CS411 Software Engineering
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Project Proposal

Idea 1 – Restaurant Suggestion App (Selected Idea)

This app will help people who have trouble deciding where to eat. Users sign up with Facebook or Twitter so that information can be collected about the person via the Facebook or Twitter API. Based off that data, this web application finds restaurants that similar people go to, where similarity is based on age range, mutual friend's visited restaurant, gender, race, preferences, location, etc. The app can also ask user for specific criterion for which they want to filter on, and then provide suggestions on several restaurants. The user can either pick from the suggestions or have the app decide one at random for them. For more advanced development of the application, we could build a machine learning model to learn the user's behaviors and patterns such as where they visit during certain times, favorite restaurants, etc, and begin to suggest restaurants the user will likely go to automatically.

Idea 2 – Facilitating Transportation Options through Uber & Lyft

This app will aggregate data from Uber and Lyft and provide a clean interface for people to be able to compare pricing estimates between Uber and Lyft for various pickup and destination areas. Users Sign in with their Facebook or Uber/Lyft account, select pickup and destination, and compares prices for both apps in one screen. Once the user picks the preferred app, the ride is initiated on that app. Once the ride is finished, users can split the bill between their friends on Venmo with auto calculation; data from the selected transportation app will be fed into a request to Venmo to automatically calculate the requested pay from friends.

Update (11/22/17):

After deep into development, we found that Facebook highly restricts accessing user info from a non-verified app (verification requires steps such as written privacy policy and proposal), so the limited information from user account is quite insufficient to calculate similarity metrics between user and restaurant. We also do not have enough computing power to build an accurate prediction model for millions of users and restaurants, so our approach to fulfill the website's random restaurant feature is through the 'I'm Feeling Lucky' search button that takes a location as input, and a single restaurant recommendation is returned through randomization of popular food categories on Yelp.