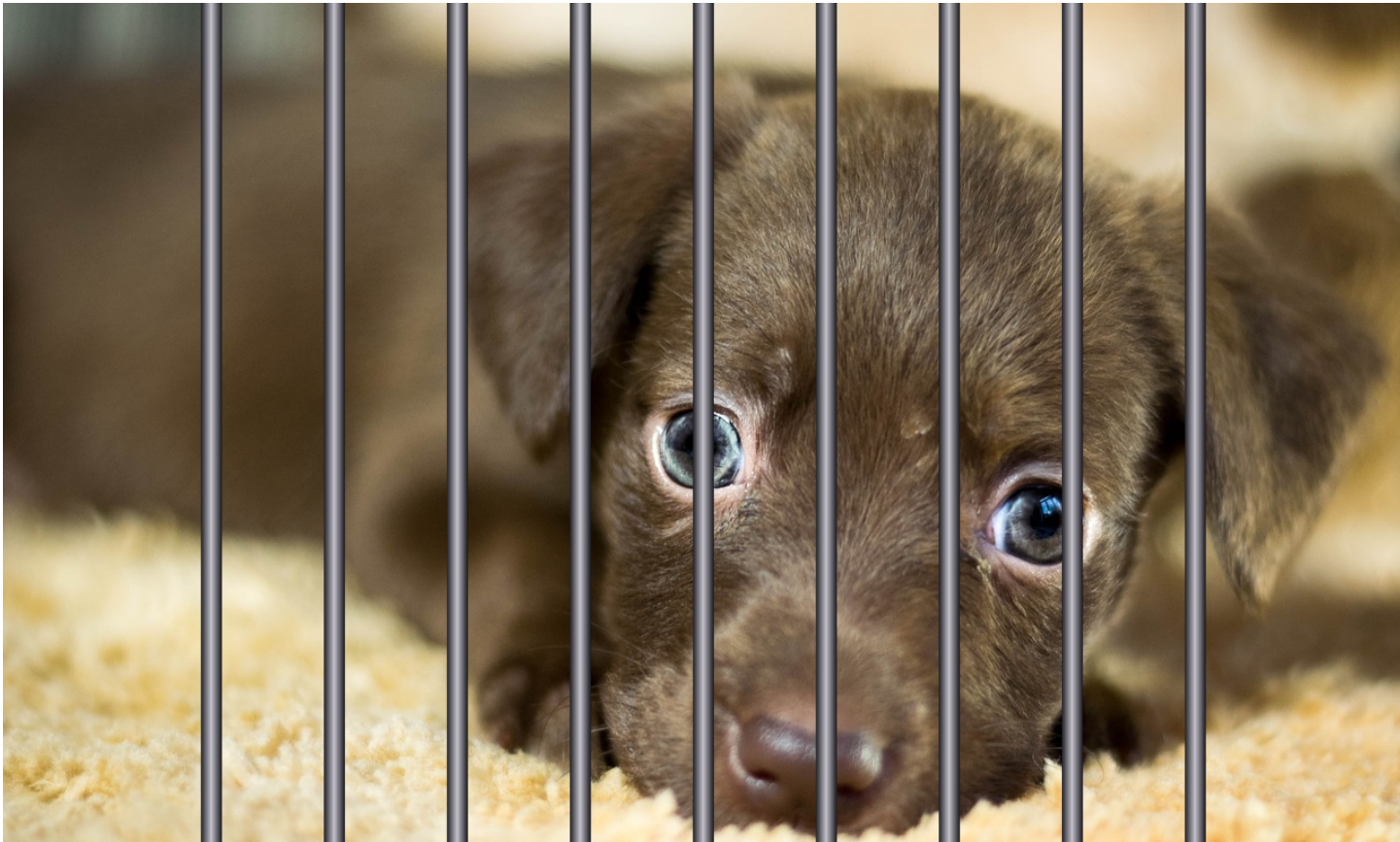
Machine Learning using a Neural Network in Excel



Do the thing your clients want done.

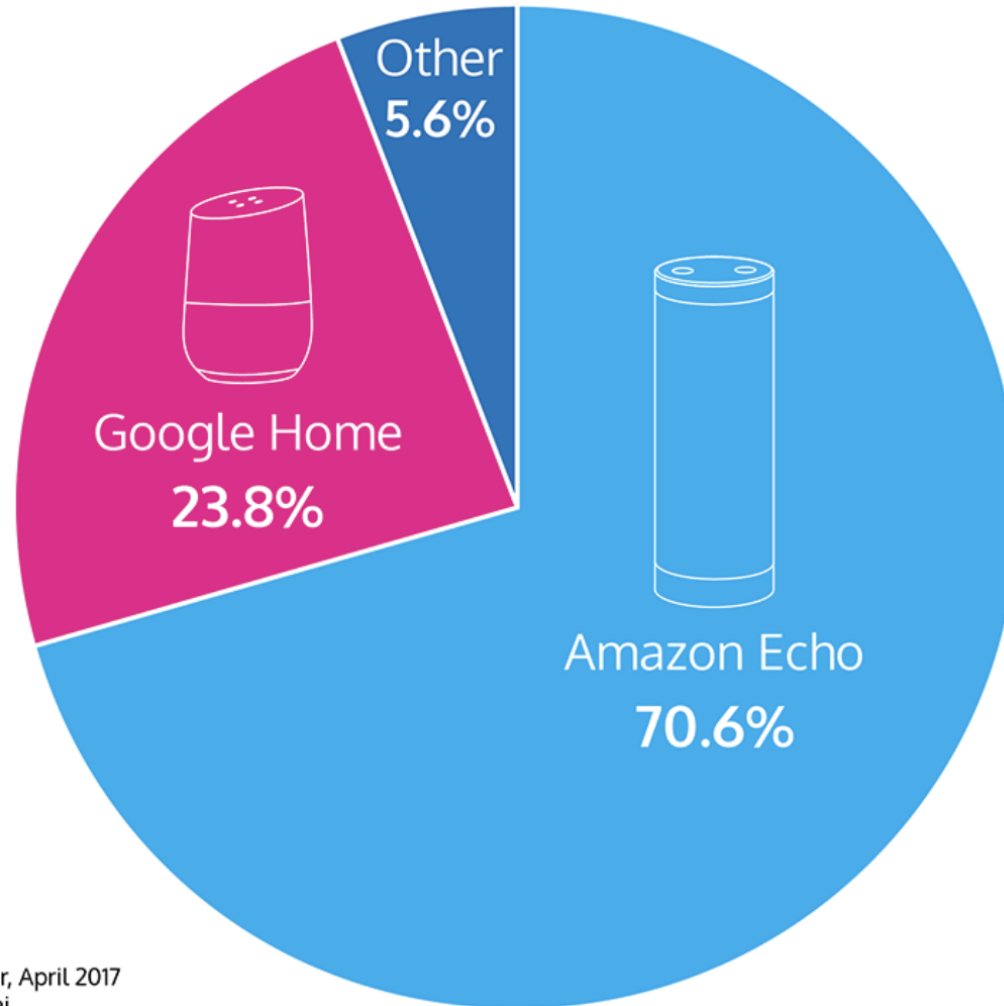
The biggest hurdle to open source NLP

Adoption



Amazon is leading in adoption

US Voice-Enabled Speaker User Share by Player, 2017



Source: eMarketer, April 2017
Image: Voicebot.ai

What is alexa and why is it leading?

Amazon devices

- Echo
- Echo Dot
- Echo Show
- Echo Spot
- Echo plus
- Echo Look
- Fire TV
- Fire Tablet
- Amazon app on your phone
- Invoxia Tribby
- Ultimate Ears Blast
- Sonos One
- Eufy Genie

What makes Alexa so appealing to developers

Alexa Automated Workbench Part 1



Another reason Alexa dominate in apps

lambda and tight AWS integration

Lambda languages

- Python
- Javascript
- Go
- C#
- Java

How does Drupal fit in?



Other Voice Interfaces

- Google Assistant
- Microsoft Cortana
- Apple Siri

Call to action

Rescue NLP



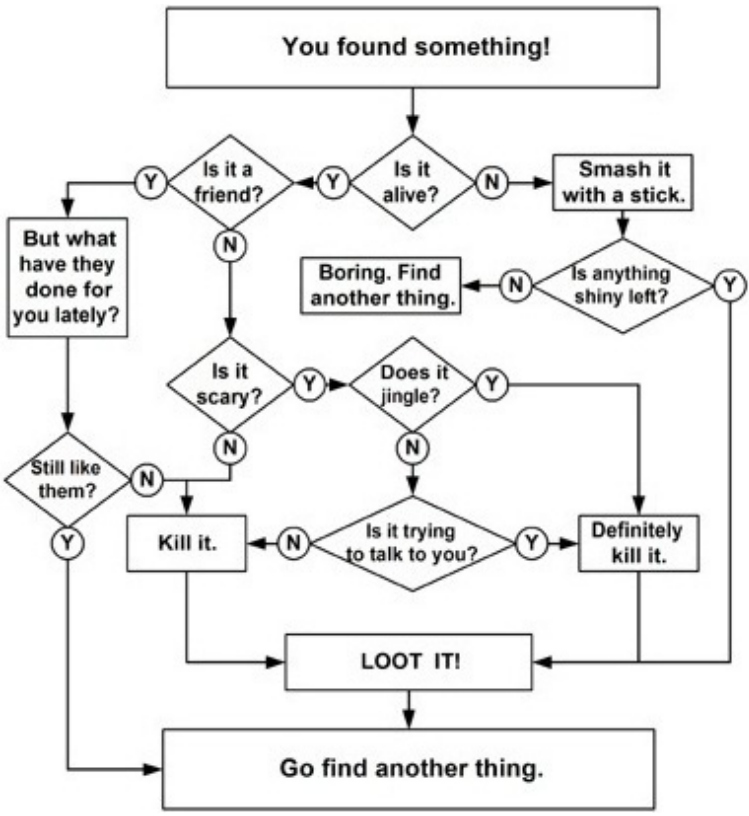
Eventually

VUI Design

It is imposible to have no design, you either have a good design or a bad design.

Adam Judge said something like that.

Cartography & Dialog Trees



VUI basics

- keep it conversational
- never tell someone what to say
- Allow for help, but handle errors gracefully

Voice Design

- There is no *No Design*
- Nothing has *No Attitude*
- Nothing has *No Voice*

Bring it home

Want to have a voice app that tells one new joke every day

This can be done multiple ways.

What we covered

- [✓] Cool stuff
- [✓] Voice App 101
- [✓] Architecture
- [✓] Natural Language Processing
- [✓] Current Market
- [✓] VUI design tips
- [✓] Brought it home

The Revolution has begun



Source: Amazon



Join us for contribution sprints?

Friday, April 13, 2018

Mentored Core Sprints

9:00-18:00

Room: 103

First Time Sprinter Workshops

9:00-12:00

Room: 101

General Sprints

9:00-18:00

Room: 104



What did you think?

Give us some feedback on this presentation!

[Talk to me Drupal!](#)

Take the DrupalCon Survey

www.surveymonkey.com/r/DrupalConNashville



Links

[Italian grandmother learning to use Google home](https://www.youtube.com/watch?v=e2R0NSKtVA0) (<https://www.youtube.com/watch?v=e2R0NSKtVA0>) [I've got no screens](https://www.slideshare.net/cwferrel/ive-got-no-screens-internets-screenless-future-sxsw-2018-90319757) (<https://www.slideshare.net/cwferrel/ive-got-no-screens-internets-screenless-future-sxsw-2018-90319757>) [Chatbot API Drupal Module](https://www.drupal.org/project/chatbot_api) (https://www.drupal.org/project/chatbot_api) [Excell Neural Network](https://www.youtube.com/watch?v=kCL065_0zTY) (https://www.youtube.com/watch?v=kCL065_0zTY) [NLP in Python](https://elitedatascience.com/python-nlp-libraries) (<https://elitedatascience.com/python-nlp-libraries>) [NLP wikipedia](https://en.wikipedia.org/wiki/Natural-language_processing) (https://en.wikipedia.org/wiki/Natural-language_processing) [Ben Heck's Alexa Powered Workbench](https://www.youtube.com/watch?v=3TaLI4Bqel) (<https://www.youtube.com/watch?v=3TaLI4Bqel>) [Google Actions Dashboard](https://onsite.actions.google.com) (<https://onsite.actions.google.com>) [Google Actions Facts](https://g.co/dev/facts-about-google) (<https://g.co/dev/facts-about-google>) [Google Actions Dev Docs](https://g.co/actionsdev) (<https://g.co/actionsdev>) [Applying Built-in Hacks of Conversation to Your Voice UI](https://www.youtube.com/watch?v=wuDP_eygsvs) (https://www.youtube.com/watch?v=wuDP_eygsvs) [Finding the Right voice](https://www.youtube.com/watch?v=0PmWruLLUoE) (<https://www.youtube.com/watch?v=0PmWruLLUoE>) [Google I/O 2017 Voice App Playlist](https://www.youtube.com/playlist?list=PLJ21zHI2TNh9VkAu1EsOhpw92Wkm-XcuD) (<https://www.youtube.com/playlist?list=PLJ21zHI2TNh9VkAu1EsOhpw92Wkm-XcuD>)