

Amazon Fresh + Recipes = Freshipes

Team Members

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Problem Statement

The secret to being good at many things is being lazy and removing the trip to the grocery store is just the latest in a long line of optimizations to the art of getting things in our bellies. Freshipes would further refine the process by combining online recipes with online grocery shopping.

Project Overview

Data sourcing

Recipes:

- **Scraping:** There is a multitude of sources of recipes on the web. In principle, one could go and scrape sites for them, unfortunately there are almost as many problems with this approach as there are sources. The data is really dirty, it may or may not be legal and most importantly it's difficult.
- **Wiki to the rescue:** recipes.wikia.com hosts some 40,000 pages, a good portion of which are recipes. Grabbing a database dump took all of 45 seconds. The wiki markup makes the job of identifying ingredients pretty easy. All the text contained on the site is licensed under creative commons - share alike which has few restrictions. (Image dump is unavailable).

Reviews:

- **Scraping:** Crawl popular recipe site(s) collecting (user, recipe, score) tuples. We won't use this data on the site but we will use it to train and test our collaborative filter, as a stand in for how it might perform if the site had a userbase.

Ingredients:

- **Amazon Product Advertising API:** The working title for this project is a bit of a lie. Amazon doesn't expose their fresh store through any API. They do expose their "Grocery" storefront through the aforementioned API, and while it is devoid of any

perishable goods it does have a wide selection of ingredients that your local grocery store probably doesn't have. And many of them are available for prime (freeish 2 day shipping).

Site Layout

Freshipes will have a straightforward interface that revolves around search rather than categorization. A few categories will be retained and accessible through query filter operators, but no explicit interface to navigate paginated category views.

Features

- Integration with amazon shopping services.
- What can I make that uses these ingredients...
- Collaborative Filtering (based on what you like, we think you might also like...)
 - We can let amazon do this for ingredients
 - We can also do it for recipes
 - We will scrape a recipe site for (user,recipe,score) data to train and test.
- User auth to store recipe book/pantry
- Online recipebook
- Online pantry (automatically stocked when you buy something from amazon)
- search autocomplete
- multitude of stretch features possible... such as ingredient finder to help you obtain missing ingredients through Amazon fresh, recommend cooking recipes from users recent searching pattern

Project Timeline

Milestone 0 (Oct 29):

- **Finish:** Specification, UI mockups, wiki XML parser/db import
- **In-Progress:** Page Layout
- **Begin:** Amazon API integration, Collaborative Filtering, Review scraper

Milestone 1 (Nov 17):

- **Finish:** Page layout
- **In-Progress:** Amazon API integration, Collaborative Filtering, Review Scraper

Milestone 2 (Nov 24):

Feature freeze

Milestone 3 (Dec 3):

Code complete, evaluation, write-ups

Milestone 4 (Dec 14):

Presentation

Evaluation Metrics

- Qualitative: Is it usable? Is it useful? Features promised vs features delivered.
- Analysis of recommendations will be done using the training set we scrape from recipe sites. Figures analogous to precision/recall will be used to quantify performance of algorithm.