Would you care to try a Chardonnay?

The challenges of building Margot, the chatbot sommelier

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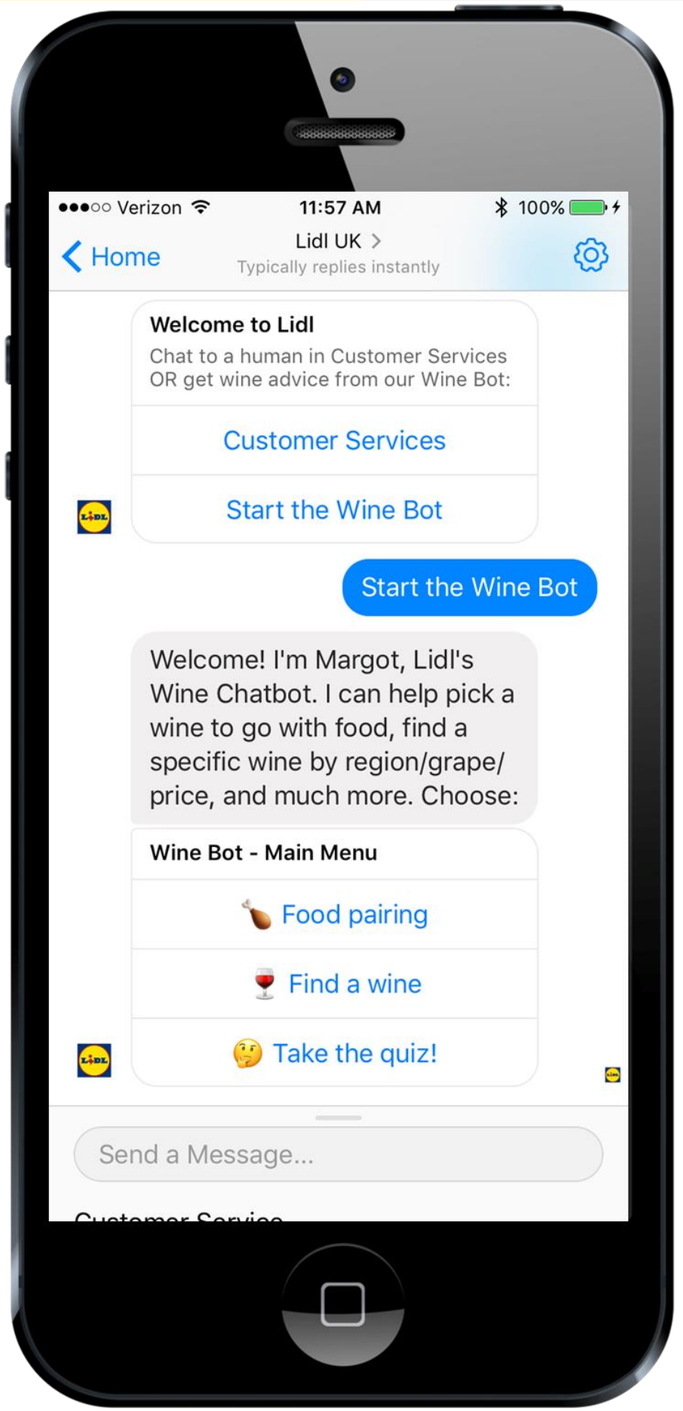
Introduction to Margot

- Great success selling wine
- 800+ stores
- Few human in-store resources
- How to share expertise?



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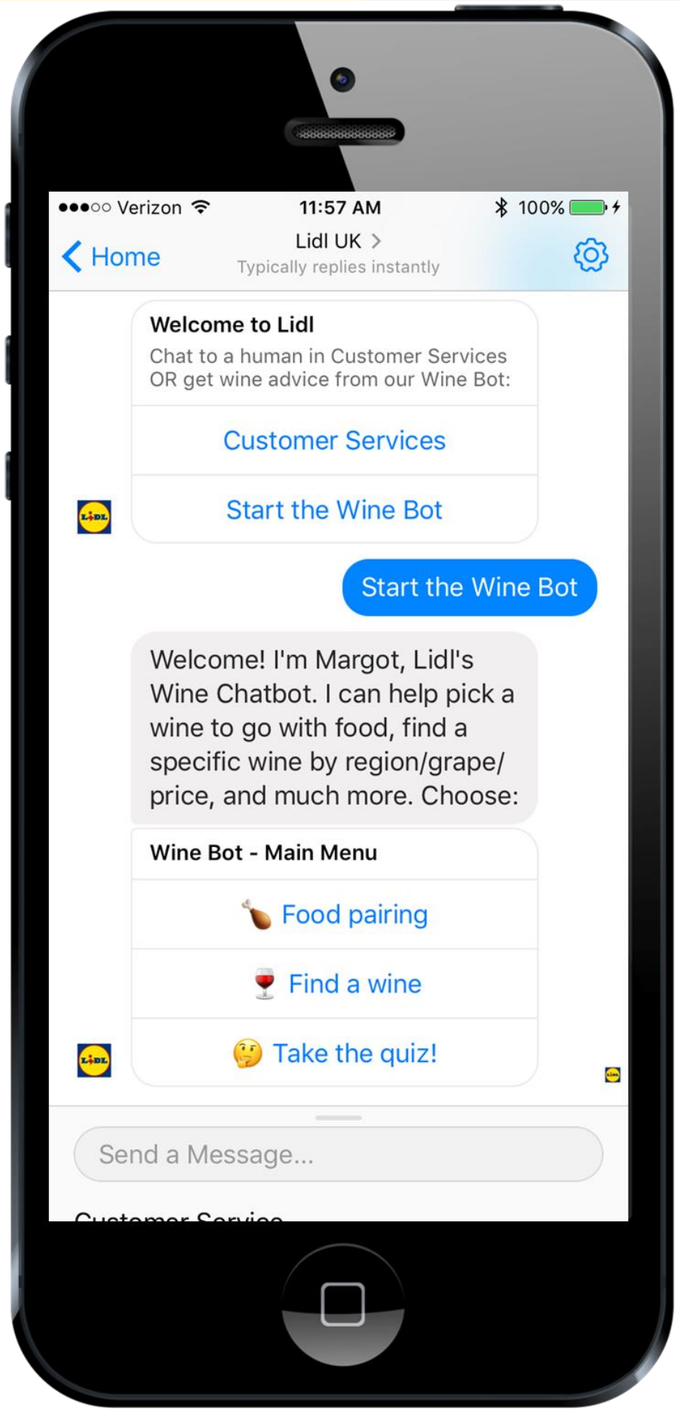
Introduction to Margot

- Place an AI on every mobile
- Scales as needed
- Food pairing
- Wine selection search
- FAQs and Quiz



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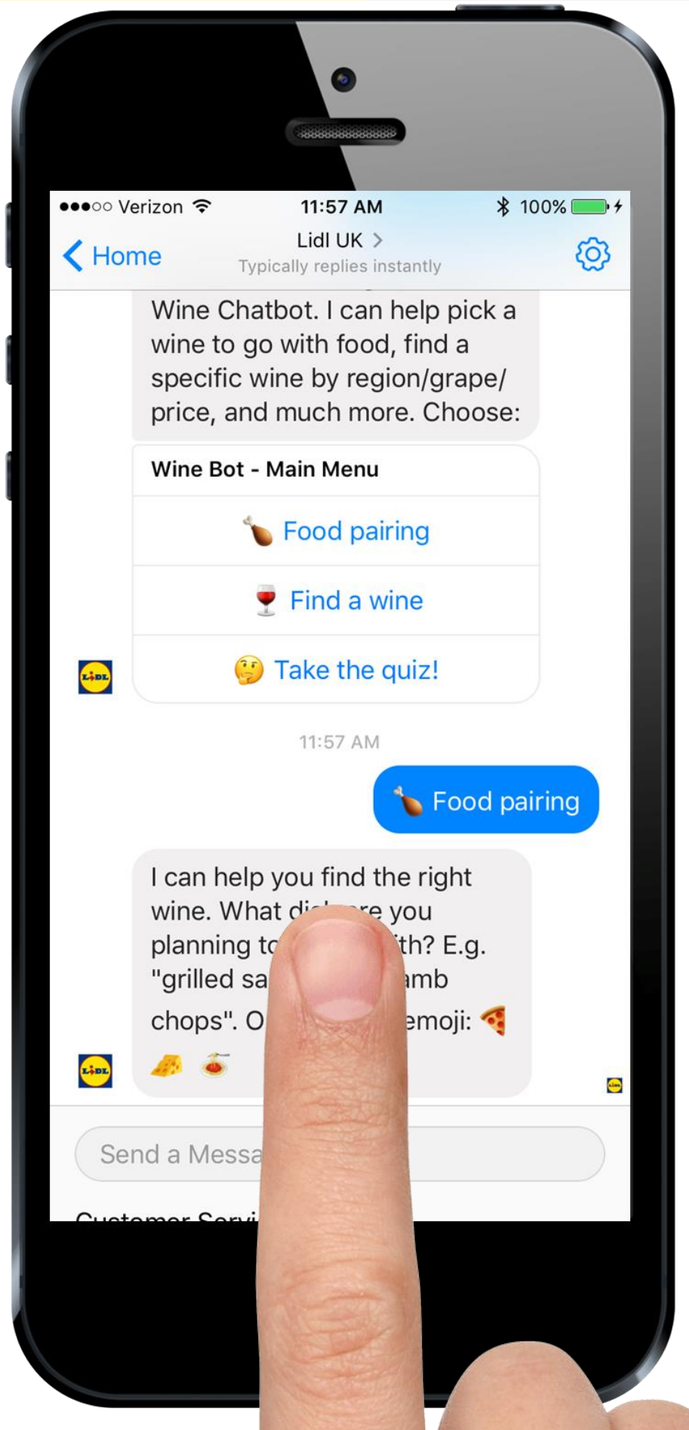
Balancing NLU and Buttons

Faster than typing

Unambiguous

Buttons do not work for:

- 200+ wine pairings
- Large sets of Frequently Asked Questions
- Follow-up questions



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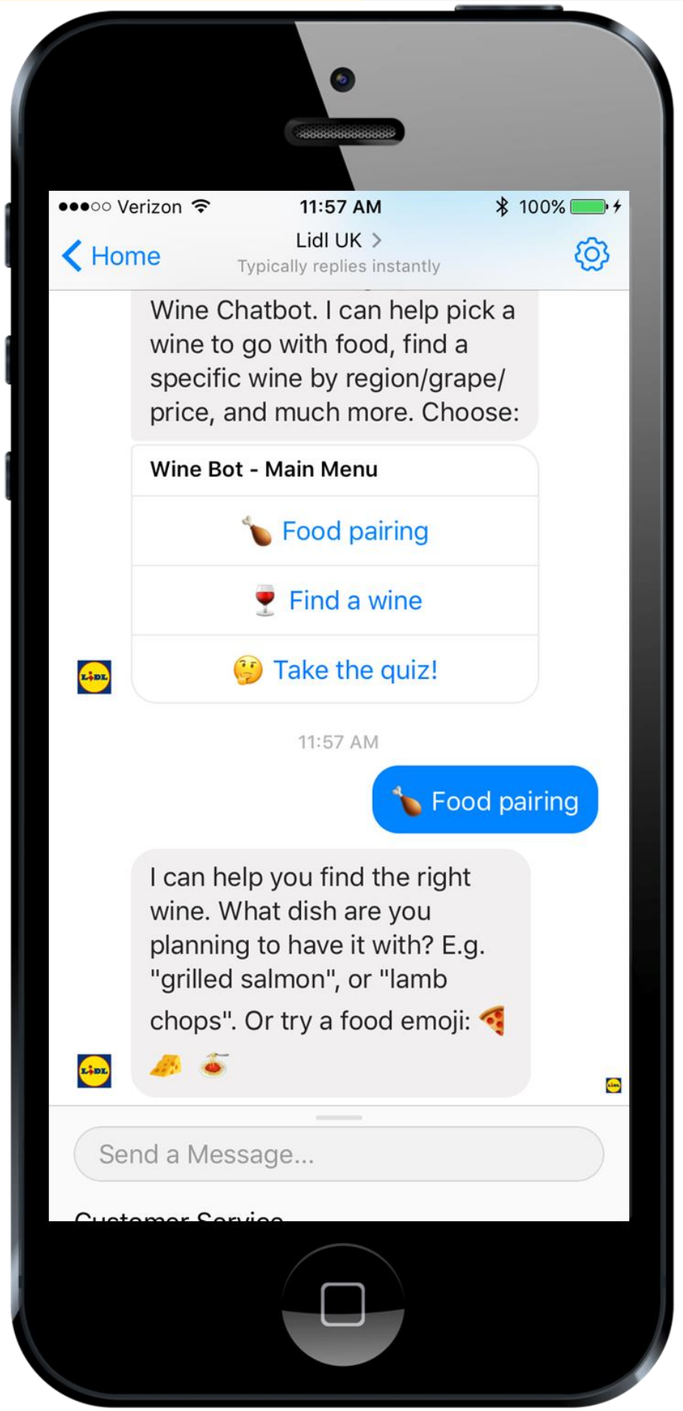
Balancing NLU and Buttons

Diverse inputs possible

- Buttons
- Emoji
- Individual terms (telegraphic input)
- Full sentences



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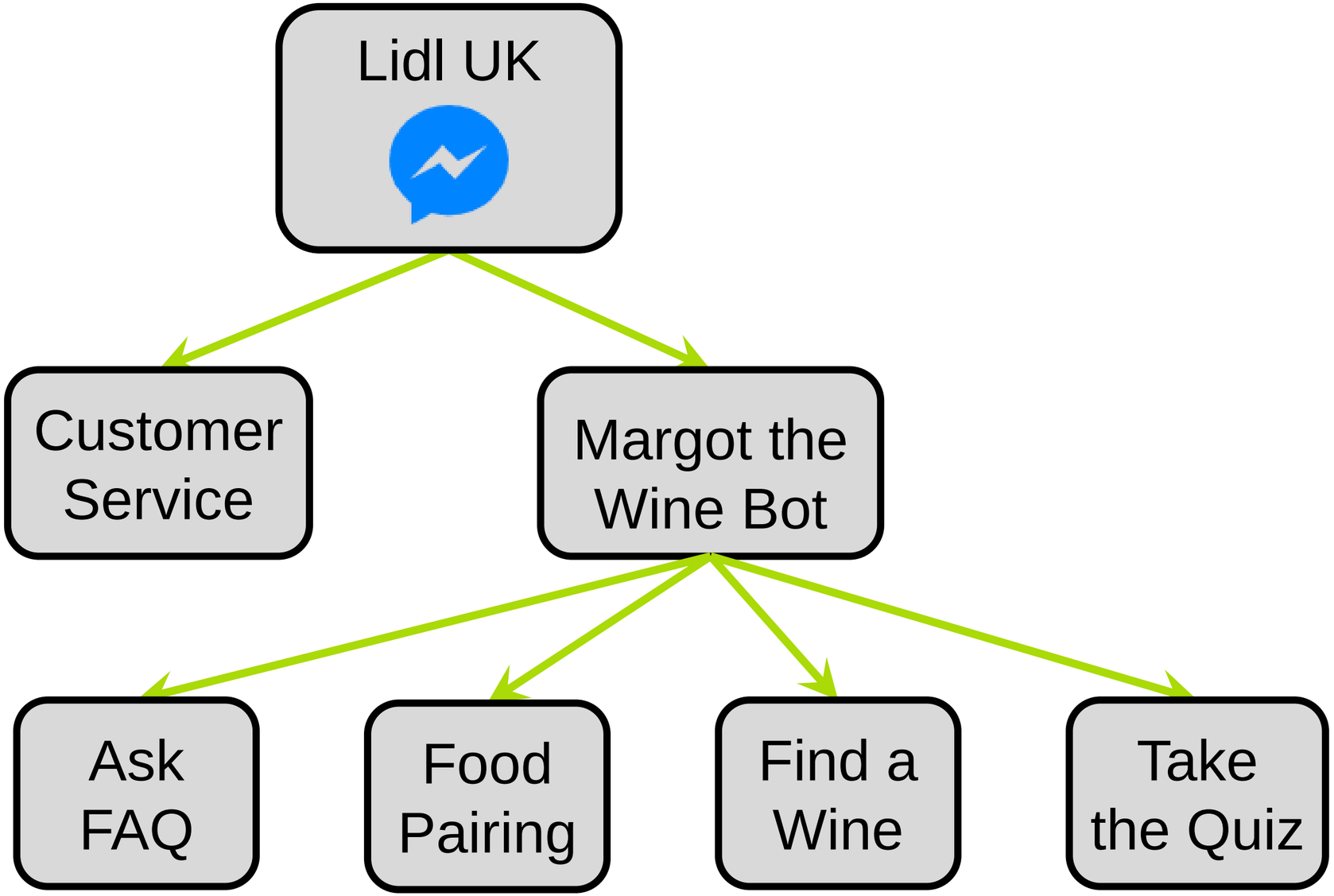
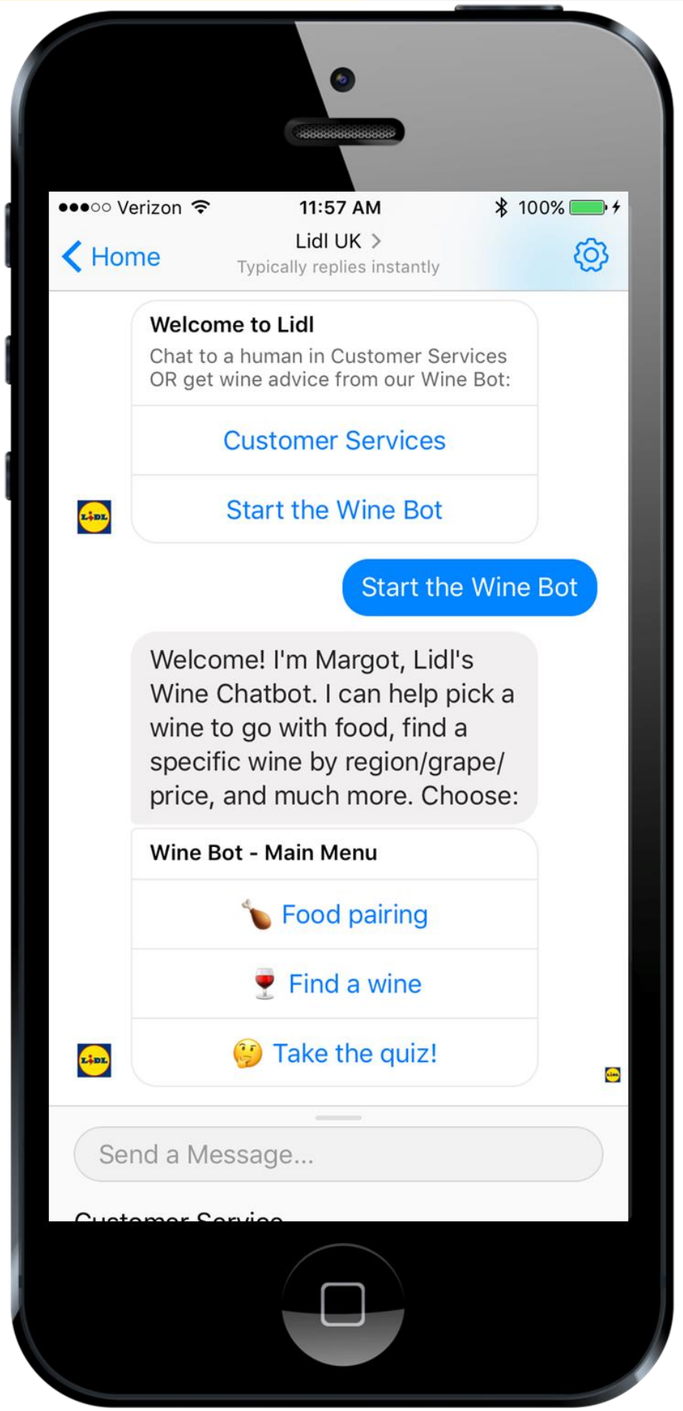
Any Question, Anywhere





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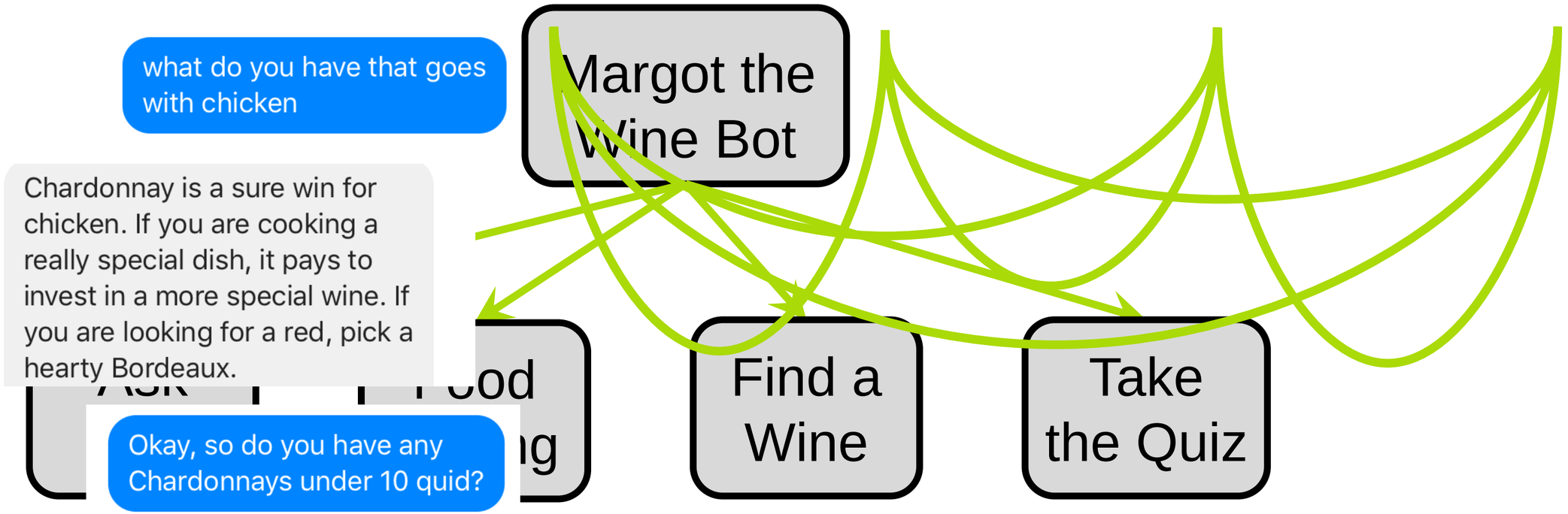
Any Question, Anywhere



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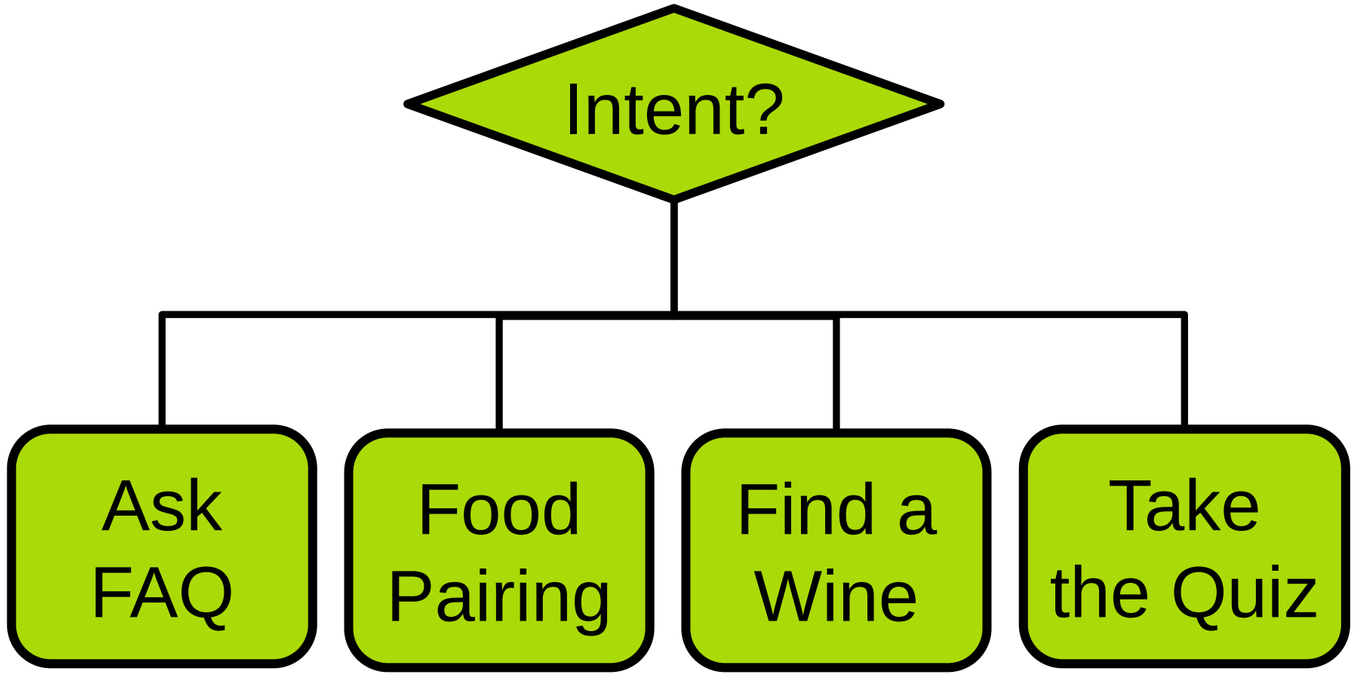
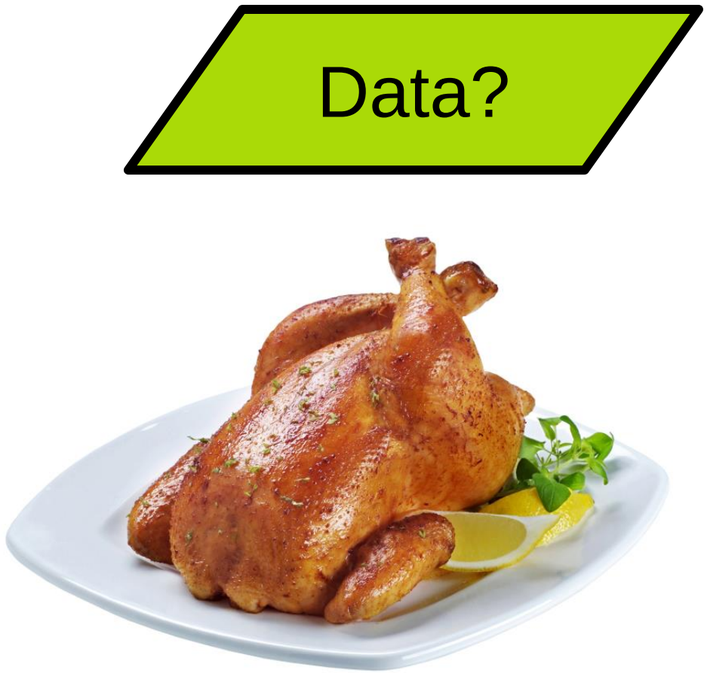
Challenges of Natural Language Input

Margot, what pairs with roast chicken?





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Synonyms and Misspellings

Chips *Chipps

French Fries

Fries

Hamburger *Hambruger

Burger

Beefburger

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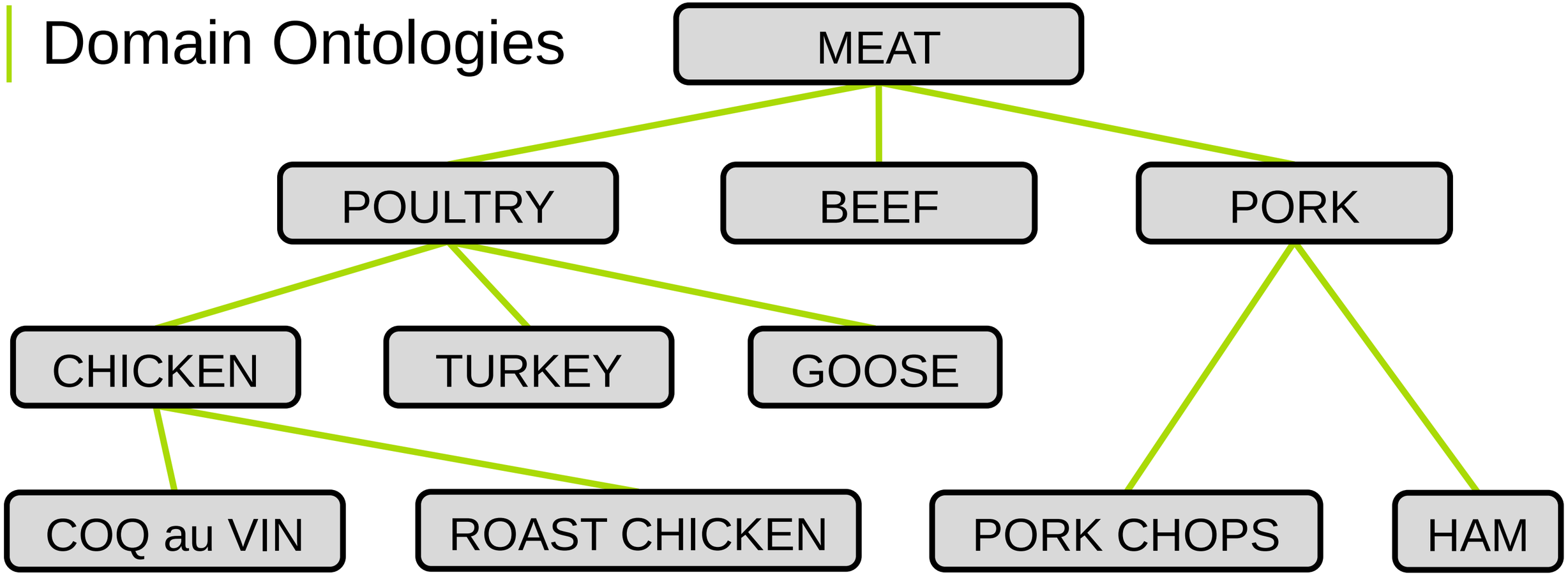
Domain Ontologies



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Domain Ontologies

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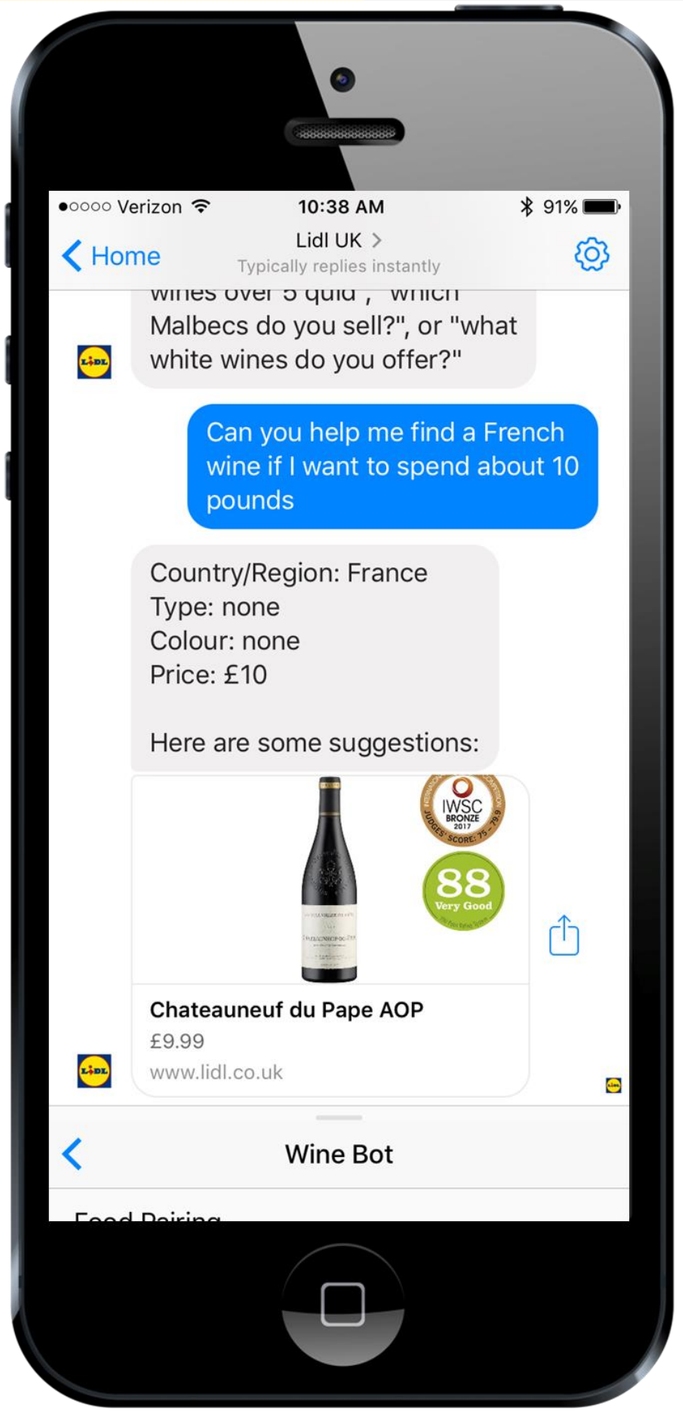
Challenges: Natural Language Queries

- Naturally expressed query
- Extracting search parameters
- Normalization
- Echoing the extraction



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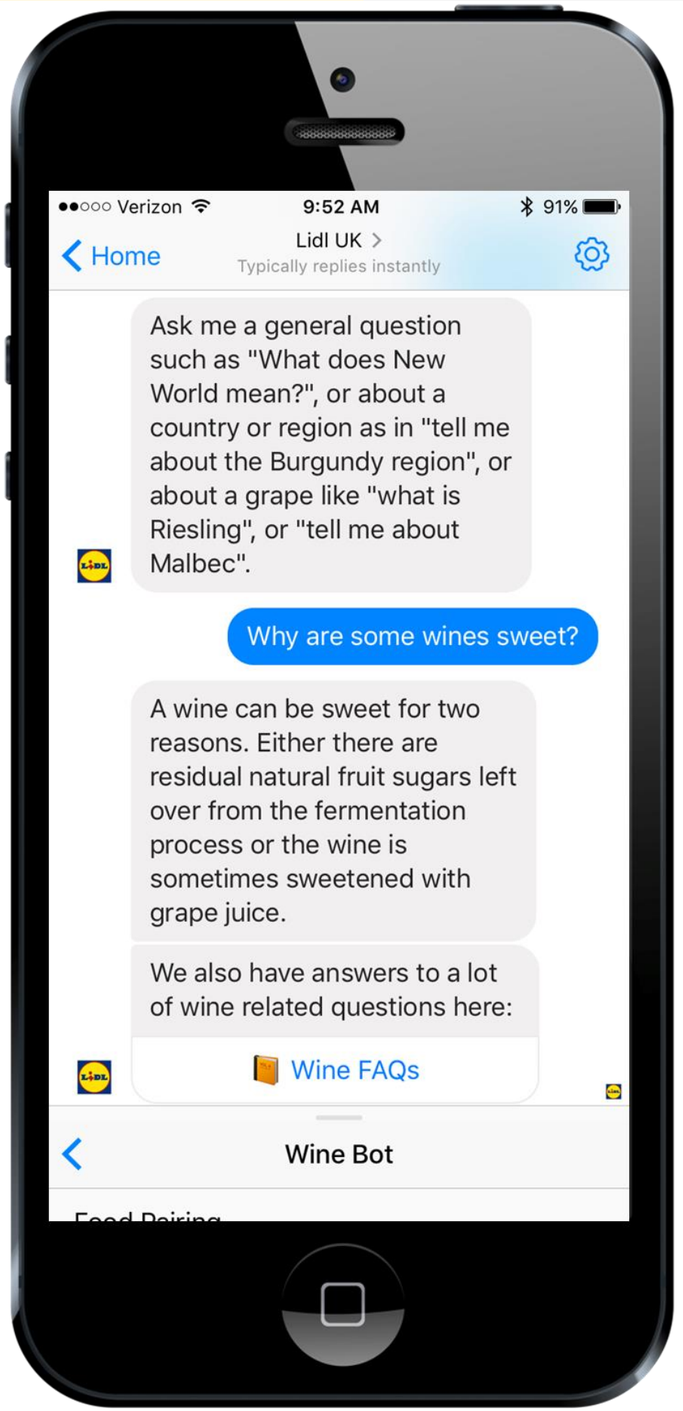
Challenges: FAQs

- Anticipating customers
- What questions will they ask?
- How will they ask them?



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Determining a Question Set

- Optimizing for the top N
- Pareto Principle
- Data rather than intuition
- Starting small

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Variations on a Question

- Age
- Region
- Socioeconomic group
- Language background
- Investment in the task

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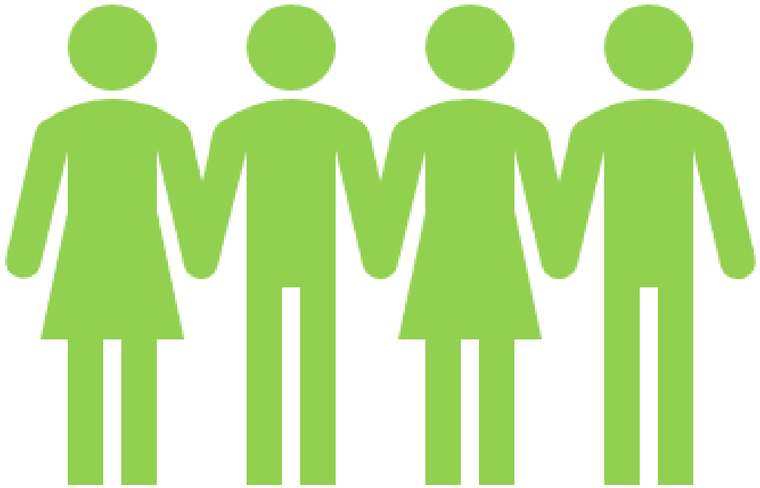
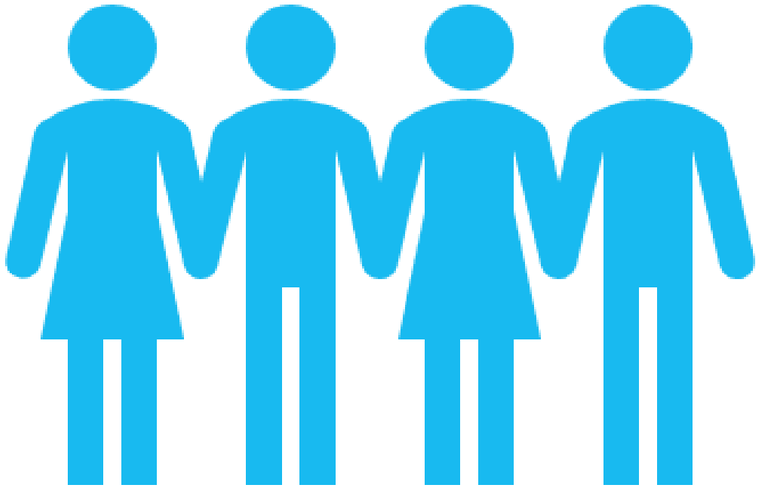
Crowd-Sourcing the Collection

Internal “Users”



Amazon Mechanical Turk



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Crowd-Sourcing the Collection

PROVIDE VARIATIONS TO:

Are pricier wines better?

ANSWERS:

- Are expensive wines better?
- Are expensive wines superior?
- Are cheap wines bad?

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Crowd-Sourcing the Collection

"JEOPARDY" APPROACH

"can less expensive wines be good?"

"can cheaper wines be good?"

"are pricey wines better?"

"do better wines always cost more?"

"I want good wine but I can't afford it"

"does price equal quality?"

"can I buy a good wine for less?"

"does higher price mean better wine?"

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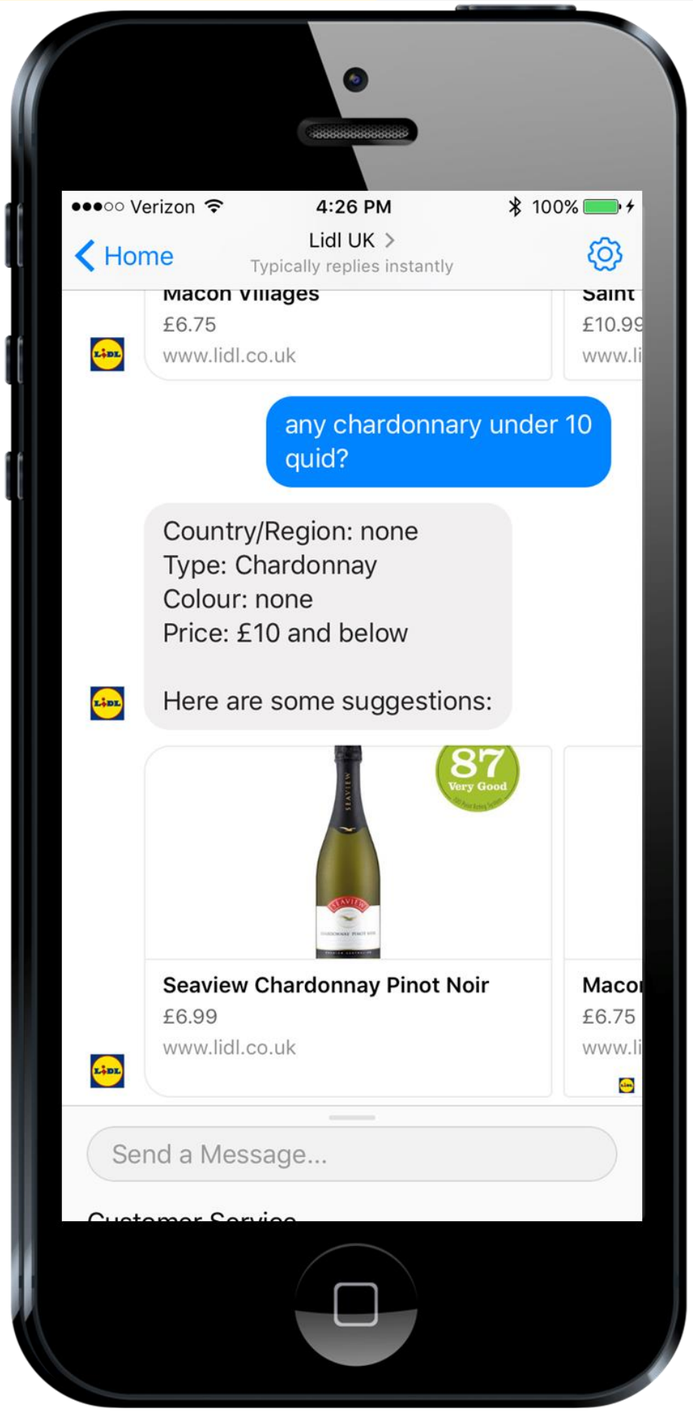
Challenges: Discourse Flow

Accommodating every user

- Full sentences vs. telegraphic input

Any question, anywhere

- Natural language ambiguity
- Lack of discourse cues



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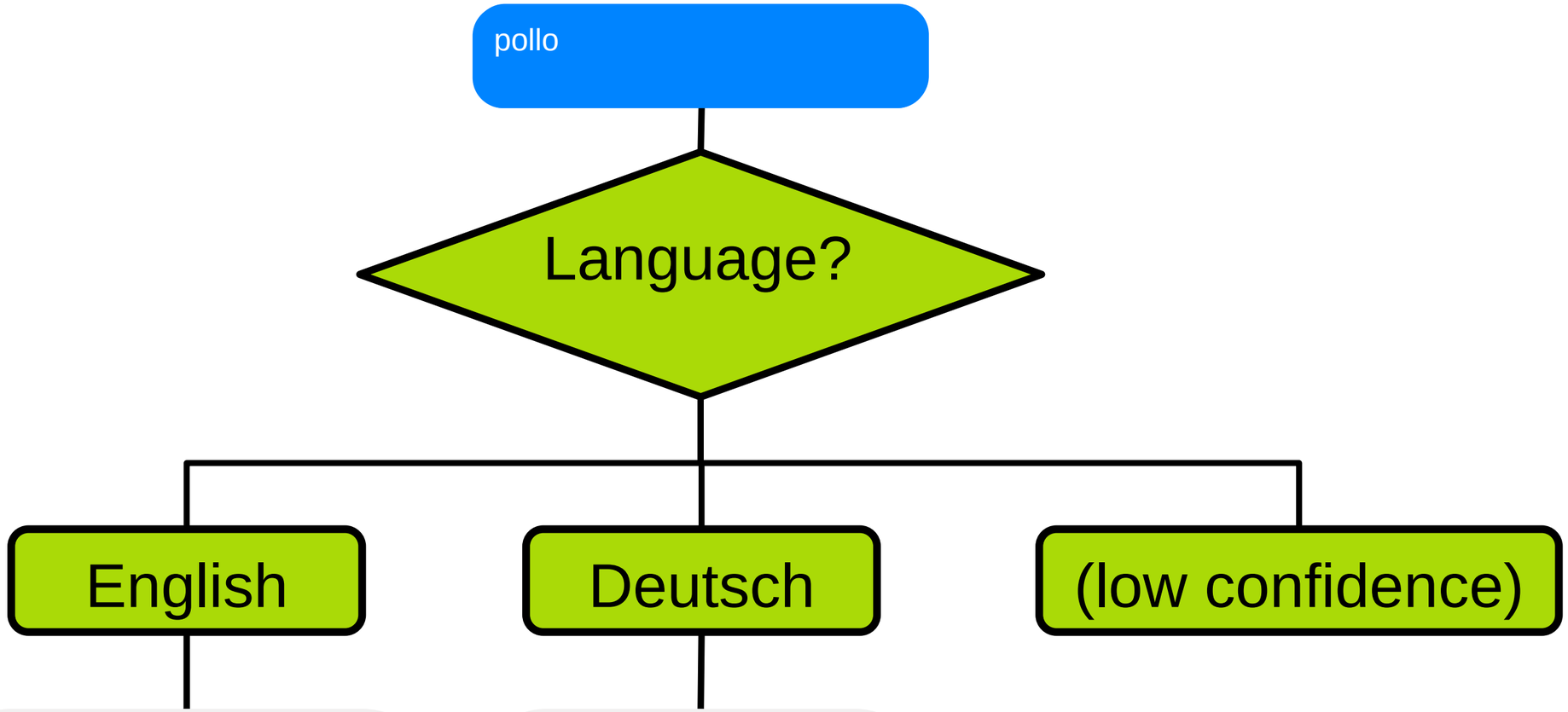
Challenge: Using the Language of the User



Use past history

Use default language

Prompt for language

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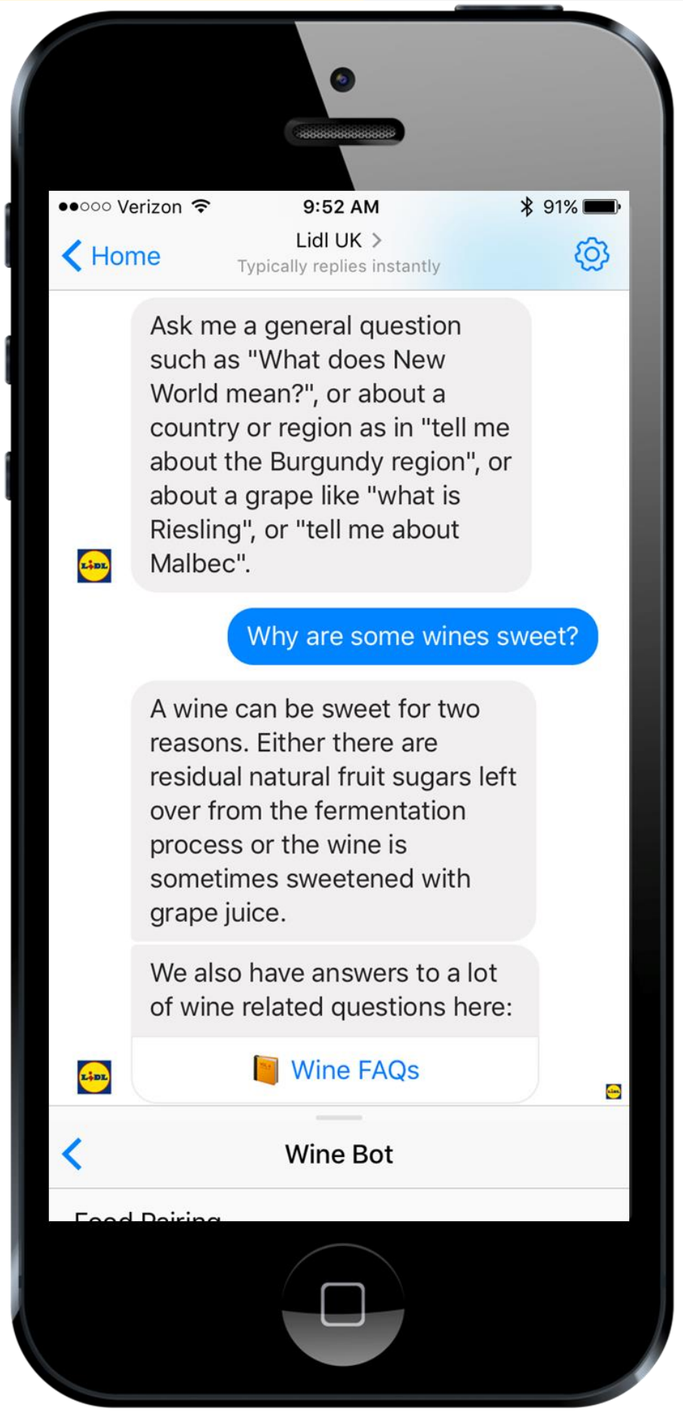
Conclusions: Challenges

- Multiple modes of interaction
- Dialogue flow naturally shifts
- Achieving NL coverage
  - Linguistic diversity
  - Language choice



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Conclusions

Try out Margot:

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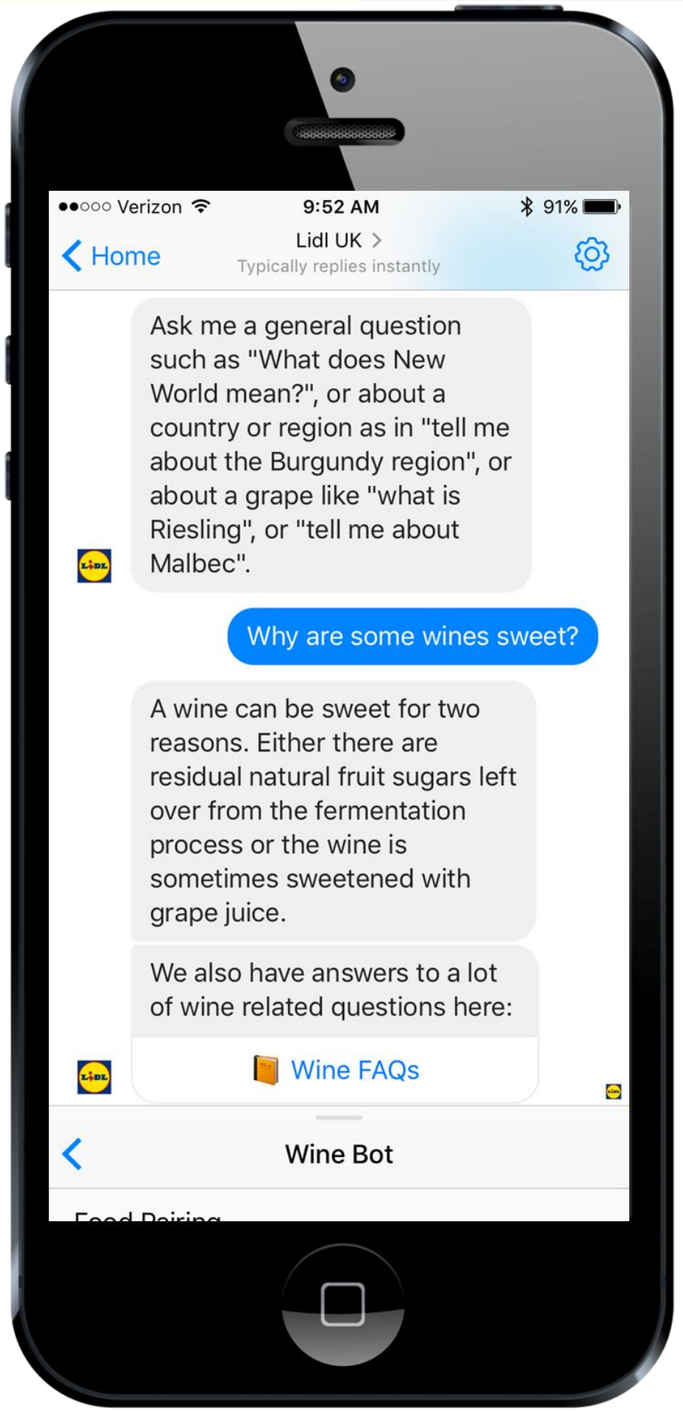

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