The Spice Rack

Senior Design Assignment #8

Abstract

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Finding, collecting, and cooking recipes can be a daunting task. There are numerous hurdles for people to effectively manage their recipes.

In this project, we will create a **web-application** dedicated to parsing various sources of recipes and collecting them for a user in a **digital recipe book.**

Recipes will be interpreted in one of two ways. For online recipes (i.e., the recipe source is a URL), we aim to use **machine learning** and **information retrieval** techniques to strip recipe information from the webpage. Written recipes (i.e. the source is a photo) will be parsed using **optical character recognition.**

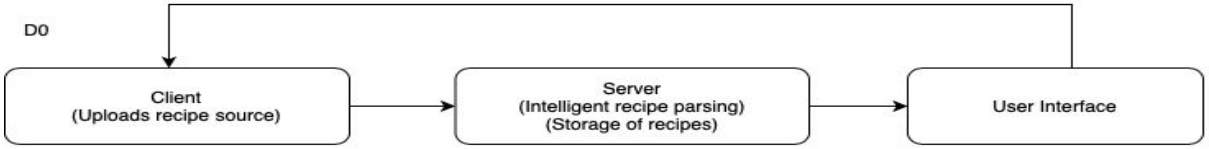
User Stories

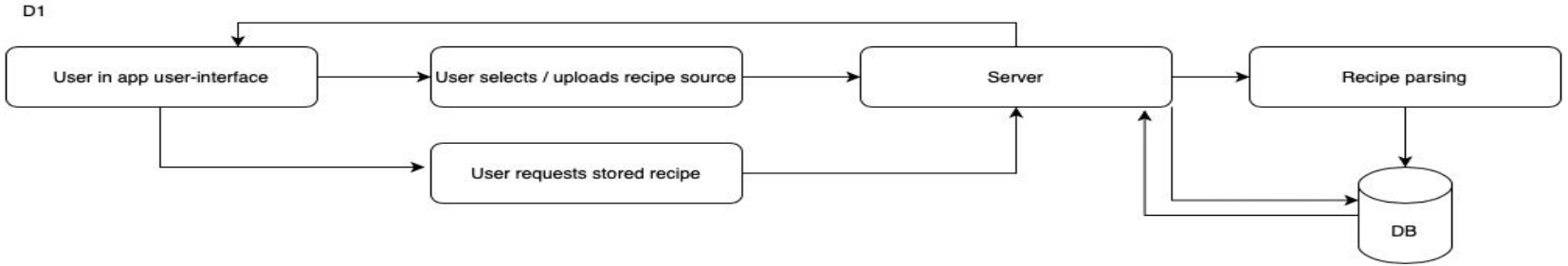
1. As a home cook, I want to store my recipes in a database, so that I can access them at a later time when I would like to make the recipe.

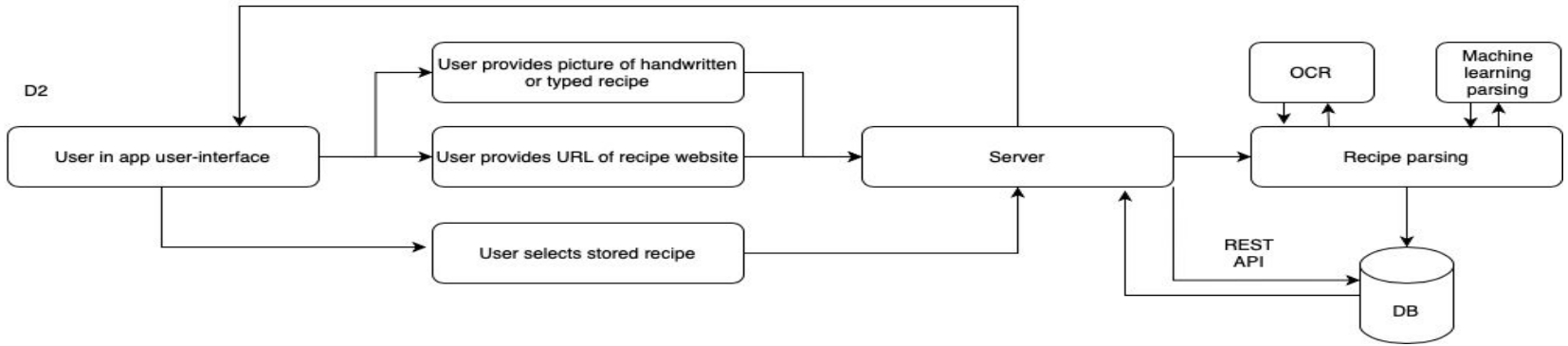
2. As a home cook, I want to see a grocery list made of my recipes, so that I can see all the ingredients that I would need to get at the grocery store for the recipes I would like to cook.

3. As a person who uses online recipes a lot, I want to have a source where I can avoid numerous ads and pop-ups, so that I can access recipes immediately and efficiently.

4. As a person who has grown up with recipes passed on from older generations, I want to be able to have a way to access these recipes online, so that I can share them with others and not have to search for a physical copy of them.







Design Diagrams

Project Constraints

- Time - full time students/working part time
- Technical - Machine learning / Information retrieval techniques
- Social - made to be used by the general populace

Tasks

Task	Graska	Hollar	Tam
Investigate methods of parsing websites for specific data	05%	90%	05%
Investigate optical character recognition (OCR) techniques and implementations.	10%	80%	10%
Design `Recipe` model -- what information could a recipe include?	80%	10%	10%
Identify programming language, frameworks (if any), etc. to implement server.	70%	15%	15%
Develop relational database to store `Recipe` objects.	90%	05%	05%
Research and prototype parsing strategies identified in language of choice.	10%	80%	10%
Research and prototype OCR parsing functionality investigated previously.	10%	80%	10%
Develop REST API to pass data between server and client application(s).	70%	10%	20%
Develop user-management functionality	90%	05%	05%
Define web-development framework to create the application.	10%	10%	80%
Define CSS and other design principles	33%	34%	33%
Create "user-management" page(s) for signing up, logging in, etc.	05%	05%	90%
Create "home" webpage.	10%	10%	80%
Create "recipe viewer" webpage.	10%	10%	80%
Create form to upload recipe source to be parsed and stored.	10%	10%	80%
Create page(s) to manually create, edit, and delete recipes	10%	10%	80%

Current Progress

- Finalized our project idea and details
- Defined any constraints we have regarding the project
- Starting research on:
  - Parsing website data
  - Optical Character Recognition
  - UI that effectively displays all information needed

Goals

End of fall term:

- Investigate methods for website parsing and optical character recognition (OCR)
- Research prototype parsing strategies and select one that fits our project description
- Begin drafting web application layout
- Identify any programming languages or frameworks to implement into the server
- Develop a Recipe model and database to store Recipe objects

For Senior Design Expo:

- Talk about The Spice Rack and give a brief overview of what the application entails
- Run Demo:
  - Create user/log in
  - Upload/view recipes
  - Recipe parsing and uploading recipe via image (OCR)
  - Deleting recipes
- Show the types of information being stored
- Conclude with explaining if we met our original goals or not
- Potentially explain our stretch goals