Digital and Algorithmic Marketing

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Project Proposal

Team

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Chicago Booth Honor Code:

"I pledge my honor that I have not violated the Honor Code during this case write-up"

Recommending restaurants for groups

In practice, we rarely eat out alone. Whether you dine out with friends, colleagues, partners, or strangers, the decisions of which restaurant to choose are usually made by aggregating each individuals' preferences and weights. As a result, a good recommendation system should consider who you're together with and each individual's decision weights.

To solve this problem, we plan to generalize the OkCupid matching function to make a better recommendation system. Our new matching function will calculate the scores (as a vector) on the group's weighted preferences for different restaurant attributes. For each attribute dimension, a higher score means more people agree on this and think it's important. Then we can recommend the restaurants from Yelp data by ranking their distance from these scores. Also, we plan to try the similarity function (KNN or collaborative filter) to cluster group preference and make comparisons.

The main data for us to recommend the restaurants is the Yelp dataset. It is available online (https://www.yelp.com/dataset) for academic learning and research purposes. The dataset contains 7 files in JSON format, which are business, users, review, business hours, business attributes, tip, and check-in. The size of the data is around 5 GB after we converted it

to the spreadsheet format. In our project, we will focus on exploring the first three files and limit the restaurant choices within one chosen city. The final output could be an R shiny app that the group gets top restaurant matches after each of them type in preferences and weights.