CS5356 - Building Startup Systems - Writeup
Team 9 -- LetsEat
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a. Introduce your app and state its main ideas and your motivation behind it

LetsEat helps you find and connect friends with the same eating taste and habit, and get inspired everyday on what to eat. 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.

b. Compare and contrast it to existing apps and technologies

1) Food by everNote: Record you own meal, and learn and save new recipes.
2) Twogrand: This app focuses on pushing you to eat more health to meet your weight goal by comparing and following others.
3) MyPlate: Record the meal you ingest every day and track the calories to make you eat more health to meet your goal.
4) Fork: Instagram like app for food. People can get inspired from others' post, can follow their friends or celebrities to check what they eat. Fork only provide IOS version, do not have a Android version yet.

Our App LetsEat is a Android App based on Android 4.3.1, provides all fundamental food journaling functionalities with a social feature to match you with others with the same eating taste and habits. And can also get you inspired on what to eat for next meal by browsing food tags we selected for you.

c. explain your back-end stack and front-end architecture

Back-end: Use Django and python as server side framework and language to handle user authentication and related management works. Using Amazon AWS as server host.

Front-end: Native Android App, and bootstrap for web presence

d. State and explain your deep-dives and the technologies you used in achieving your deep-dive goals

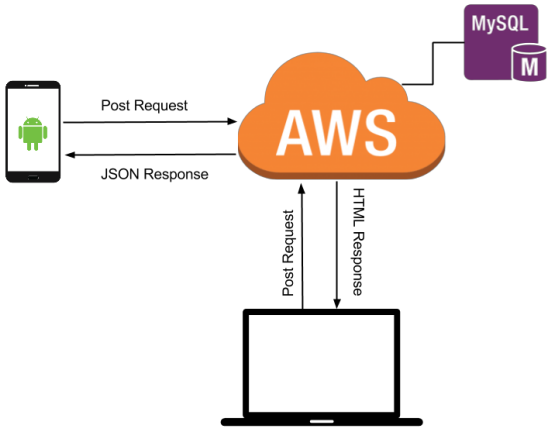
In order to go beyond the minimum entry requirements, the LetsEat app will focus on the functionality of Social, which will recommend dining friends based on previous food journaling. Basically, everytime the user upload a food journaling photo, the description, tags and eating time information will be recorded. 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 eating habit 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, Bayes Classification and image recognizing technology will be applied to the recommendation 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.

Provided with those tags, (emotion tags and topic tags) and enough users' data, we can dig deeper using supervised learning classification algorithms like Bayes Classification training those data for better pairing up dining friends.

e. Write a sketch or two, show one or two example interactions between your app and back-end, e.g. how the process of registering a user occurs on your system

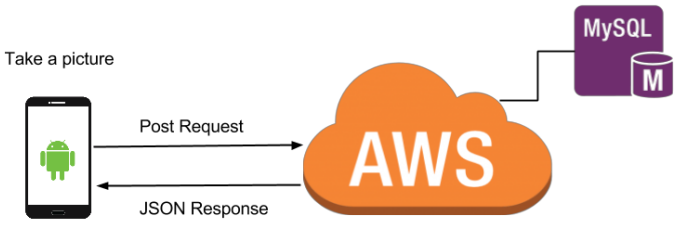
1) Register

- The user fill the registration form out in the mobile app or web page
- The registration form is sent to a server URL through a POST request
- The server will send back a json object depend on the form, showing whether the registration process is successful or not.
- If 'success' = 1 in the json object, the registration is finished. Or the user will be asked to fill the registration form again.



2) Create a new food journal

- The user take a picture of food in the mobile app
- The user fill out a form containing the description and tags for the food
- The form is sent to a server URL through a POST request
- Store the posted photo on the server, update Food and User models in the MySQL database.
- The server will send a json object back to the app, showing whether the creation if successful.



f. Explain how you fulfilled or pivoted from proposal goals

For the app part, we have built a system that can handle user management, uploading and viewing food journals, browsing recommended food journals, journals related to food tags and following and checking friends' homepage. At the final stage, we improved UI significantly and spent a lot of time to optimize image loading process in the mobile client. We will definitely add the location information to the journal and use that as a feature in our recommendation system if time allows.

For deep dive, we give up the natural language processing approach which is supposed to extract keywords as tags from the food description and decide to focus on the recommendation system using Bayes Classification to classify the tags in order to recommend related food journals to a user.

g. Conclude your write-up by reflecting on your app-building experience.

At first, we compared a lot of popular frameworks and tools. We decided to use Django as web framework to help us handle the basic web management functions because it's powerful, easy to use with python and it's a complete framework with a lot of available tools.

For mobile app, we decided to choose Android because it's using Java as development language and it's open source project.

During the startup system building process, we also learned how to use a lot of other tools to help us expedite program development process like Postman, Eclipse, jsfiddle etc. And how to find solution from resources like StackOverFlow, Official Documentations, etc.

The Mobile and Server side source codes are under github:
https://github.com/Cornell-CS5356-Fall2014/Team-9

Web presence:
http://54.172.32.59:8000/