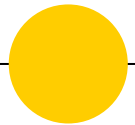
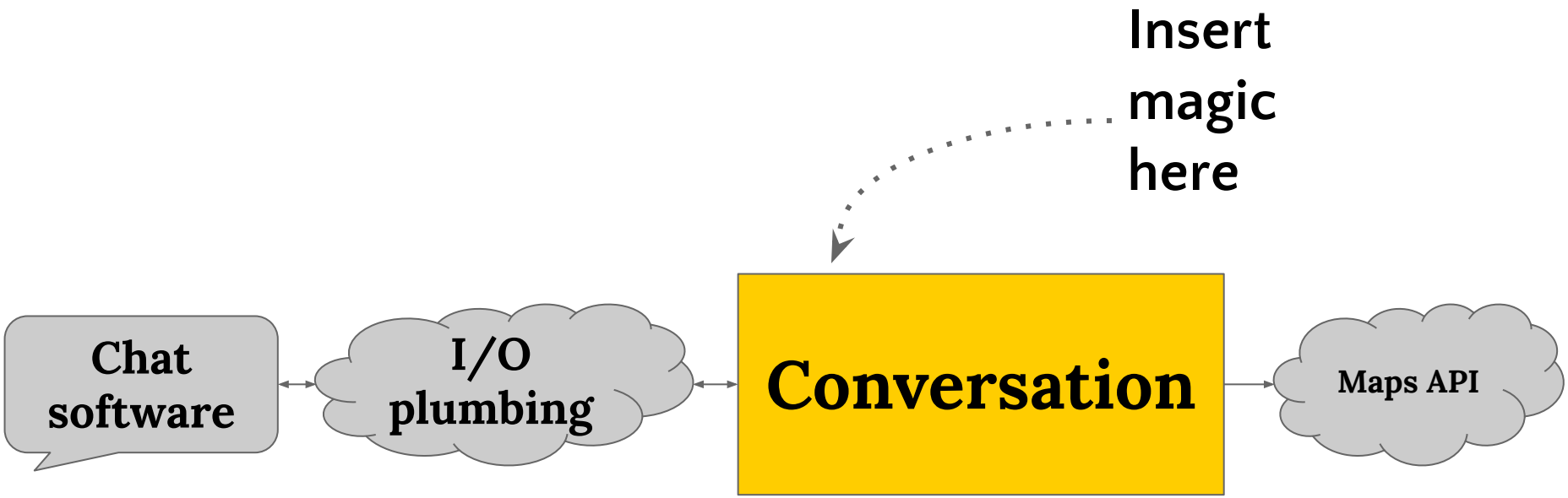
Why Your Chatbot Sucks



and a few things you can do about it

Eyal Yavor, CTO @ Meekan

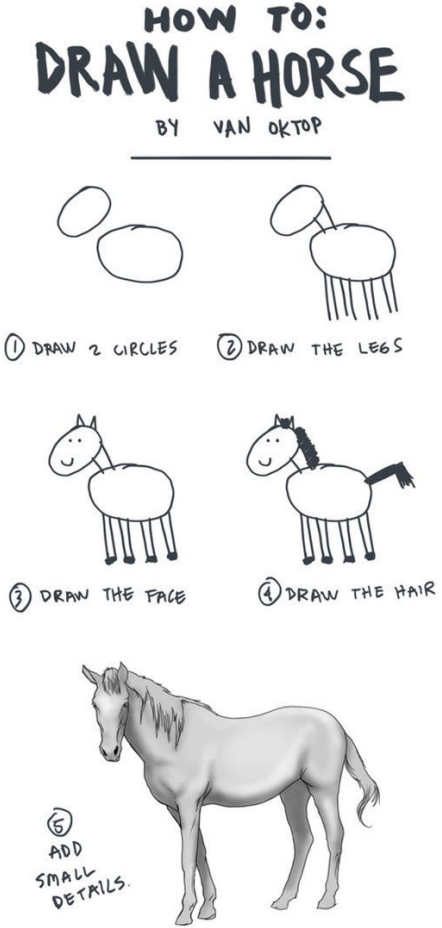
Today's Example:
Google Maps over text


Insert magic here
Chat software
I/O plumbing
Conversation
Maps API

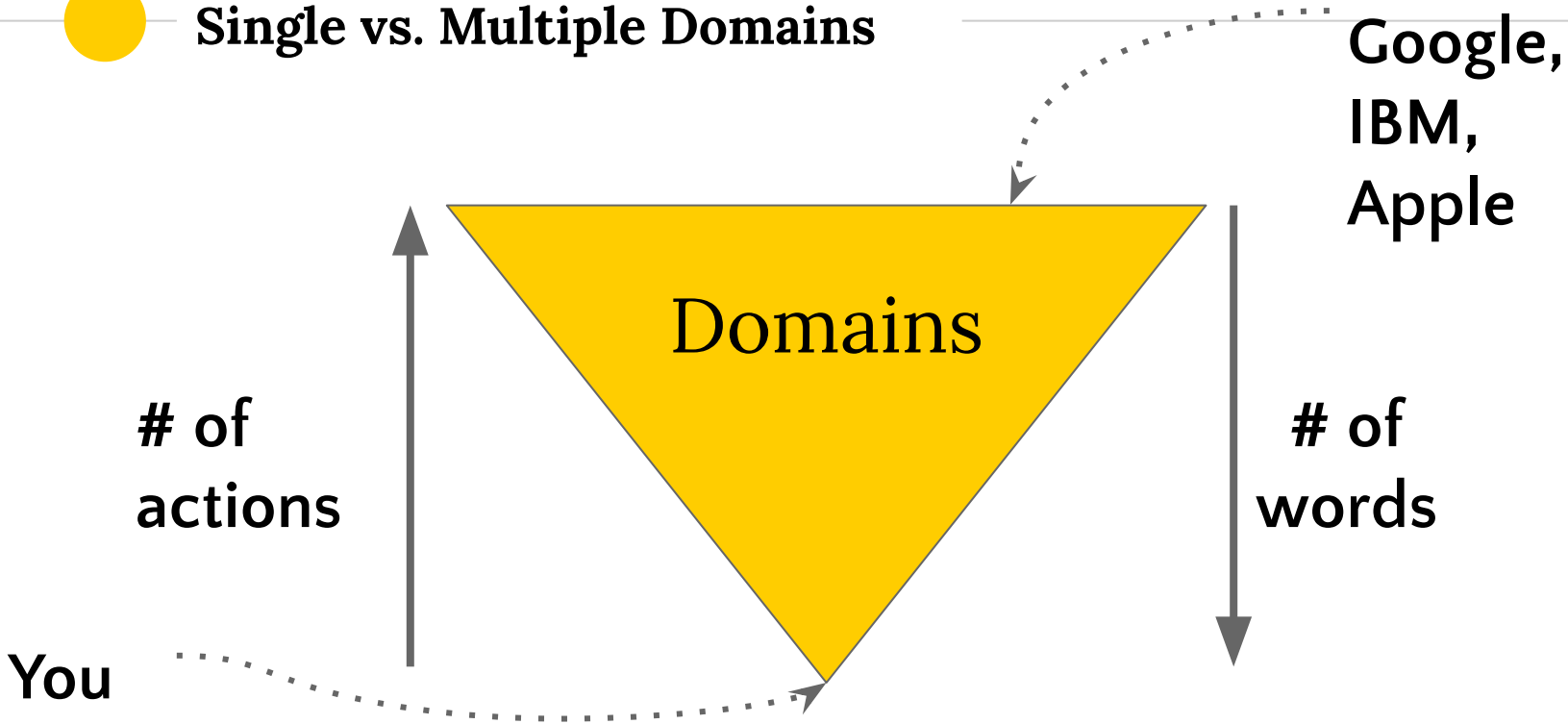
Chatbot Platforms

- **Botkit**
  - Best community and addons
- **Microsoft Bot Builder**
  - Best I/O Plumbing

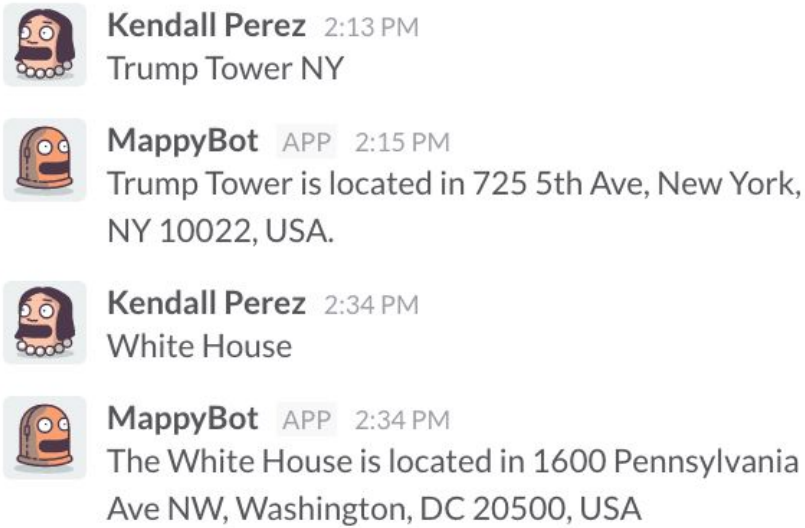
That’s where tutorials finish


HOW TO:
DRAW A HORSE
BY VAN OKTOP
1 DRAW 2 CIRCLES
2 DRAW THE LEGS
3 DRAW THE FACE
4 DRAW THE HAIR
5 ADD SMALL DETAILS.
Buzzfeed

Single vs. Multiple Domains



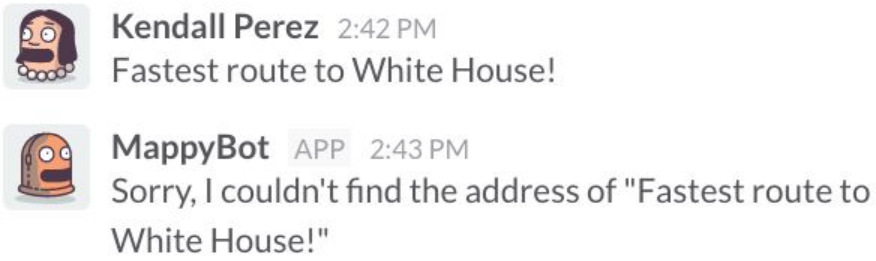
Current State: CLI Over Slack



Input

Improving what the chatbot understands

Adding another action



Adding another action: Ifs

```
if message.startswith(“location”):
   place = extract_place(message)
   do_place_lookup(place)
elif message.startswith(“directions”):
   src, dest = extra_route(message)
   do_route_lookup(src, dest)
```

Adding another action: Regex

```
/drive from (?P<src>\w*) to (?P<dst>\w*)/
```

Still Yuck.

Why is it yucky?

- People don't remember commands
- People write what they want
- People have typos, fat fingers, and funny accents

- People feel natural with free text

Natural Language Understanding

- High Level – not NLTK
- SaaS – Training, feedback loop
  - Facebook's Wit.ai
  - Google: api.ai
  - Microsoft: LUIS
- Open source: rasa NLU
  - https://github.com/golastmile/rasa_nlu

NLU - Train your model: Intent, Entities

- LookupPlace

Where is the **David Intercontinental Hotel**?

Location of **Empire State Building**

Address of **US Embassy in Israel**

- GetDirections

How do I get from **Tel Aviv** to **Jerusalem**

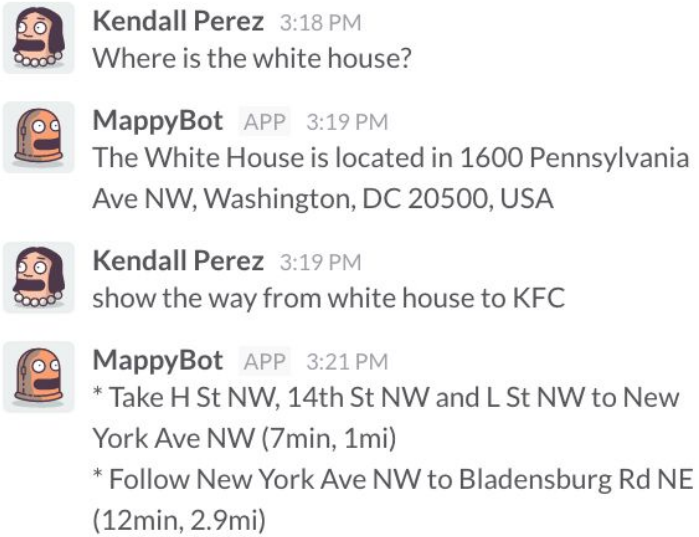
I need to drive from **Penn Station** to **Newark**

From **Trump Tower** to **White House**

Intents:
Not just core

- Insult ➢ “You Suck”
- Greeting ➢ “Good morning”
- Compliment ➢ “Awesome job!”
- Thanks ➢ “Thank you!”
- Help ➢ “How do i search”
- **Out Of Scope** ➢ **“Order me an Uber”**

Current State: Robotic Slave



Output

Improving what the chatbot says

Character

Kendall Perez 3:18 PM
Where are the stairs from "Rocky" movie?

MappyBot APP 3:25 PM
Hmm, I've been there, I know it. It's Art Museum Steps, in Spring Garden St, Philadelphia, PA

Kendall Perez 3:18 PM
Where are the stairs from "Rocky" movie?

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Hmm, I've been there, I know it. It's Art Museum Steps, in Spring Garden St, Philadelphia, PA

Kendall Perez 3:27 PM
Where is Nakatomi Plaza?

MappyBot APP 3:27 PM
Hmm, I've been there, I know it. It's Fox Plaza, in Los Angeles, CA

Kendall Perez 3:35 PM
Do you know Ghostbusters Firehouse?

MappyBot APP 3:38 PM
Hmm, I've been there, I know it. It's Ghostbusters Interior Firehouse, in 225 E 5th St, Los Angeles, CA

Multiple Responses

- Hmm, I've been there, I know it. It's {place_name} in {address}
- Easy! {place_name} is in {address}
- {place_name} is my favorite place – it's in {address}
- Everybody knows {place_name} is right on {address}
- My friend owns {place_name} on {address}
- {address} is where you'll find {place_name}

Kendall Perez 3:18 PM
Where are the stairs from "Rocky" movie?

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Hmm, I've been there, I know it. It's Art Museum Steps, in Spring Garden St, Philadelphia, PA

Kendall Perez 3:27 PM
Where is Nakatomi Plaza?

MappyBot APP 3:27 PM
Fox Plaza is my favorite place - it's in Los Angeles, CA

Kendall Perez 3:35 PM
Do you know Ghostbusters Firehouse?

MappyBot APP 3:38 PM
Easy! Ghostbusters Interior Firehouse is in 225 E 5th St, Los Angeles, CA

Evolve

- Words is how you communicate
- Less words for the usual things
- More words for attention grabbing

- As users get used to you, they need less instructions

Use The Platform

- Embed content
- Format (Markdown, HTML)

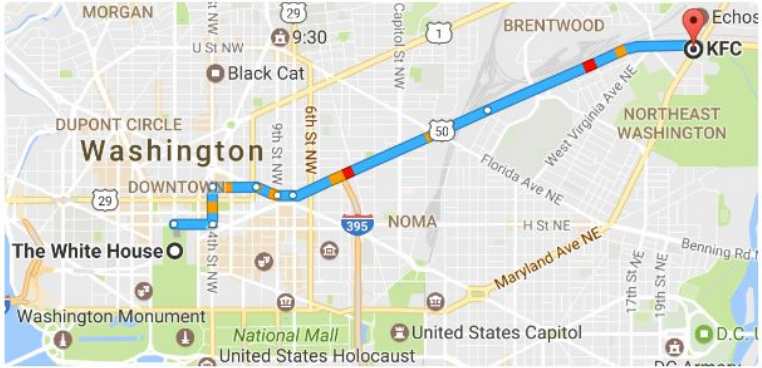
- Harder to do when you multiplatform

Current State: Friendly Slave

Kendall Perez 4:24 PM
show the way from white house to KFC

MappyBot APP 4:27 PM
Easy! Just 16 min (3.9 miles)

White House to KFC



Take H St NW, 14th St NW and L St NW to New York Ave NW (7 min, 1.0 mile)

Follow New York Ave NW to Bladensburg Rd NE (12 min, 2.9 miles)

Conversation

Improving how the chatbot interacts

Context

- Slack, Hipchat:
  - Teammates
  - Emails
  - Work Profile, groups
- Facebook:
  - User timezone
  - Can receive location objects
- SMS:
  - Phone –> Carrier, Country
  - User will not read, will follow links

Onboarding

MappyBot APP 4:12 PM

Hey! I'm your virtual taxi driver. You can ask me about places (`where is capitol hill?`), or directions from one place to another (`how do I get from LA to Vegas`) - I'll help you out.

You can send me your location so I'll remember it.

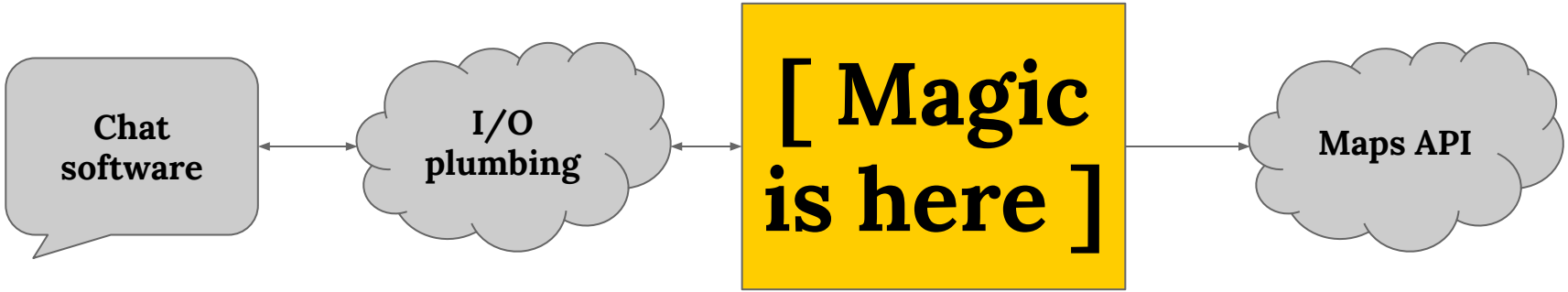
Maintain State Memory

Kendall Perez 4:32 PM
Show me the Venetian in Las Vegas

MappyBot APP 4:32 PM
Easy! Venetian Hotel is in 3355 S Las Vegas Blvd, NV

Kendall Perez 4:33 PM
How do I get to the Bellagio

MappyBot APP 4:37 PM
Okay, showing the route from The Venetian to the Bellagio:



Finally

Thank You

Eyal Yavor

@yulkes