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?
Introduction to Margot

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

Diverse inputs possible

- Buttons
- Emoji
- Individual terms (telegraphic input)
- Full sentences
Any Question, Anywhere

Lidl UK

Customer Service

Margot the Wine Bot

Ask FAQ

Food Pairing

Find a Wine

Take the Quiz

Welcome to Lidl!
Chat to a human in Customer Services OR get wine advice from our Wine Bot:

Customer Services
Start the Wine Bot

Welcome! I'm Margot, Lidl's Wine Chatbot. I can help pick a wine to go with food, find a specific wine by region/grape/price, and much more. Choose:

Wine Bot - Main Menu

Food pairing
Find a wine
Take the quiz!
Any Question, Anywhere

Chardonnay is a sure win for chicken. If you are cooking a really special dish, it pays to invest in a more special wine. If you are looking for a red, pick a hearty Bordeaux.

Okay, so do you have any Chardonnays under 10 quid?
Challenges of Natural Language Input

Margot, what pairs with roast chicken?

Intent?

- Ask FAQ
- Food Pairing
- Find a Wine
- Take the Quiz

Data?
Synonyms and Misspellings

Chips
French Fries
Fries

*Chipps

Hamburger
Burger
Beefburger

*Hambruger
Domain Ontologies

MEAT
- POULTRY
  - CHICKEN
  - COQ au VIN
  - TURKEY
  - ROAST CHICKEN
- BEEF
- PORK
  - GOOSE
  - PORK CHOPS
  - HAM

x215 001,199,620
Domain Ontologies
Challenges: Natural Language Queries

- Naturally expressed query
- Extracting search parameters
- Normalization
- Echoing the extraction
Challenges: FAQs

Anticipating customers

What questions will they ask?

How will they ask them?
Determining a Question Set

- Optimizing for the top N
- Pareto Principle
- Data rather than intuition
- Starting small
Variations on a Question

- Age
- Region
- Socioeconomic group
- Language background
- Investment in the task
Crowd-Sourcing the Collection

Internal “Users”

Amazon Mechanical Turk
Crowd-Sourcing the Collection

PROVIDE VARIATIONS TO:
Are pricier wines better?

ANSWERS:
• Are expensive wines better?
• Are expensive wines superior?
• Are cheap wines bad?

WARNING:
Lack of Linguistic Diversity Ahead
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?”

Price doesn’t necessarily equal quality, as you can find some really good deals. The best rule of thumb though, is drink what you like and enjoy!
Challenges: Discourse Flow

Accommodating every user

- Full sentences vs. telegraphic input

Any question, anywhere

- Natural language ambiguity
- Lack of discourse cues
Challenge: Using the Language of the User

Language?

- English: Chardonnay is a sure win for chicken. If you are cooking a really special dish, it pays to invest in a more special wine. If you are looking for a red, pick a hearty Bordeaux.

- Deutsch: Chardonnay passt eigentlich immer zu Hühnchen. Wenn es etwas Besonderes sein soll geht auch ein deftiger Bordeaux.

- (low confidence)

Use past history
Use default language
Prompt for language
Conclusions: Challenges

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

Try out Margot:

http://m.me/LidlUK

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