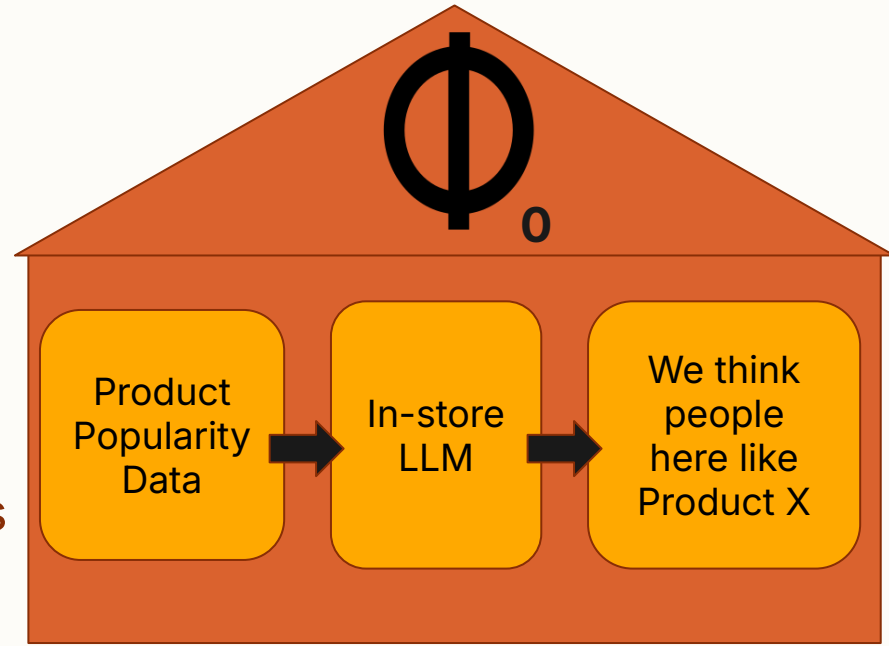# Phi Distributed Recommendations

Ean Hatfield, Jinho Nam

Targeting Ecommerce companies for better value recommendation
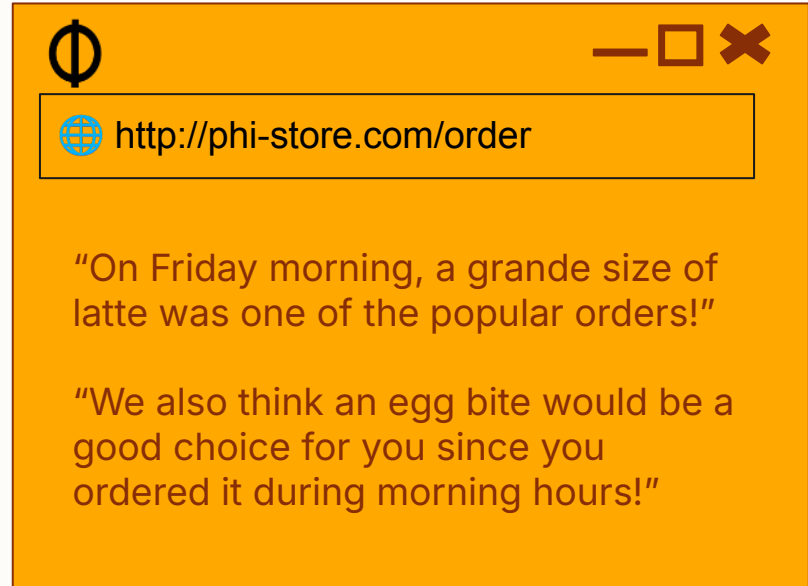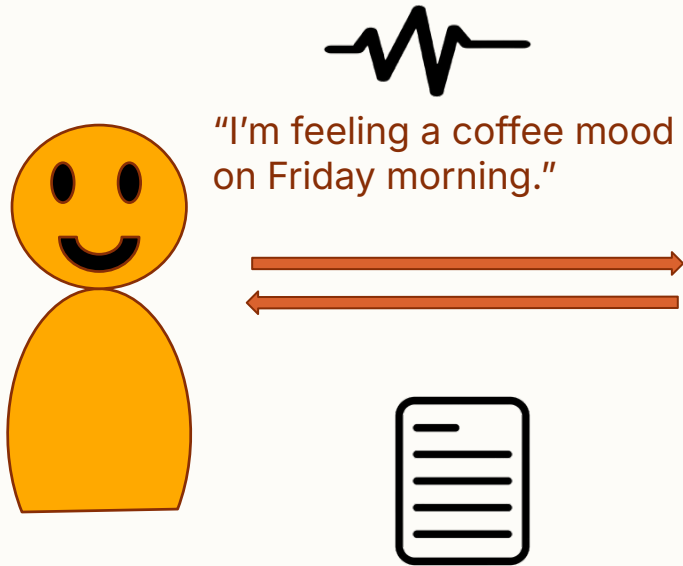
Motivation

- The Phi company has a series of stores with LLM based in-person recommendation systems
- Phi wants to expand into E-commerce
- Phi wants users to visit their website and listen to the user's voice expressed in plain English, but they don't know how to make this happen
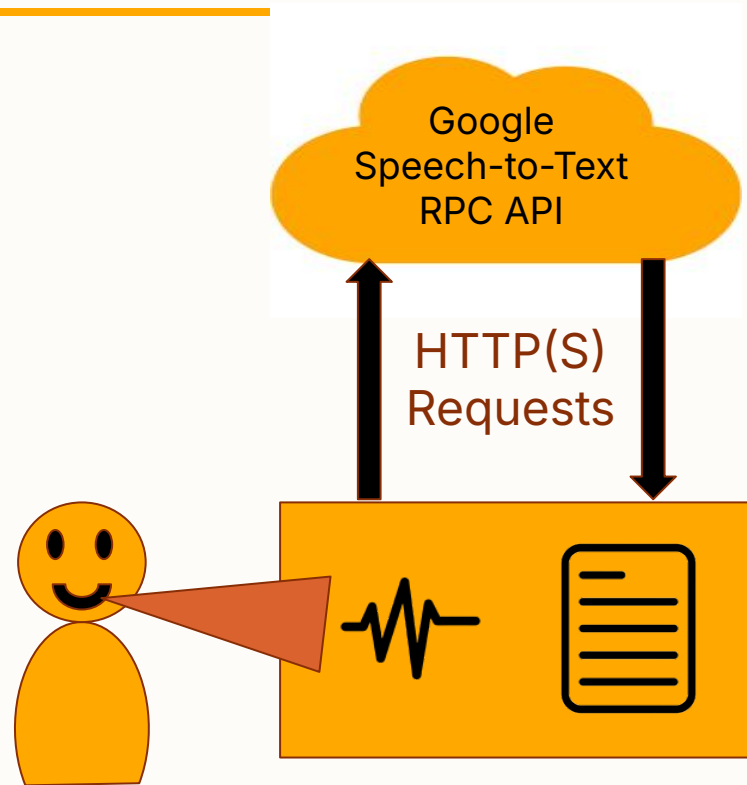

~1.17 trillion spent in ads this year

Example from End-User Side

"I'm feeling a coffee mood on Friday morning."

http://phi-store.com/order

"On Friday morning, a grande size of latte was one of the popular orders!"

"We also think an egg bite would be a good choice for you since you ordered it during morning hours!"
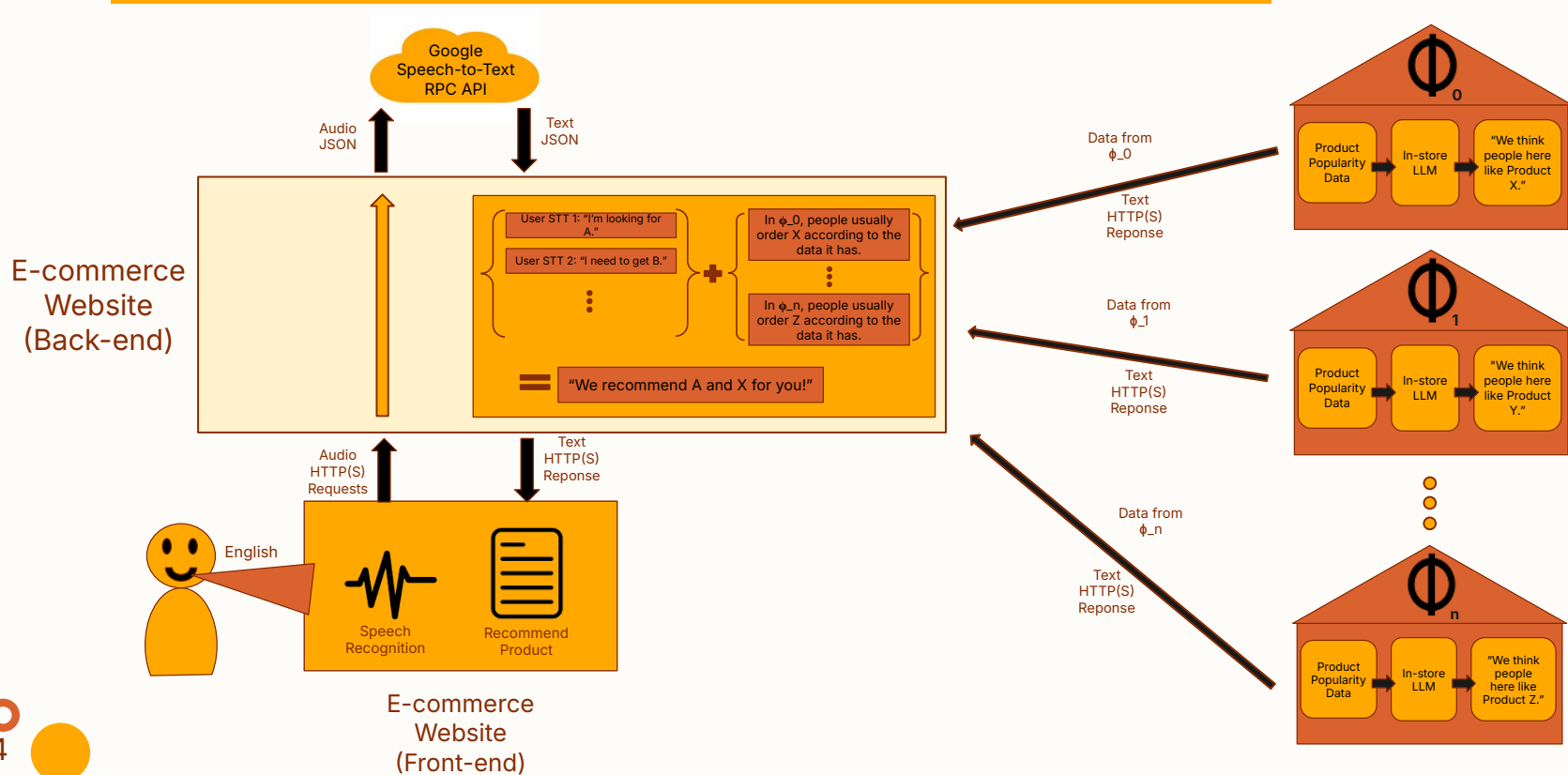
Our Solution

- Process user speech via Google RPC
- Take advantage of the distributed nature of existing stores
- Combine existing natural language recommendations into a distributed system of recommendations
- Ensemble based LLM recommendations

Google Speech-to-Text RPC API

HTTP(S) Requests

Concept

Justification

- Google Speech-to-Text built with ML for accuracy
- Phi stores already have product data with LLMs recommendations
- Combining these with the distributed nature of the existing stores is a natural progression
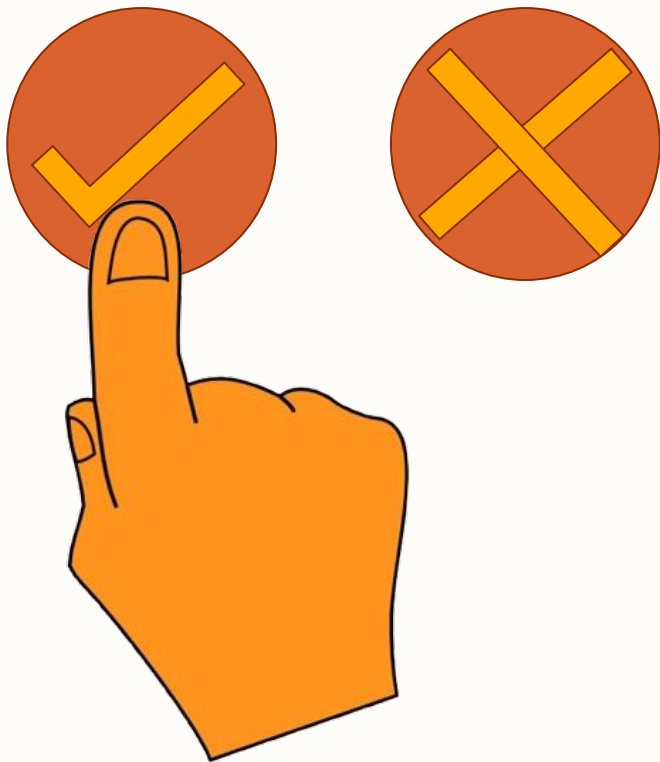
Current Offerings

- Existing Tools:
    - Microsoft's RecAI
    - OpenP5
    - Traditional Rec. Algorithms

- Limitations:
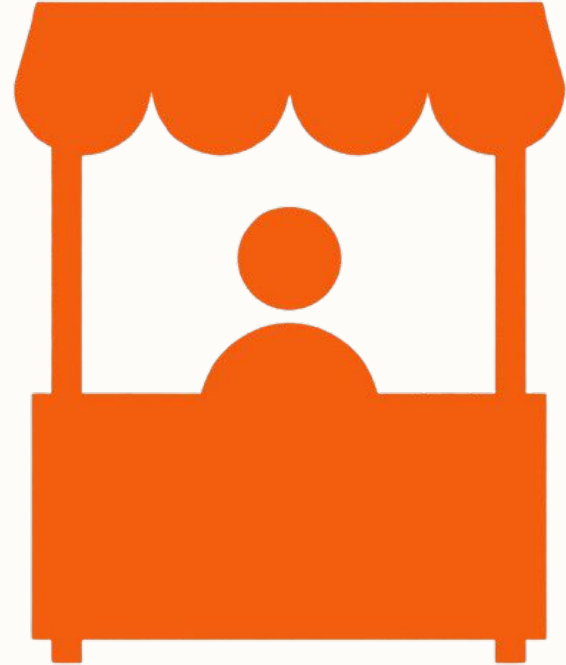   - Not distributed
    - Prone to failure
    - Rigid by design

Target Market + Value Propositions

- Any user who likes to shop online at Phi stores
- User's with accessibility concerns will be able to voice their product desire
- Recommendations will be more accurate than visiting a single, non-distributed in-store recommender

Business Model

- Pay-as-you-go pricing model:
  - Prices are request based
  - Complements the distributed nature of the system
  - Scales more effectively than subscription based model, as more e-commerce grows over time

Our Expertise

- **Ean Hatfield**: Backend development, LLM frameworks, Google cloud

- **Jinho Nam**: Frontend development, REST APIs, LLM frameworks

Tools

- Github
  - Version control, issue boards, general collaboration

- Discord
  - In depth communication

- AWS
  - Hosting
  - Mocking distributed Phi stores

Questions?

Ean Hatfield, Jinho Nam