

MyConcierge: A Chatbot for Group Restaurant Recommendations

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Motivation/Background

- **Difficult Discussion:** Finding a restaurant that will satisfy all members of a group is difficult and frustrating
- **Concierges Unreliable:** Concierge services offer a great solution but are not always readily available
- **Unintuitive Solutions:** Applications such as Google Maps and Yelp can help but require efficient querying to get quality recommendations
- **Striking Balance:** MyConcierge balances the availability and breadth of information provided by Yelp with the intuitive, familiar nature of interactions with a traditional concierge



Traditional Hotel Concierge Service

Data and Methods

Data Sources

- Restaurant data pulled from the Yelp Open Dataset and API
- Includes basic information as well as cuisine, price range, user rating, and several other attributes
- 6 fully-supported, 7 semi-supported cities



Recommendation Generation

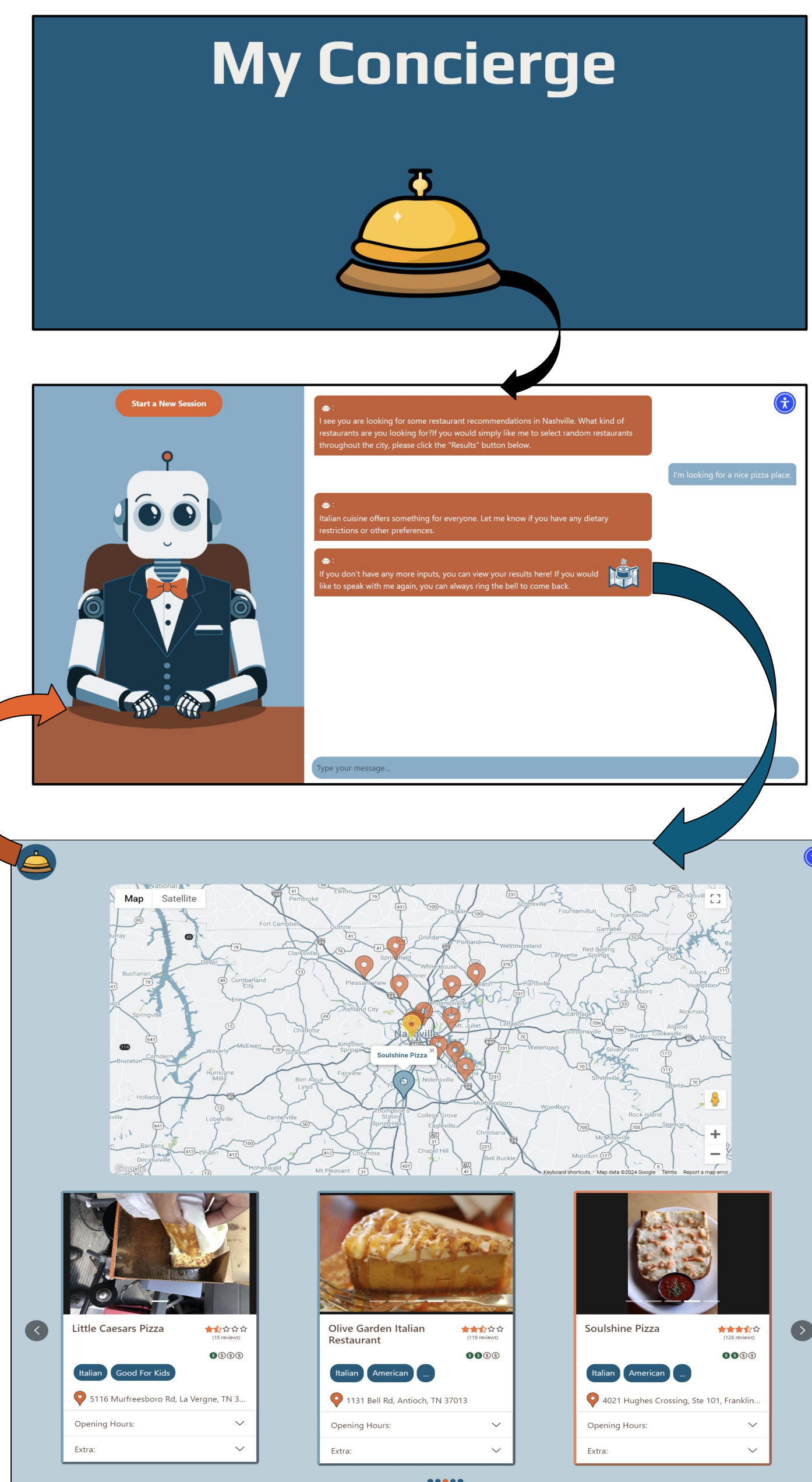
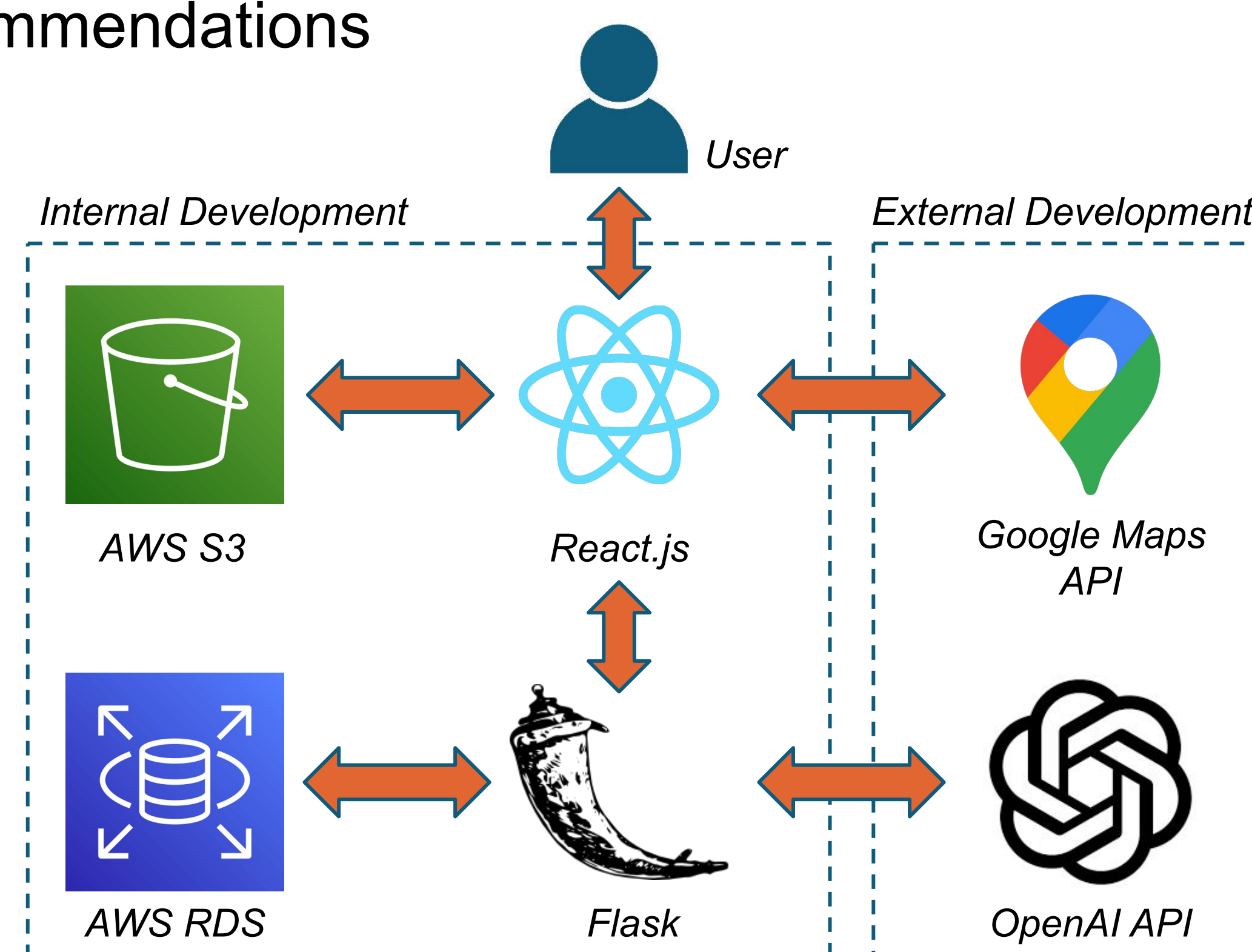
- Chatbot uses OpenAI GPT 3.5 API to analyze user queries and populate a user preference vector (UPV)
- Query expansion performed using GPT 3.5 to ensure sufficient prompt information
- After all user queries, the UPV is compared with restaurant category vectors to derive suitability scores and rank restaurants in the area



Implementation

User Experience

- Mimics interaction with a traditional concierge
- 3 easy-to-navigate pages
- Minimal wait times for chat responses and recommendations



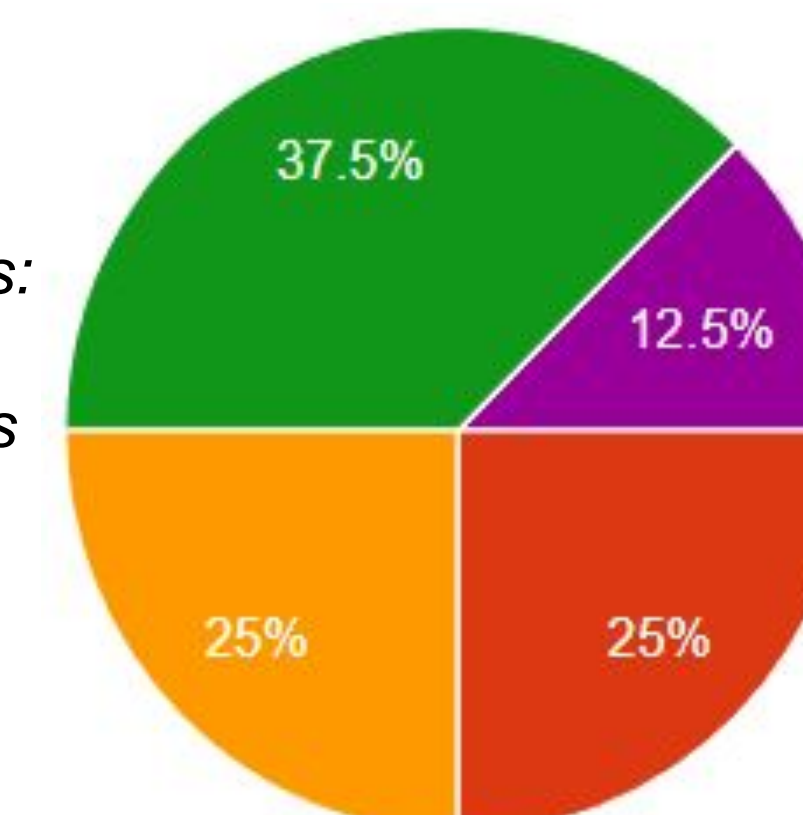
Top to Bottom: Landing, Chat, and Results Pages

Results

User Study Findings

- Users found usage and navigation intuitive
- Recommendations matched preferences fairly well
- Users had fewer, shorter queries than expected

User Study Results:
How Well
Recommendations
Match User
Preferences



Did Recommendations Match Preferences?

- Not at all
- Somewhat
- Moderately
- Mostly
- Completely

Contributions

- Encourage group gatherings through reduced decision difficulty
- Promote exploration of different cultures

Future Developments

- Analyze text for negative statements (e.g. I do not like Italian food)
- Derive preferences from all queries concurrently

References

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