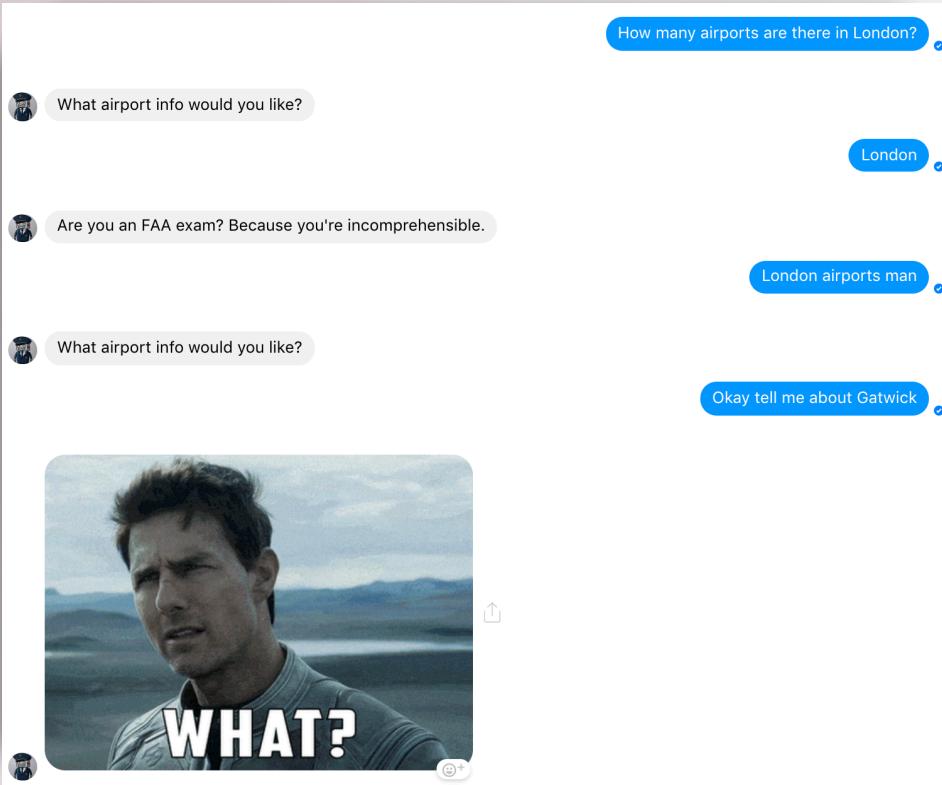


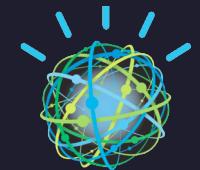


# Conversational AI Platform for Customer Services

Shawn Wen, Cofounder and CTO



# Conversational AI - Where Are We?



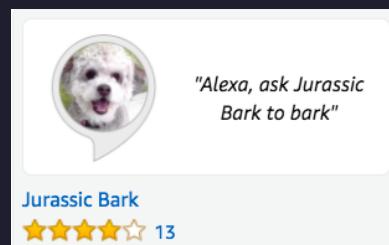
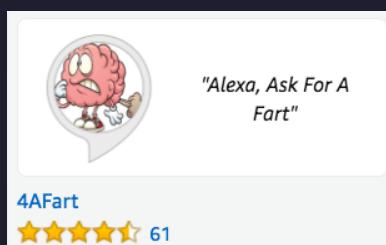
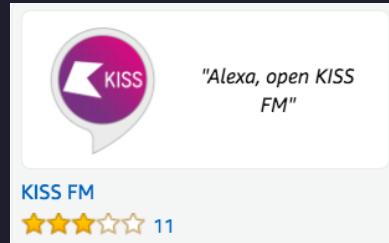
IBM WATSON



Bot Framework



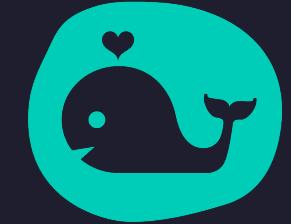
Dialogflow



Xiaoice



Poncho



Swelly



AVA (Autodesk)

# What Are the Challenges?

**Developers have to anticipate all phrases  
that could be used to invoke a command**

- An alarm for 8.30am.
- Set an alarm for half eight.
- Turn on my 8.30am alarm.
- Wake me up in six hours.
- Alarm at 8.30am, please.

...

- Extra hot.
- Very spice.
- Burning hot.
- The hottest one.
- Extra spicy please.

...

# What Are the Challenges?

Developers have to anticipate all phrases that could be used to invoke a command

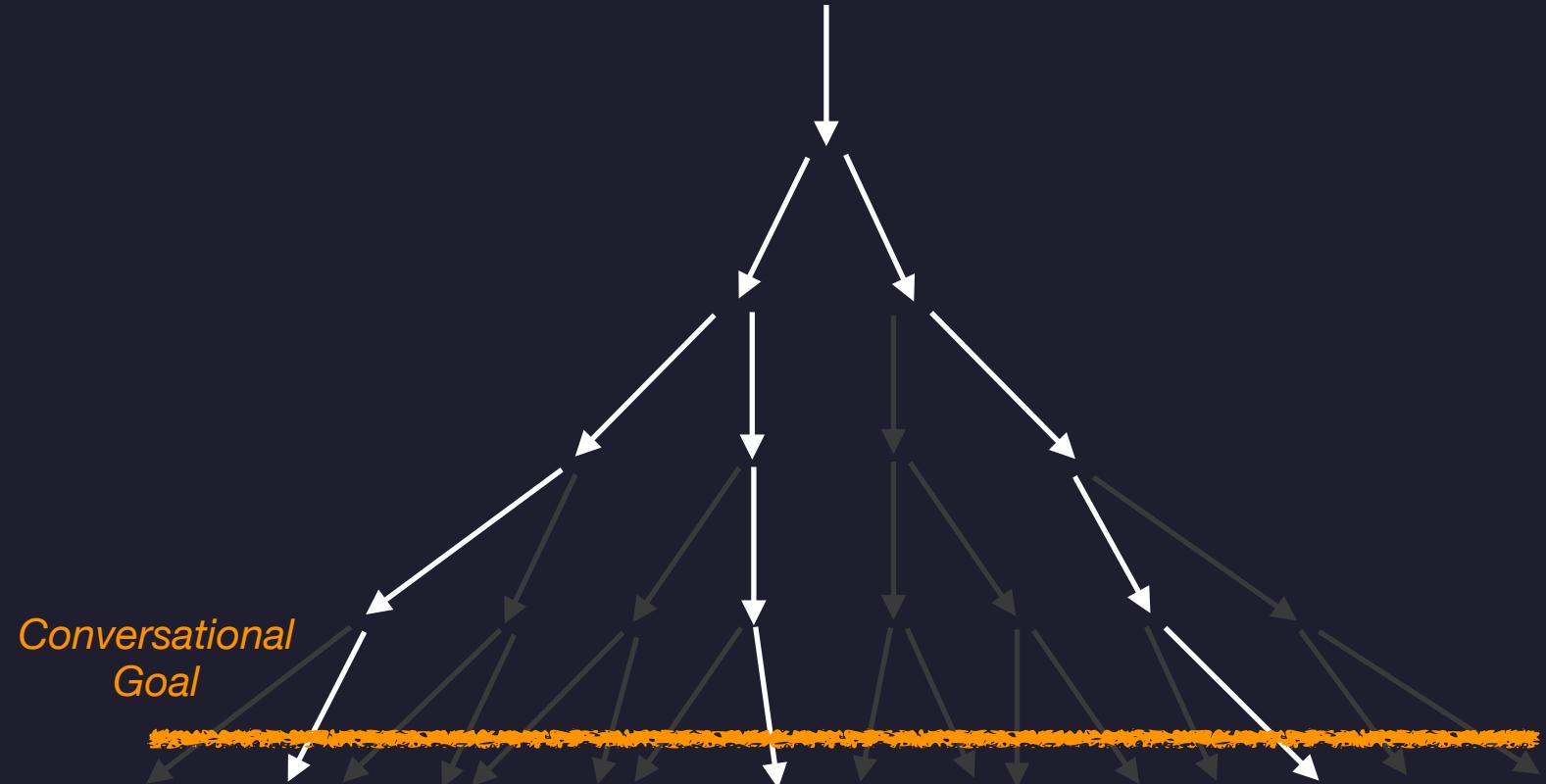
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...

- Extra hot.
- Very spice.
- Burning hot.
- The hottest one.
- Extra spicy please.

...

... and they have to account for all the conversational scenarios that their users might try to follow



# PolyAI - Tech Overview

# Intent Engine

# Canvas of Semantics



# Web Scraping

Canvas of Semantics



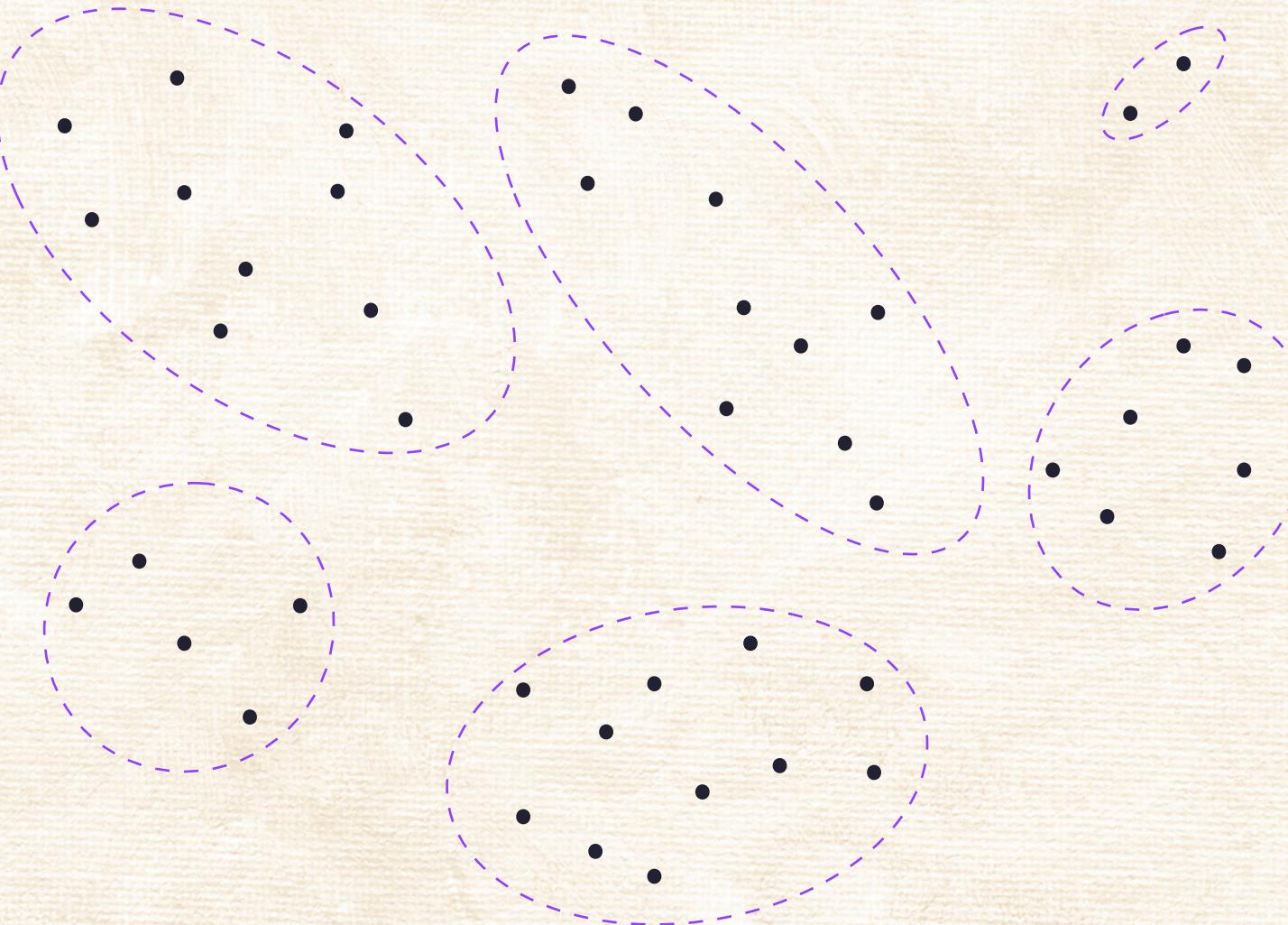
Quora



PolyAI  
find your voice

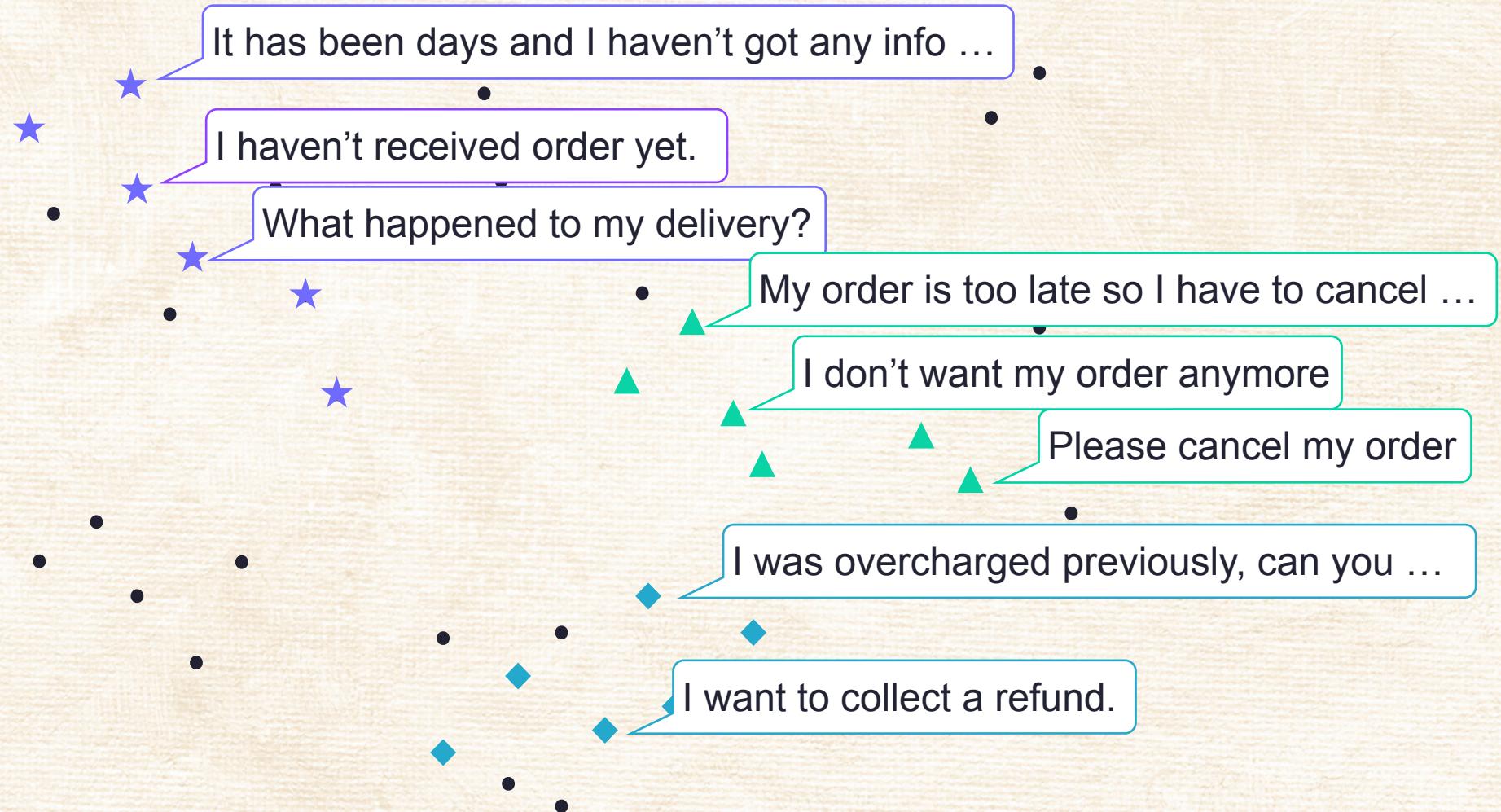
# Unsupervised Learning

Canvas of Semantics



# Annotation

## Canvas of Semantics



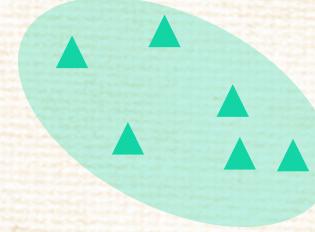
# Supervised Learning

Canvas of Semantics

Late Order



Cancel Order



Refund



# Intent Engine Benchmark

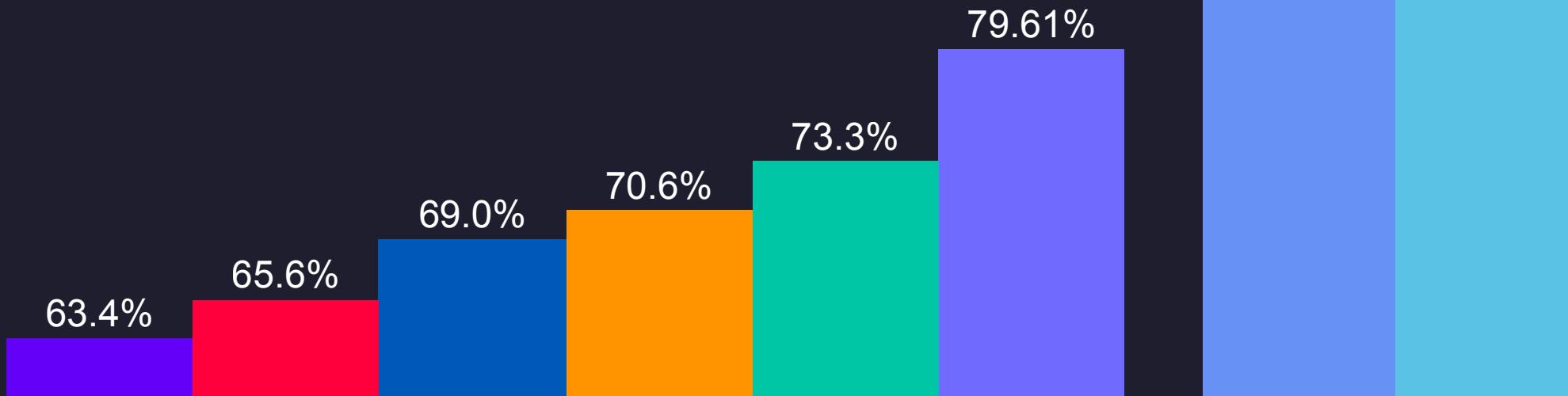
MORE Data!!!



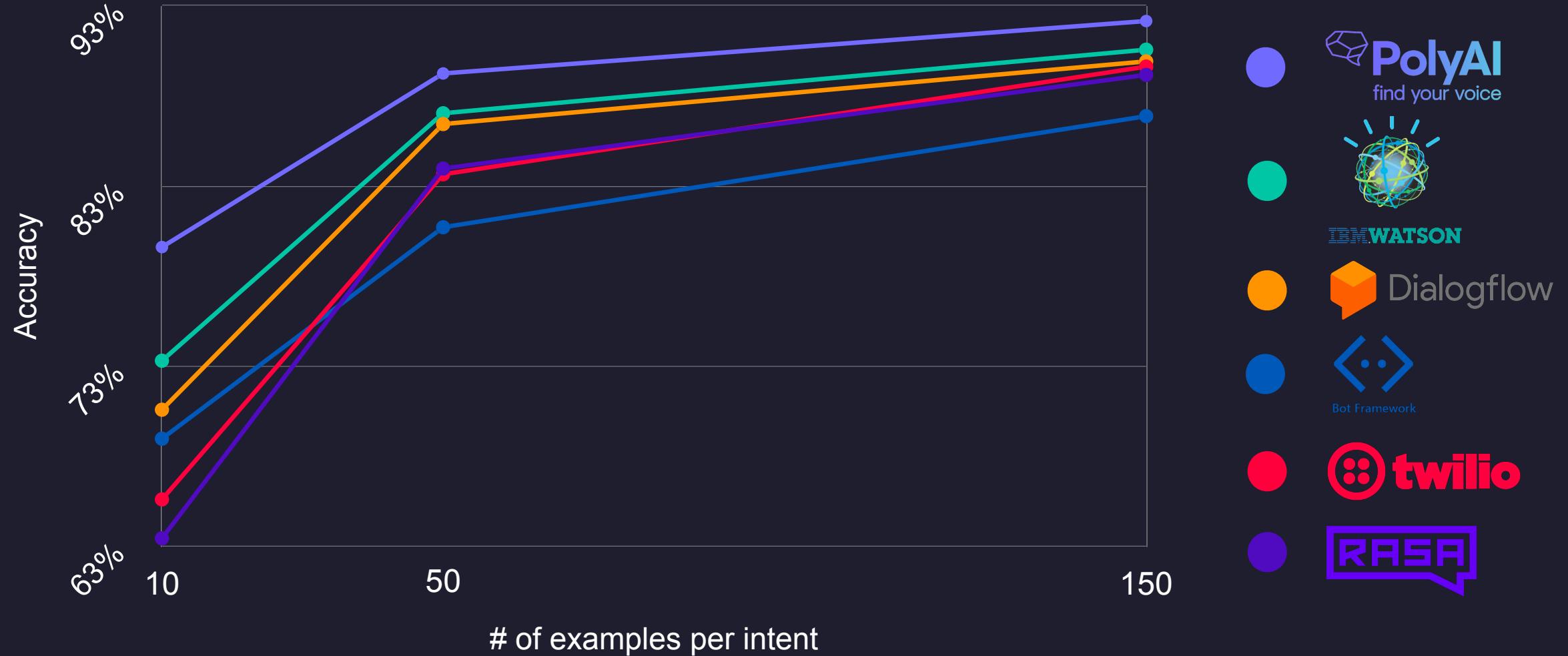
92.16%

## Benchmark Detail

- Use Case: FAQ for a Digital Bank (Revolut)
- 77 unique intents, 10 training examples per intent
- Typical bot building setting



# Intent Engine Benchmark - More Detail



# Intent Engine w/ Shared Representations

- I want an extra spicy one.
  - Extra spicy chicken please.
  - Extra hot, please.
  - A pungent one, please.
- ...



- Quiero uno extra picante.
  - Pollo extra picante por favor.
  - Extra caliente, por favor.
  - Una picante, por favor.
- ...



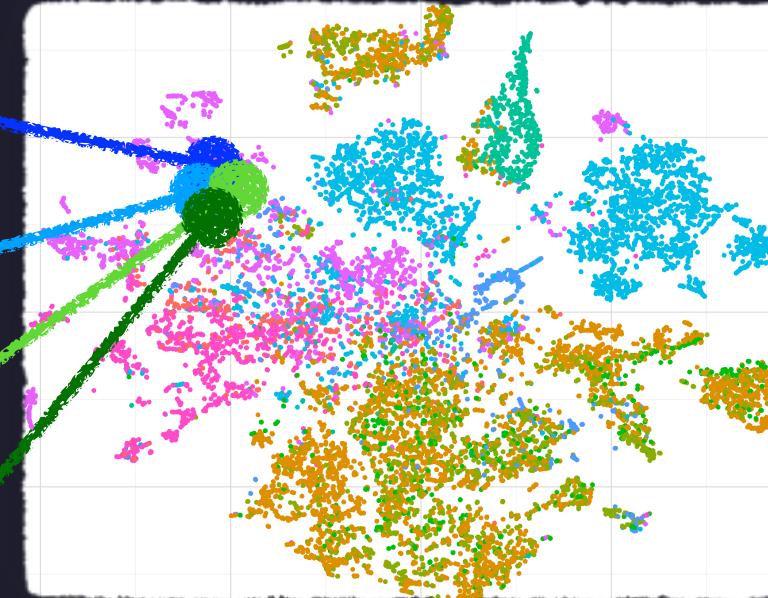
- 나는 여분의 매운 것을 원한다
  - 여분의 매운 닭고기주세요
  - 아주 더워주세요
  - 매운 것, 제발
- ...



- 我想要特辣的
  - 请给我一份特辣烤鸡
  - 我吃很辣的
  - 来一份大辣
- ...



Canvas of Semantics



Ultra  
Spicy

Spicy

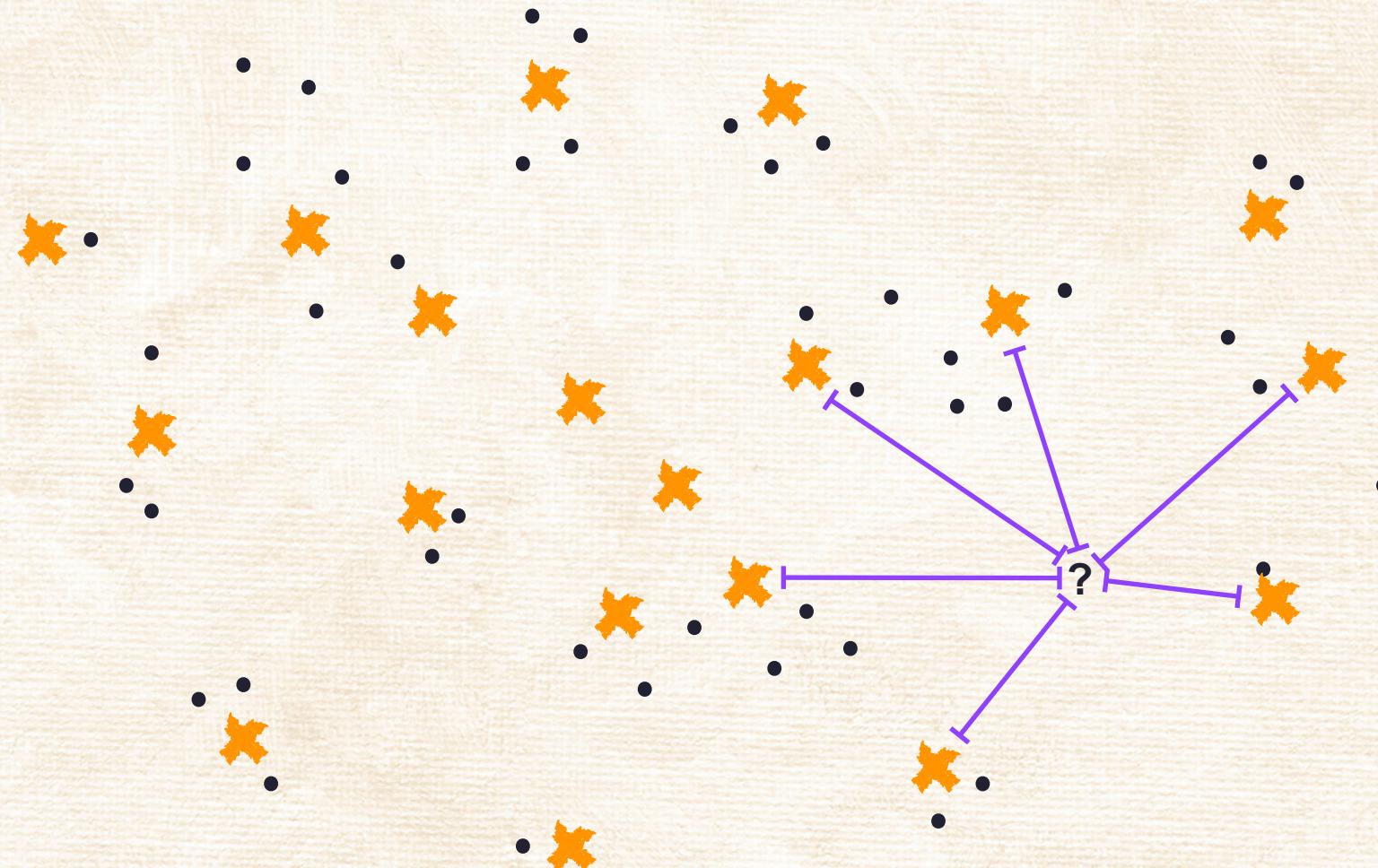
Mild

- Leverage public large datasets for generalization
- One model, multiple intents, many languages
- State-of-the-art performance among similar products

# Response Engine

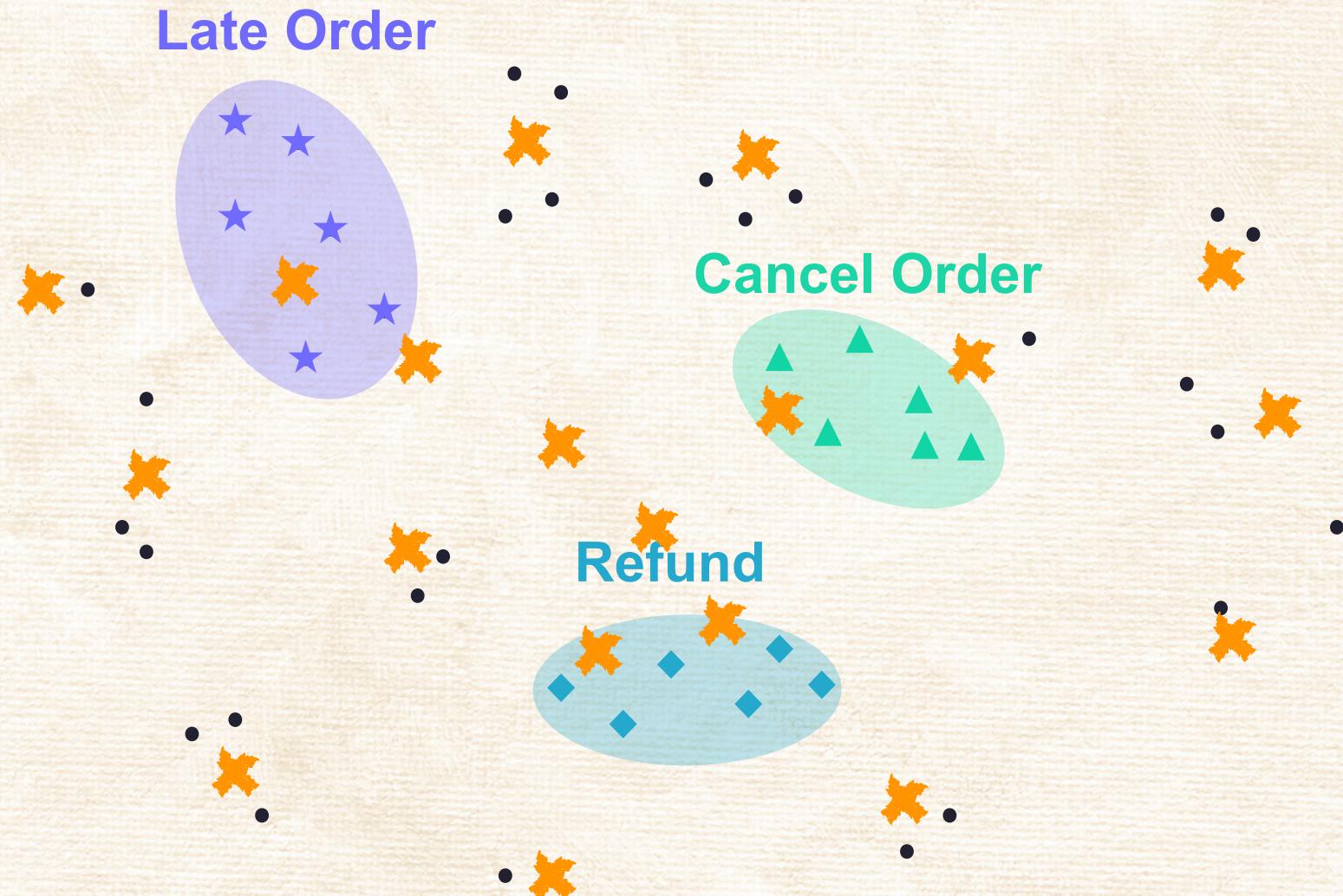
# Content Programming

Canvas of Semantics



# Business Logic Engine

Canvas of Semantics



# Business Logic Engine

Canvas of Semantics

Late Order



Cancel Order



Refund



# Business Logic Engine

Canvas of Semantics

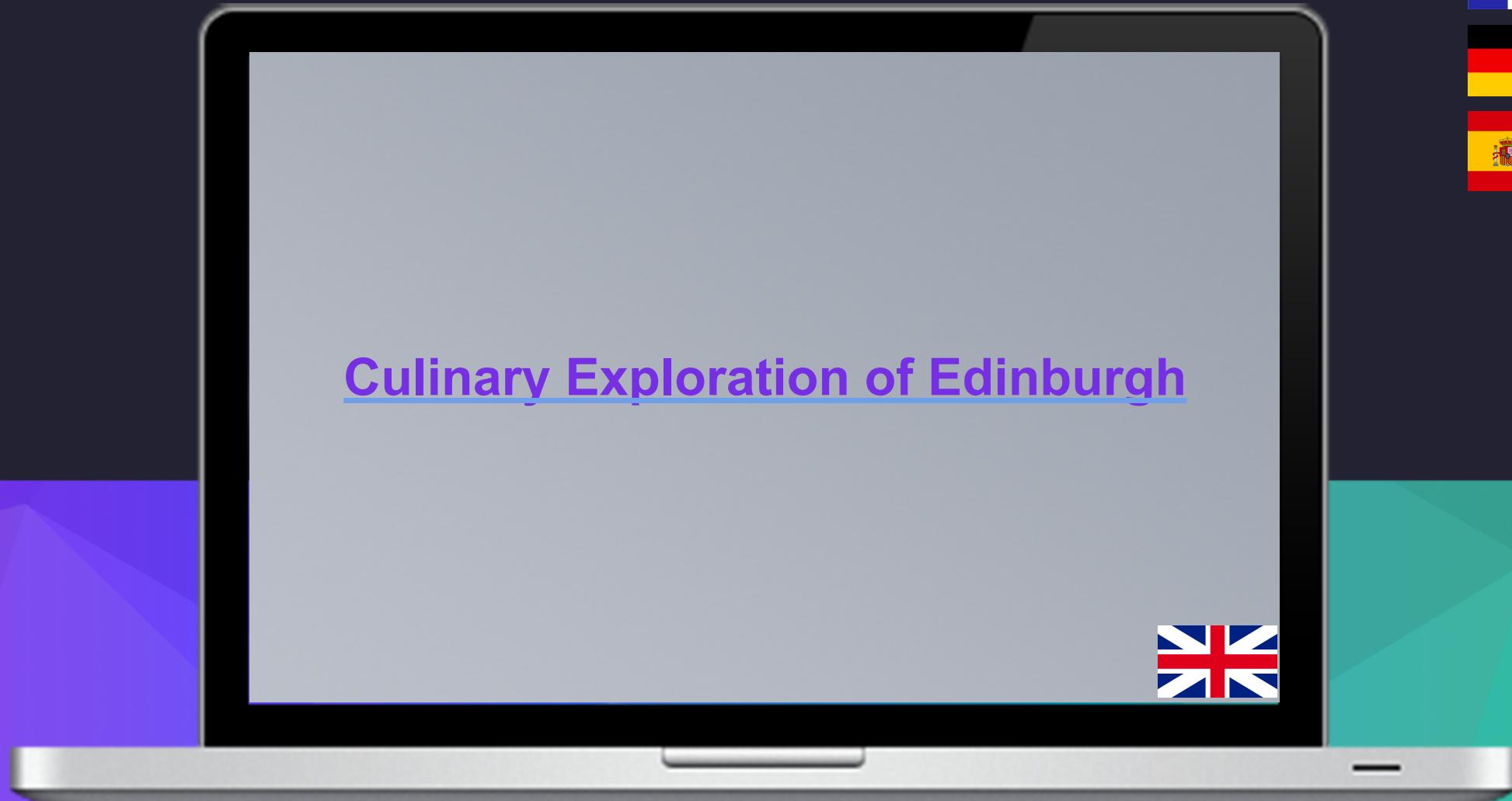
Late Order

Cancel Order

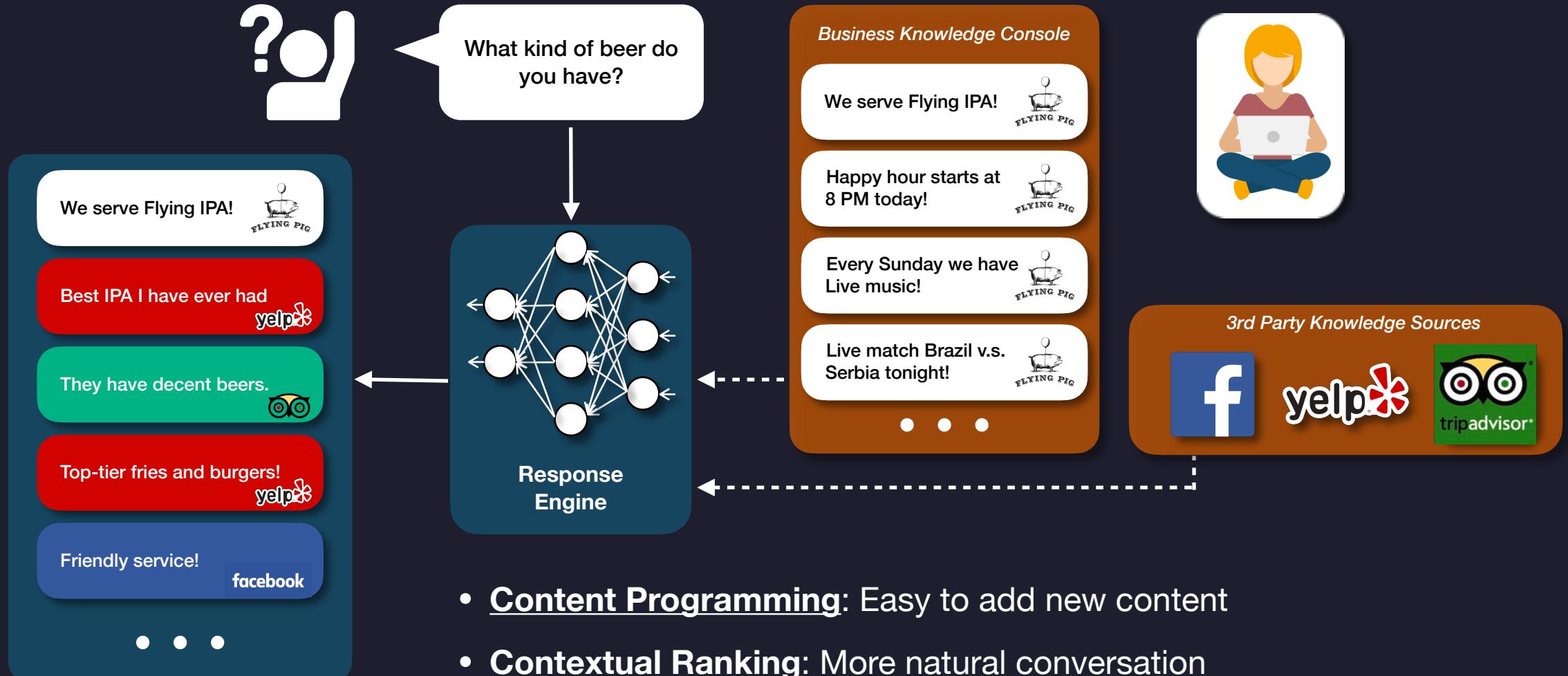
Refund

?

# Live Demo



# Response Engine



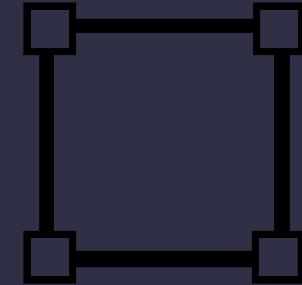
# Our Products



**Smart  
Routing**



**Agent Assist**



**Conversational  
Self-Service**

# Smart Routing

Demo





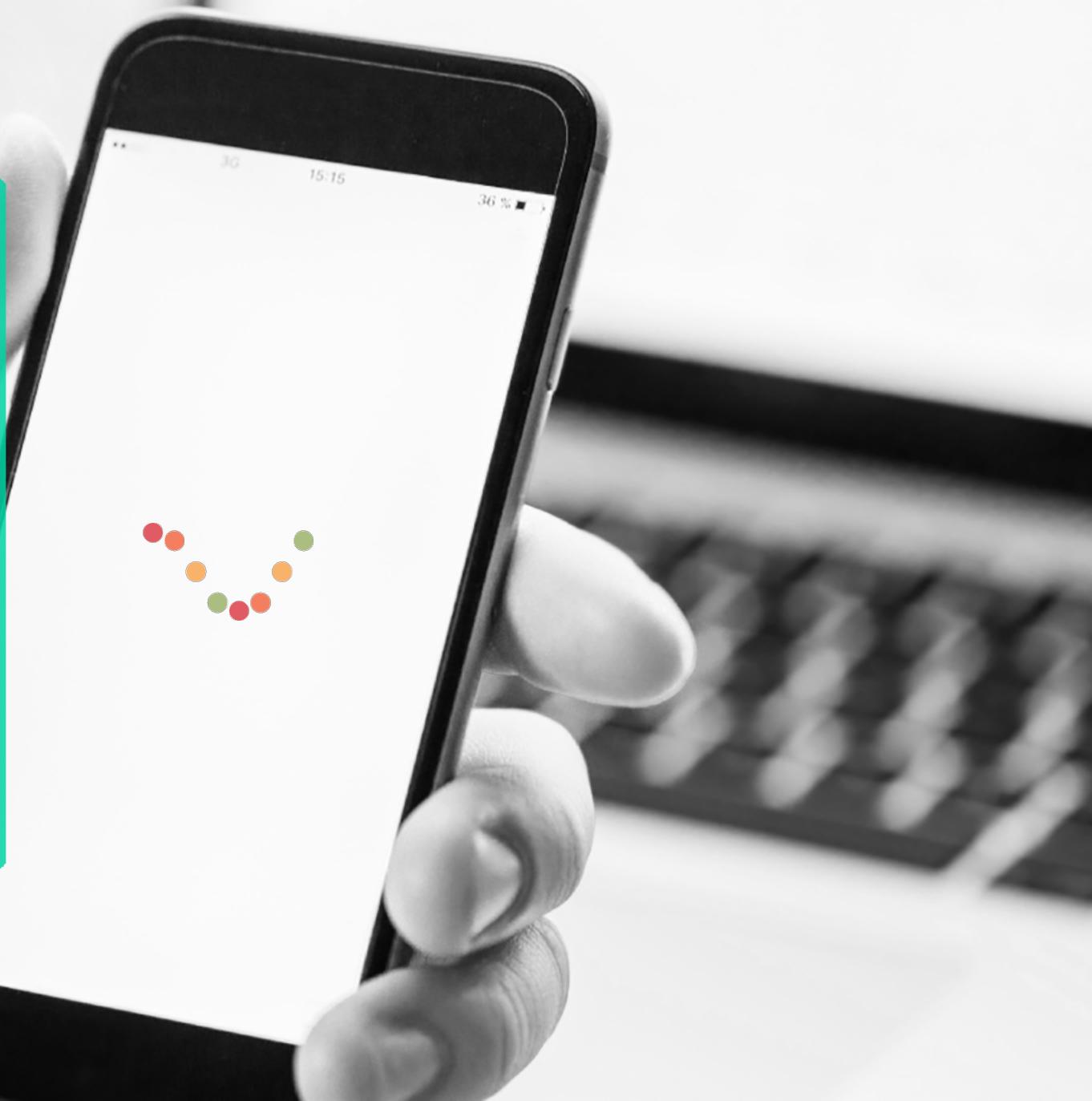
**PolyAI**  
find your voice

## PolyAssist

AI-Powered Understanding Engine  
Contact Centre Assistant Scenario

# Conversational Self Service

Demo



# Thank You!

More info: [polyai.com](http://polyai.com)



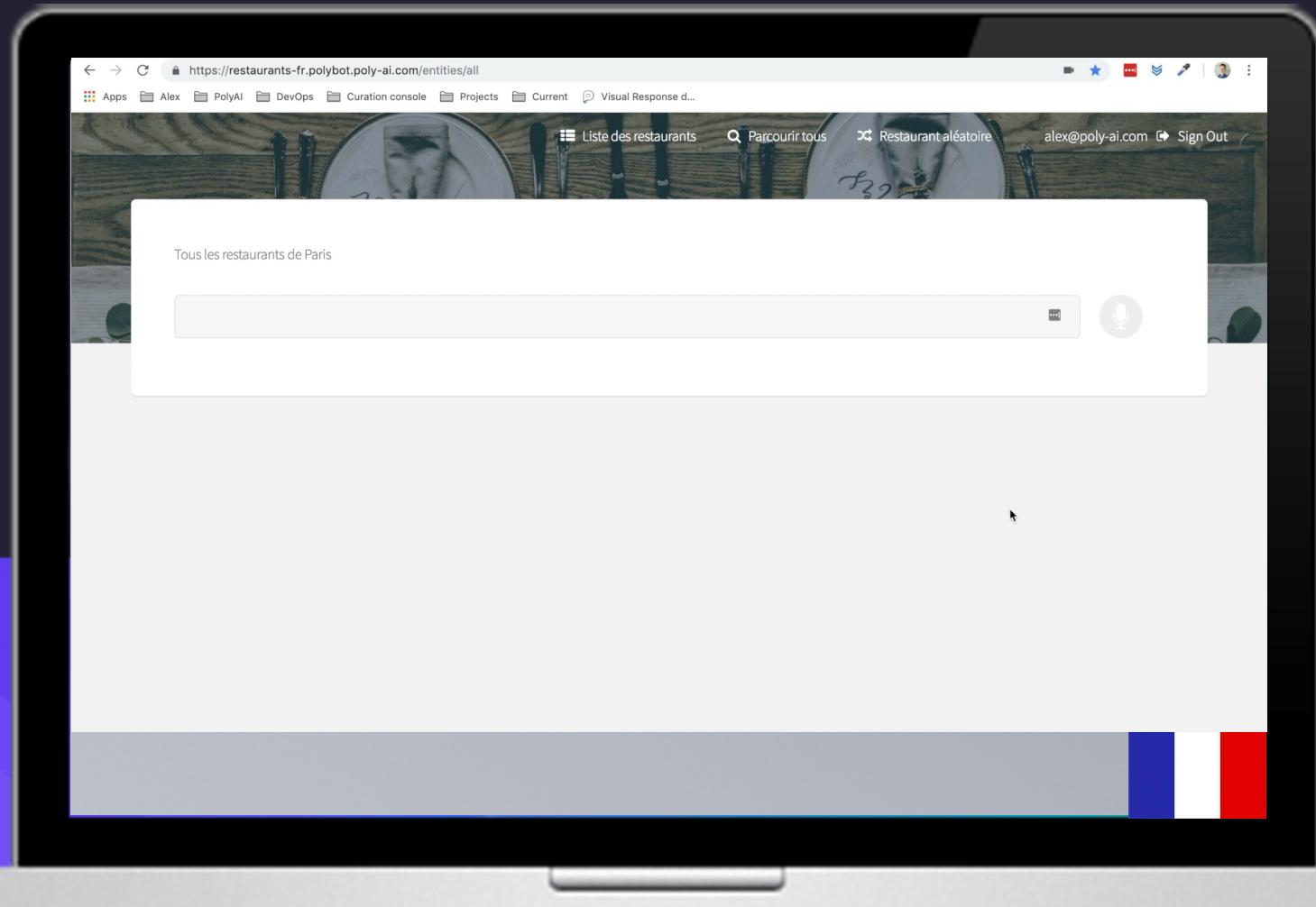
Shawn Wen

[shawnwen@polyai.com](mailto:shawnwen@polyai.com)



**PolyAI**  
find your voice

# French Demo



# Korean Demo

