CS5356 - Building Startup Systems - Project Proposal

Proposal Due Date: Sep. 29th (1st draft), Oct. 8th (2nd draft), Oct. 22nd (final)

1. Basic Information

a. names of team members

Zhigang Wang zw344@cornell.edu
Lizhang Li ll725@cornell.edu

b. name of your app

LetsEat

2. Write a half-page description of the app addressing the following points:

a. motivation and philosophy behind your idea

Motivation:

It is believed that food discovery is an important part of life. Our team is dedicated to leading people to a healthier, happier life by finding friends with common tastes in food.

Philosophy:

Eating is better than not eating.

Discovering, sharing and enjoying.

b. most closely related apps/technologies (compare and contrast)

Related Apps:

Food by everNote. Record you own meal, and learn and save new recipes.

twogrand. This app more focuses on pushing you to eat more health to meet your weight goal by comparing and following others.

MyPlate. Record the meal you ingest everyday and track the calories to make you eat more health to meet your goal.

By comparing to above apps. ours provides basic food journaling function with a social feature to match you with others with the same eating taste and habits.

3. Briefly explain (one short paragraph per point) how your project will fulfill the minimum entry requirements described in Lecture 1:

user accounts/management

Use Django and python as server side framework and language to handle user authentication and related mangement works. First time user need to sign up via mobile app or web interface, the user's information will be stored in MySQL database on server.

native app on Android or iOS

Will develop an Android mobile app. Users can use mobile app to sign up, log in, take picture, add description, add tag and view previous journals. The app will be developed and tested on a Nexus 4 with Android 4.3.1.

meal description/metadata logging with date/time stamp photo capture/storage
User can take a picture in our mobile app using Android existing camera api and application. The image will be uploaded to server and stored in a dedicated image directory and save the file path in the MySQL database. Will provide an interface for user to submit the picture and related meal description and tags to server.

thumbnailing/image manipulations
Use Android camera application to encode and retrieve the thrumbnail images as a small Bitmap. Will decode large bitmaps to lower resolution to save device memory usage and reduce image loading time.

at least one service (in the sense of SOA)
Provide REST services to mobile app, when mobile app request and post data, server will return JSON as the result.

rudimentary web presence
Will use AngularJS as the front-end framework for our web interface. The web interface will provide basic functions for user to sign up, log in, view the posted journals and a dashboard to show some interesting information related to their journals.

basic API for data export
Will provide an interface for user to retrieve their journals in JSON or CSV format.

integration with 3rd party API
Integrate with twitter or facebook API to share journals with friends.

4. Deep Dives
Write a half-page description of how you plan to go beyond the minimum entry requirements, describing the modern web technologies or other advanced ideas you will apply in your project.

In the later stage, in order to go beyond the minimum entry requirements, the LetsEat app will focus on the functionality of Social, which will recommend dining friends based on previous food journling. Basically, everytime the user upload a food journling photo, the location information and the restaurant information will be recorded as well (after user approves) for future analysis. In fact, the LetsEat app could recommend a dining friend

based on so many different ways or a synthesis way. Two users will be matched by our program if they have lots of shared restaurants or if their preferences for food are alike. Other factors will also be considered in the algorithm such as timing for dinner, consumption levels of individuals and dietary habits. During the process, some machine learning and image recognizing technology will be applied to the algorithm. After the matching process, users can send friend invitations to the recommended dining friend if they are willing to and may making dining appointments afterwards.

Alchemy is a software package providing a series of algorithms for statistical relational learning and probabilistic logic inference, based on the Markov logic representation. Our idea is to integrate Natural Language Processing tools into our project in the following ways. First, we can scan each photo uploaded and use Wavelet Analysis to transform the image data into a matrix for pairing up similar photos uploaded by the others and pair up those users. Second, some natural language processing methods (Like Sentiment analysis, topic extraction) can be implemented with the comments and descriptions added by the user to the photo, with the aim to extracting relevant and intelligent tags from those texts. Provided with those tags, (emotion tags and topic tags) and enough users' data, we can even dig deeper using supervised learning classification algorithms like ANNs(artificial neural network) training those data for better pairing up dining friends.

5. Milestones

a. Four to six milestones

1. Basic functions of food journeling website.
2. Customer investigation and market research
3. First version of social features
4. Final version of system testing
5. Open studio

b. Deadlines to achieve milestones

1. Oct 15
2. Oct 30
3. Nov 15
4. Dec 10
5. Dec 16

c. Division of labor between team members

Lizhang will mainly focus on the mobile side and web interface labor.

Zhigang will be in charge of the server side and database work.