



Big Plate

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B. Executive Summary

The defined setting for our project was in the realm of helping people find recipes, in order to advance their cooking experiences. We wanted to explore this area because it was clear from our contextual inquiry that people often have difficulty narrowing down recipes from the vast resources that exist both online and offline.

In order to gain a fuller, more complete picture of the problem space, all three of us participated in contextual inquiries. Contextual inquiries are more of a hands-on approach to data collection than an interview, because it places the “inquirer” within the field itself, with the observee being the expert in the field that, unbeknownst to them, allows them to provide a complete insight into the field itself, as they answer questions from the inquirer and provide explanations of processes and paradigms with which they, unlike the inquirer, are more comfortable.

Following the contextual inquiries, work models were created that visually represented the information gleaned from the inquiries, and following the construction of the consolidated models, an affinity diagram was created which showed a bird’s eye view and allowed us to categorize our notes into clusters of content to be realized when crystallizing a design.

A design was etched out and given form, as well as a name: Big Plate. Big Plate facilitates finding recipes based on desired ingredients for its members and fans. With Big Plate, every cook can access the highest-rated weekly recipes and find out which recipe has the lowest calorie count, among other factors. Fans can browse the application and benefit from other member’s contributions to the recipes. Members can sign in and add recipes to Big Plate and share their recipes with other users. Members can also save or modify other members’ recipes in order to improve their cooking experience. With Big Plate, members are able to create shopping lists and print them, which makes it easier to see the recipes while cooking or shopping. Big Plate features high quality photos, reviews and tips from its members, thus increasing the information value presented to its users.

After tweaking the design and creating a prototype, we sought evaluator feedback to see if we had observed the problem space effectively and if we had solved a problem within the problem space, allowing for ease of finding a recipe with minimal difficulty. We took our high-fidelity prototype and, since it was a series of PowerPoint slides, ran it on a computer with our participants —in control” of the computer with one of our group members sitting beside them, taking notes of their interaction, observations, and suggestions for improvement. Following the evaluation, we brainstormed solutions to the problems brought up by the evaluators.

C. Definition of the Setting and the Project Scope

The defined setting for our project was in the realm of helping people find recipes, in order to advance their cooking experiences. As team 3, we wanted to explore this area because it was clear from our contextual inquiry that people often have difficulty narrowing down recipes from the vast resources that exist both online and offline.

Recipes are sold in cookbooks, found on a myriad of web pages, as well as simply made up by amateur and professional chefs alike. However, due to this increased availability, there is an issue for many users in narrowing down the concept of authority with regards to a recipe's efficacy and taste. Thus, many users often have to scan multiple books, websites, etc before finding a recipe that is easy to follow, fits their schedule, is relatively straightforward, and feeds everyone in the home (among other requirements we will discuss later in the report). For instance, with cookbooks, often times there may be no picture, poor instructions, or assumptions about specific cooking equipment that the user has. Furthermore, the authority of the book's author is not always clearly decisive. Websites (such as allrecipes.com) suffer from a different problem: there are no ways to adequately search for recipes that would fit all types of users. For instance, a user may search four recipe inclusions or exclusions each. But what if they want to search eight or nine? Also, other search criteria are predefined and constrain the user into drop down menus, rather than let the user provide the criteria him/herself. Plus, if a user feels compelled to alter a recipe for health benefits, they must pay a subscription fee, despite their benevolent intentions.

Thus the scope of our project was an application that would give users the chance to submit any recipe, be it original or copied, and have it judged on the key criteria ([see requirements and goals](#)) by users themselves. The application is non-profit, meaning it is designed to allow users to be the authority on what constitutes a good or bad recipe, as well as reasonably modify recipes, NOT as a source of monetary gain. In this way authority is given to and judged by the users themselves, no matter if they be a complete amateur or a seasoned professional. A recipe's true strength is governed by how many people use it, which our site promotes at its core.

D. Fieldwork Activity and Data Collected

i. Contextual Inquiry Process

In order to gain a fuller, more complete picture of the problem space, all three of us participated in contextual inquiries. Contextual inquiries are more of a hands-on approach to data collection than an interview, because it places the "inquirer" within the field itself, with the observee being the expert in the field that, unbeknownst to them, allows them to provide a complete insight into the field itself, as they answer questions from the inquirer and provide explanations of processes and paradigms with which they, unlike the inquirer, are more comfortable.

Three contextual inquiries were performed in order to gain a more complete insight into the problem space. Two of the observees were male graduate students between 25 and 29 years old. One of the observees was proficient in cooking Western cuisine, while one was more proficient in cooking Chinese cuisine. The observee who was proficient in Western cuisine was single, and the observee who was proficient in Chinese cuisine was married. The third observee was a female physician assistant between 50 and 55 years old. She is proficient in mostly Italian cuisine, and she is married, as well as a mother. The inquiries were conducted within the

observees' kitchens with notes taken that detailed the process in which they performed a task—in the case of the criteria with which we were looking, the process of figuring out a meal to cook and the process in which it was achieved. Questions were asked along the way, both to clarify points that may have been taken for granted, as well as to probe the observee into describing processes and paradigms that, while unrelated to the task at hand, directed their behaviors within the process being observed.

Following the inquiry, the observees were given a questionnaire that gathered some more of their demographic information, as well as asking questions whose answers that we had deemed important to know in the process of design, but which may have been bypassed during the contextual inquiry, due to either forgetting to mention them to the observee, or because the observee became distracted—either by a process or via explanation of an important paradigm—and forgot to finish their explanation.

ii. Contextual Inquiry Results

The cooking interests of the three observees varied widely, but there were some key points from all of the observees that stuck out:

- Even though every observee had a way to find recipes, each method had some similarities: every recipe had elements that showed ingredients needed and instructions on how to cook the item within the recipe. While this was not particularly ground-breaking, it created a benchmark with which we could compare our proposed design.
- The degree in which substitutions were made varied between the observees. One observee would never change anything, another would make very minor changes if need be for ingredients of lesser importance, and the third observee would substitute ingredients that were unavailable.
- The kitchens of the observees applied comfortably to the observees themselves. None of the observees lamented their kitchens and lack of tools or equipment. Since the observees were content with this situation, it helped keep the problem space focused by not exposing our inquiries into inquiries that were bounded by external constraints
- All three observees looked for recipes on the Internet. While that was not surprising, one of the key features that we found on recipe websites was the ability to communicate and collaborate with the person who posted the recipe. The potential for collaboration was great, but it caused us to wonder if other users would not simply use the feature for communication.

E. Consolidated Work and Activity Models

i. Consolidated Flow Model

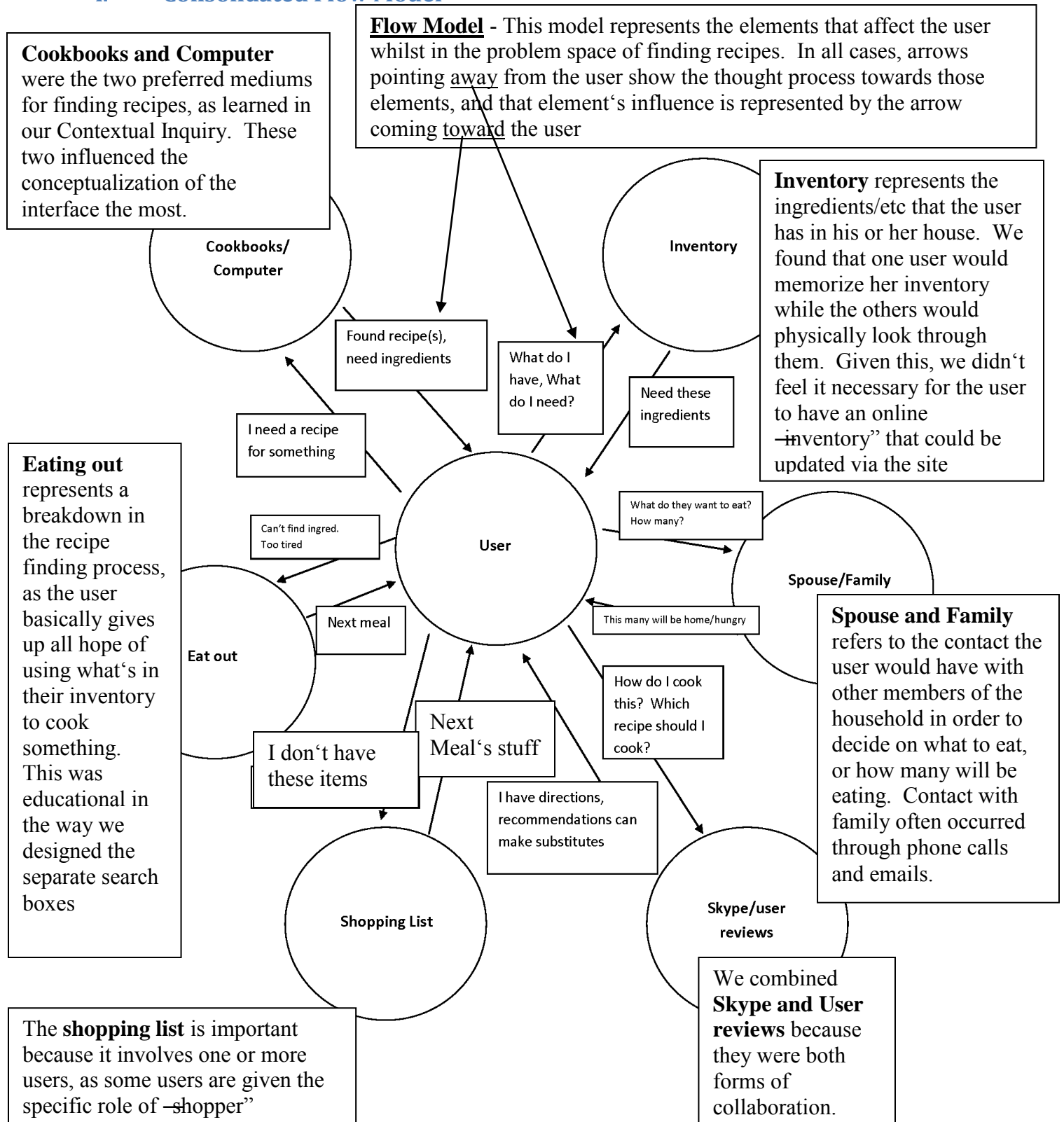


Figure 1: Consolidated Flow Model

ii. Consolidated Sequence Model

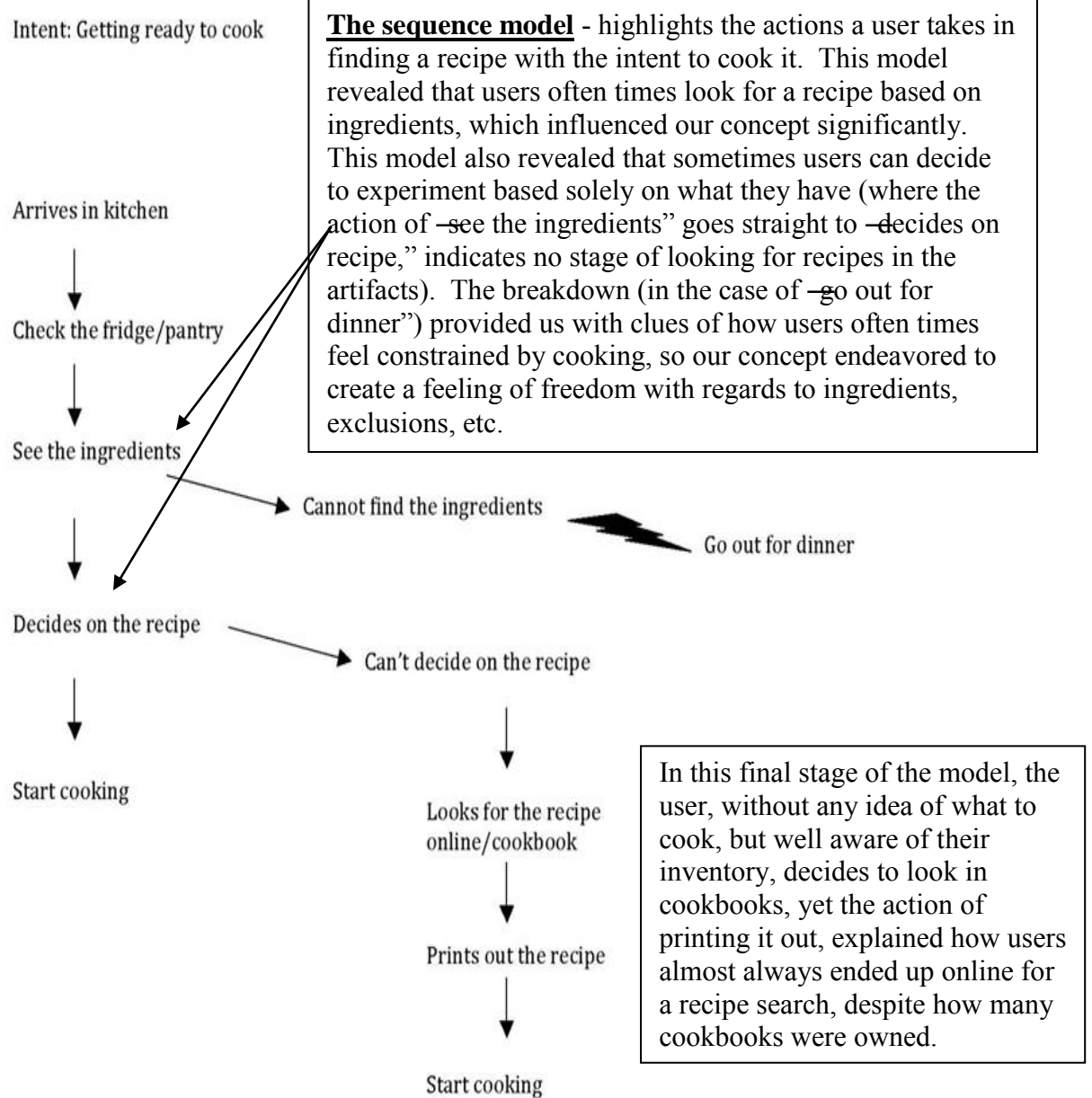
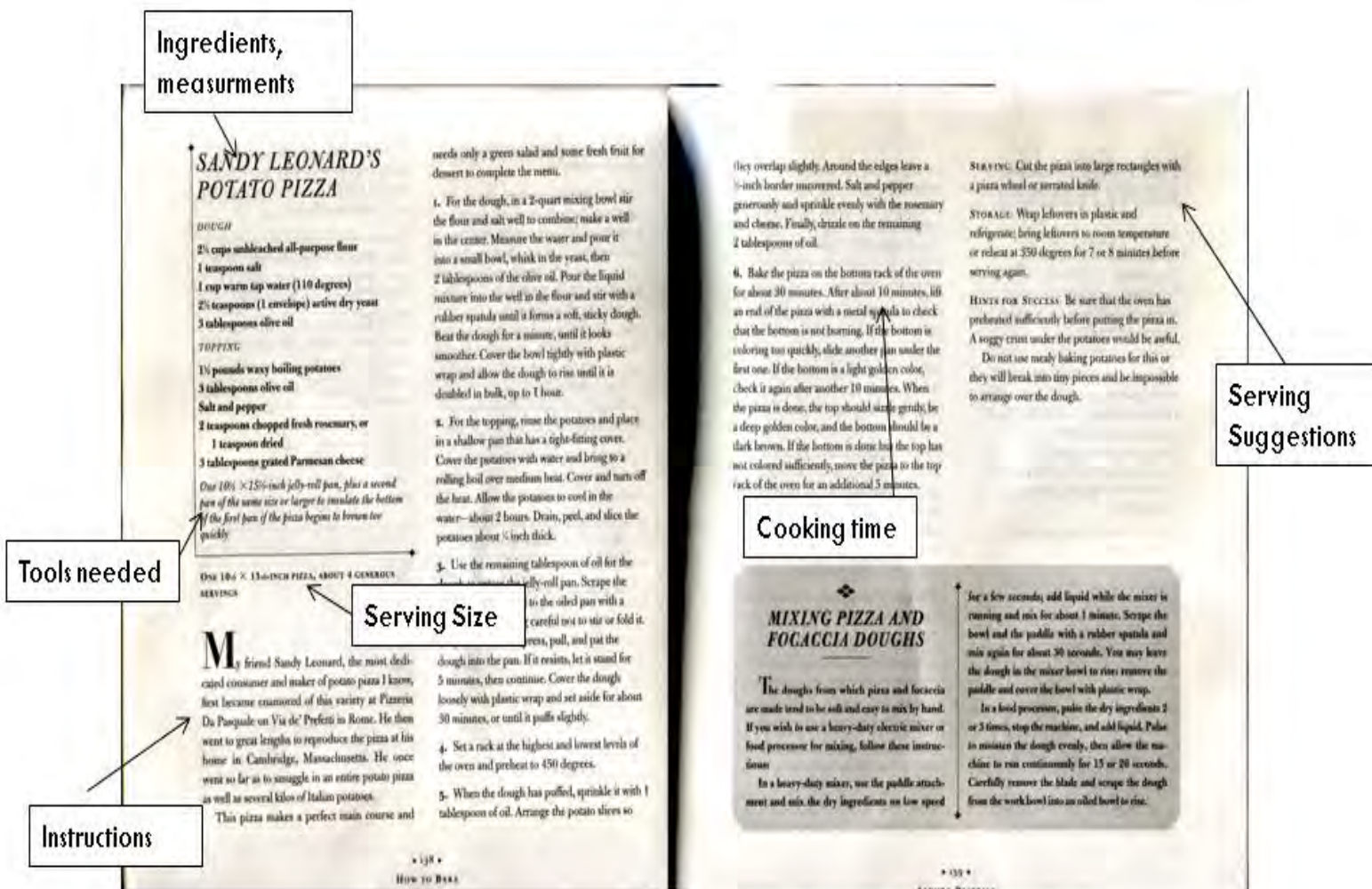


Figure 2: Consolidated Sequence Model

iii. Artifact Models

For our Artifacts, we chose three main items: the cookbook, web page, and Skype. The reason we had three and not one consolidated artifact is because the three were so dissimilar that they could not be reasonably combined. Despite the fact that the cookbook and website contain many similar traits, they are different in too many respects. For instance, in many of the cookbooks examined, pictures of the dishes were rarely seen alongside their respective recipes. Furthermore, descriptions were always textual, with no picture/icon-like instruction. The website, however, tackled these inconsistencies, as well as provided most (if not all) of the criteria found within cookbooks (pointed out below). The websites observed also revealed that user comments played a big factor in how recipes were chosen. In fact, no matter the amount of cookbooks owned, the user ultimately chose to use the website recipe. The Skype artifact, despite being useful to one of our participants for recipe search, did not recur with the two others. In fact, both of those users used the internet as important sources for recipes, which further influenced our decision to make a website.

Figure 3: Cookbook Artifact



Ingredients, measurements

Tools needed

Serving Size

Instructions

Cooking time

Serving Suggestions

SANDY LEONARD'S POTATO PIZZA

DOUGH

- 2½ cups unbleached all-purpose flour
- 1 teaspoon salt
- 1 cup warm tap water (110 degrees)
- 2½ teaspoons (1 envelope) active dry yeast
- 3 tablespoons olive oil

TOPPING

- 1½ pounds waxy boiling potatoes
- 3 tablespoons olive oil
- Salt and pepper
- 2 teaspoons chopped fresh rosemary, or 1 teaspoon dried
- 3 tablespoons grated Parmesan cheese

One 10½ × 15½-inch jelly-roll pan, plus a second pan of the same size or larger to insulate the bottom of the first pan if the pizza begins to brown too quickly.

ONE 10½ × 15½-INCH PIZZA, ABOUT 4 GENEROUS SERVINGS

My friend Sandy Leonard, the most dedicated consumer and maker of potato pizza I know, first became enamored of this variety at Pizzeria Da Pasquale on Via de' Prefetti in Rome. He then went to great lengths to reproduce the pizza at his home in Cambridge, Massachusetts. He once went so far as to smuggle in an entire potato pizza as well as several kilos of Italian potatoes. This pizza makes a perfect main course and

needs only a green salad and some fresh fruit for dessert to complete the menu.

1. For the dough, in a 2-quart mixing bowl stir the flour and salt well to combine; make a well in the center. Measure the water and pour it into a small bowl, whisk in the yeast, then 2 tablespoons of the olive oil. Pour the liquid mixture into the well in the flour and stir with a rubber spatula until it forms a soft, sticky dough. Beat the dough for a minute, until it looks smoother. Cover the bowl tightly with plastic wrap and allow the dough to rise until it is doubled in bulk, up to 1 hour.

2. For the topping, rinse the potatoes and place in a shallow pan that has a tight-fitting cover. Cover the potatoes with water and bring to a rolling boil over medium heat. Cover and turn off the heat. Allow the potatoes to cool in the water—about 2 hours. Drain, peel, and slice the potatoes about ¼-inch thick.

3. Use the remaining tablespoon of oil for the topping. Scrape the dough from the jelly-roll pan. Scrape the dough into the oiled pan with a careful w/e to stir or fold it. Press, pull, and pat the dough into the pan. If it resists, let it stand for 5 minutes, then continue. Cover the dough loosely with plastic wrap and set aside for about 30 minutes, or until it pulls slightly.

4. Set a rack at the highest and lowest levels of the oven and preheat to 450 degrees.

5. When the dough has puffed, sprinkle it with 1 tablespoon of oil. Arrange the potato slices so

they overlap slightly. Around the edges leave a ½-inch border uncovered. Salt and pepper generously and sprinkle evenly with the rosemary and cheese. Finally, drizzle on the remaining 2 tablespoons of oil.

6. Bake the pizza on the bottom rack of the oven for about 30 minutes. After about 10 minutes, lift an end of the pizza with a metal spatula to check that the bottom is not burning. If the bottom is coloring too quickly, slide another pan under the first one. If the bottom is a light golden color, check it again after another 10 minutes. When the pizza is done, the top should sizzle gently, be a deep golden color, and the bottom should be a dark brown. If the bottom is done but the top has not colored sufficiently, move the pizza to the top rack of the oven for an additional 5 minutes.

STAVING: Cut the pizza into large rectangles with a pizza wheel or serrated knife.

STORAGE: Wrap leftovers in plastic and refrigerate; bring leftovers to room temperature or reheat at 350 degrees for 7 or 8 minutes before serving again.

HINTS FOR SUCCESS: Be sure that the oven has preheated sufficiently before putting the pizza in. A soggy crust under the potatoes would be awful. Do not use mealy baking potatoes for this or they will break into tiny pieces and be impossible to arrange over the dough.

MIXING PIZZA AND FOCACCIA DOUGHS

The doughs from which pizza and focaccia are made tend to be soft and easy to mix by hand. If you wish to use a heavy-duty electric mixer or food processor for mixing, follow these instructions:

In a heavy-duty mixer, use the paddle attachment and mix the dry ingredients on low speed

for a few seconds; add liquid while the mixer is running and mix for about 1 minute. Scrape the bowl and the paddle with a rubber spatula and mix again for about 30 seconds. You may have the dough in the mixer bowl to rise; transfer the paddle and cover the bowl with plastic wrap.

In a food processor, pulse the dry ingredients 2 or 3 times, stop the machine, and add liquid. Pulse to mix until the dough evenly, then allow the machine to run continuously for 15 or 20 seconds. Carefully remove the blade and scrape the dough from the work bowl into an oiled bowl to rise.

The image shows a screenshot of a recipe page for "Chocolate Babka" with several annotations. The recipe title is "Chocolate Babka" with 16 ratings and 3 comments. The ingredients list includes: 1 1/2 cups warm milk, 110 degrees; 2 (1/4 ounce each) packages active dry yeast; 1 3/4 cups plus a pinch of sugar; 3 whole large eggs, room temperature; 2 large egg yolks, room temperature; 6 cups all-purpose flour, plus more for work surface; 1 teaspoon salt; 1 3/4 cups (3 1/2 sticks) unsalted butter, cut into 1-inch pieces, room temperature, plus more for bowl and loaf pans; 2 1/4 pounds semisweet chocolate, very finely chopped; 2 1/2 tablespoons ground cinnamon; 1 tablespoon heavy cream; and a link for "Streusel Topping".

Annotations include:

- "Picture adds appeal" pointing to the image of the babka.
- "Amount" pointing to the "1 1/2 cups" in the ingredients list.
- "Takes least amount of time compared to other recipes" pointing to the instructions.
- "Knows she has these ingredients" pointing to the ingredients list.
- "Responds to User comments" pointing to the two user comments below the recipe.

Comments:

- 3/22/09 at 6:13 p.m. ET by Kristen51607: "This was wonderful. My husband actually said it was the best thing I've ever made! Before this, I had never made any sort of bread at all, and the directions to this were clear and easy to follow. I also agree that it would have been just as good, if not better, with a little less streusel. It was delicious!"
- 1/24/08 at 7:16 a.m. ET by Maatchen: "Very impressive. This is soooo good and keeps well several days. I bake it and then freeze it that worked better for me. The first time I made it, there seemed to be too much filling and streusel, so I just use half of each. I also cut the butter in the dough down a bit. Great for a special breakfast or coffee."

Figure 4: Website Artifact

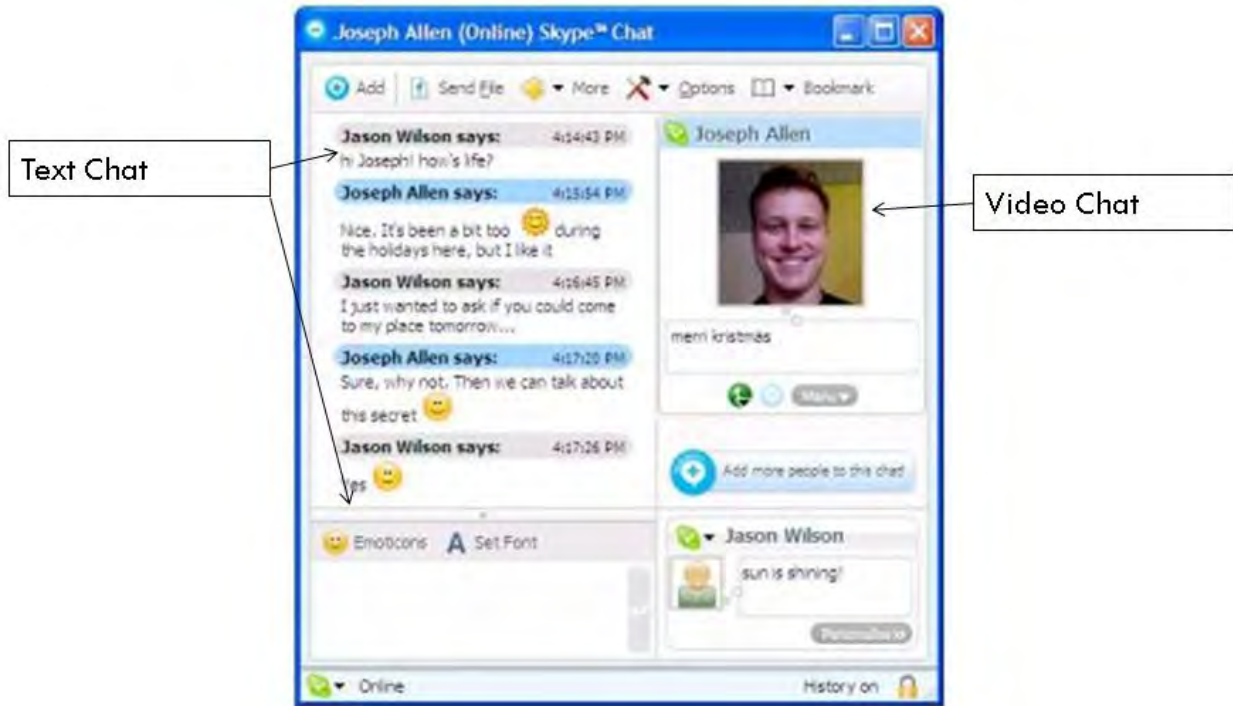


Figure 5: Skype Artifact

iv. Consolidated Cultural Model

The cultural model - shows the various attitudes, concerns, and beliefs the user experiences while in the problem space.

Dish complexity explains how easy or hard a recipe looks while searching. A recipe's difficulty (which can either require skills the user doesn't have or contains ingredients too hard to find) is a huge factor in deciding which recipe gets chosen.

Parents/family shows us how important the tastes and serving sizes are crucial to a recipe's success. The factors of exclusions, such as allergies, can increase significantly with the more people involved.

Experience (levels of training, years of experience cooking, etc) was a factor, but not a common one. Most users felt adequate to try something new, yet the element is significant as it explained why one user would eat out: they couldn't look at their inventory and see any possibilities.

Time was a big factor in deciding, as all users had daily responsibilities. Thus, finding a recipe that could be shopped for, prepared and cooked within a typical time frame of two to three hours was crucial to a recipe's efficacy.

The computer seemed to be the largest influencer in figuring out what to cook. It was the medium that allowed our users to feel collaboration, whereas the cookbooks gave one opinion, user reviews and Skype calls basically decided what the best option was.

Cultural cuisine was interesting because all users enjoyed trying new cooking styles, yet seemed to choose the style they were raised with by default.

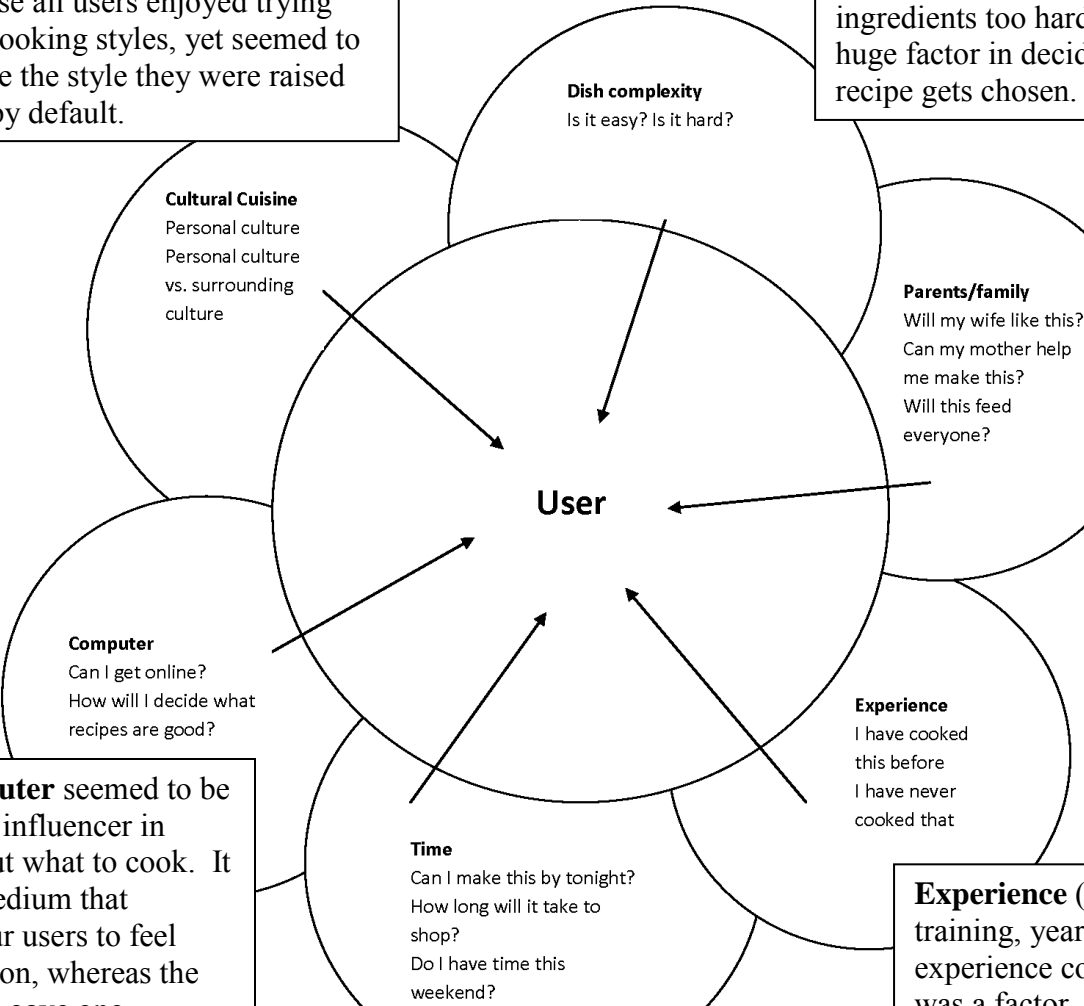
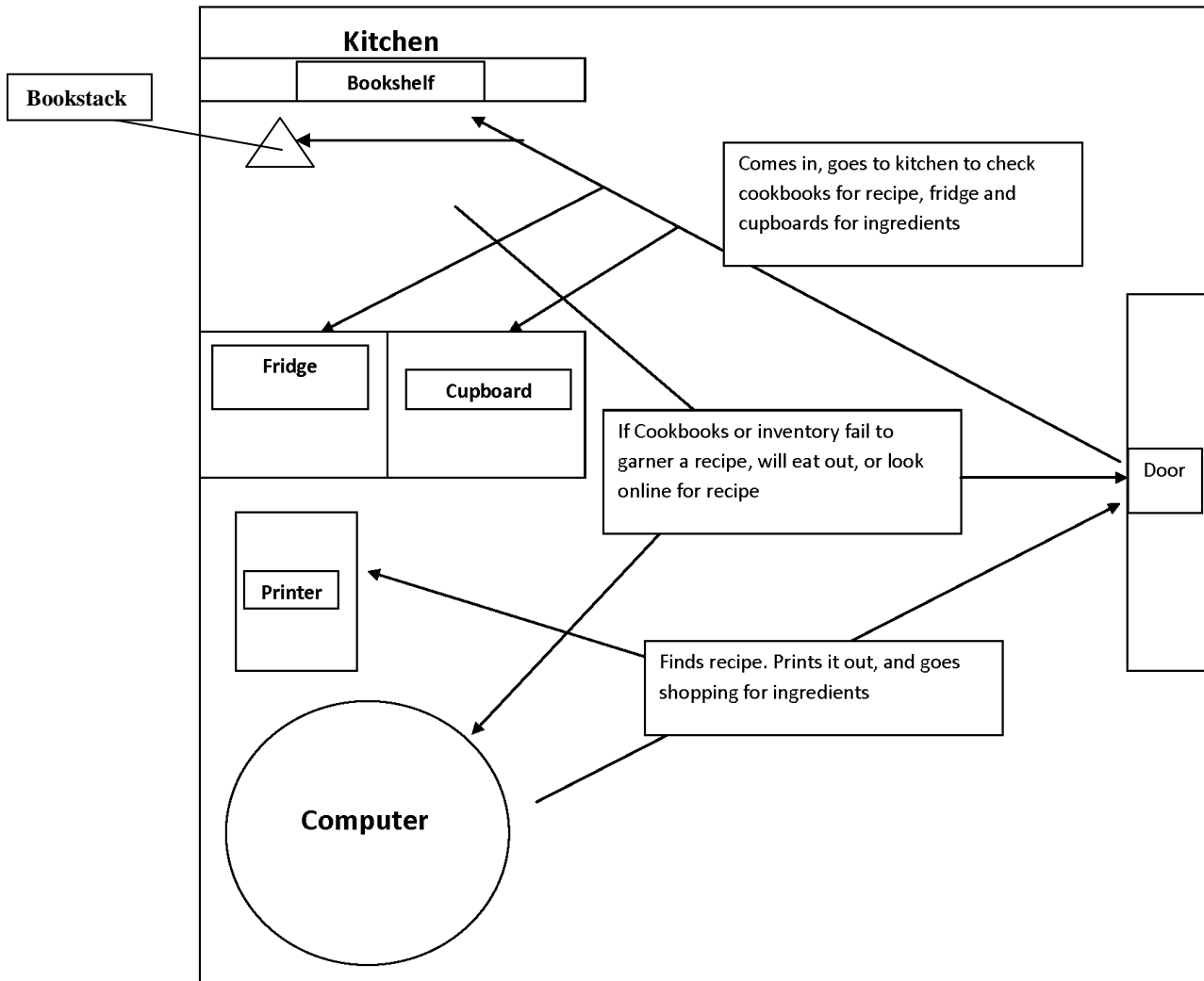


Figure 6: Consolidated Cultural Model

v. Consolidated Physical Model



The physical model – the typical path the user travels for finding recipes. This model illustrates that while most searches for recipes almost always start in the kitchen or bookshelf/stack, they almost always ended up at the computer looking online for recipes. It also showed us that being able to print out a shopping list was important to expediting the cooking process, as a user wouldn't have to sit down and write one. As it stood in our contextual inquiry, the user was only able to print out the recipe, and then created a shopping list from there.

Figure 7: Consolidated Physical Model

vi. Affinity Diagram

Recipes

- **Finding and Choosing a recipe**
 - **Shopping/Ingredients:**
 - He doesn't use coupons or look at store flyers
 - Stores are too far away
 - Uses American ingredients if needed
 - Some ingredients are difficult to come across
 - Chicken recipes pop out because they are inexpensive and readily available
 - Prefers chicken since it can taste like anything you cook it with
 - Sends husband out to shop for groceries if busy
 - When not busy, the user buys the ingredients herself
 - Usually get food from grocery store
 - Coupons not used
 - **Preferences:**
 - Wants recipes and instructions
 - Prepared meals aren't modified after they're made
 - More focus on flavor than calories
 - Would use leftovers
 - If no food is in the fridge, he will go out to eat
 - Pictures of dish help confirm which recipe to choose
 - Total recipe time important
 - Don't like stuff that is work intensive
 - Efficiency over fuss
 - Often chooses a recipe based on time, ingredients, and picture
 - **People:**
 - Has roommates
 - Always cooks for himself
 - Always cooks for 3-4 people
 - Family has about ten or so favorite dishes
 - **Experience:**
 - Discovers dishes by experimenting
 - Self taught chef
 - Kitchen inventory kept from mental image
 - Will often look for recipes for inspiration
 - May change or substitute if something unavailable
 - **Searches:**
 - Will look up recipes online to identify dishes around an ingredient
 - He likes to try new recipes from the Internet
 - Shows interest in different culture's food
 - draws attention to potential cultural issues when cooking
 - Will search internet for recipe
 - Comments help determine which recipes are good

- **Artifacts:**

- He would use an application to look for a recipe
- Will look at a cookbook
- Will look at a online videos
- May use the internet, but prefers Skype more
- Uses Skype to talk to his mom about cooking
- Cookbooks are stacked and organized throughout the house
- Likes cookbooks that present the information clearly
- Likes cookbooks that have worked before
- Video recipes take up more time to get information
- Has about five cookbooks that she uses regularly
- Cookbooks are worth it even if there is only one good recipe
- Usually same websites come up
- Foodnetwork.com is good, but a little slow
- Epicurious.com is good for gourmet recipes that are made from scratch
- Sometimes go to food blogs

vii. User Profiles and Scenarios

User profile specifications

- People who enjoy cooking
- People who lead busy lives
- People who can set time aside for cooking
- People who want to save money
- People who want to broaden their cooking horizons
- People who enjoy a particular culture's food
- People who cook for themselves or multiple people
- People who enjoy communicating with other people, to share experiences and give preferences, either via comments or ratings to allow quick communication at a glance

Scenarios

Bruce is a 30 year old male living in downtown Indianapolis. He works five days a week and has a moderate income to boast become of that. He's a busy man and as a result, he is single. He owns a cookbook that he bought himself on classic dishes of Western influence, which he usually cooks for himself a few times a week. Other times he goes out to eat since it is less of a chore for him. Whenever he has questions about recipes, such as substitutions or modifications, he calls his mom with whom he is very close.

Recently, Bruce has had some free time on his hands so he wants to try cooking more often than eating out. The only problem is, since he is somewhat rusty, he has a little trouble figuring out what he wants to cook and he sometimes has too many miscellaneous ingredients around his kitchen, some of which have ever-impending expiration dates—as a result, he wants to get rid of those ingredients in a productive way, by cooking them, since they cost him money in the past. He's also taken the initiative and wants to start dating, and he thinks that being able to make a nice meal for himself and his date could shine favorably on him, so he is anxious to start cooking meals that are somewhat complex.

Using our product, Bruce is able to find recipes based off of certain ingredients that he possesses. He is able to see modifications that other users have made, as well as why they made them. He is also able to see how users rate recipes so that he knows at a quick glance which recipes other users think are “better” than others. Using this information, he is able to decide which dish is good to make, especially if he finds himself on a date.

Astrid is a 23 year old female living in Broadripple, but she is pursuing a Bachelors degree in business as an undergraduate at IUPUI. She has been engaged to her fiancé, Derek, pursuing an MBA, for a little over a year. While busy, she enjoys cooking for herself, but her time is slightly limited due to her studies. She owns a few cookbooks, but every Friday, she has a dinner party for some of her friends, including Derek, so in such a case, she prefers looking up recipes online because she can find recipes that are a little more unique and adventurous. She also likes the comments that some users leave, because it gives her a better mental image of the dish before she cooks it. Even though some of the dinner parties involve going out to eat, Astrid enjoys cooking for Derek and her friends because it gives her a sense of control. Also, she loves Derek and knows that he loves her cooking. Astrid cooks for herself about twice a week and cooks for Derek and herself four times a week, typically after class.

During the last dinner party, Astrid, Derek, and some friends went to a pizza parlor and ordered a pizza. Everything was going good until Derek made a funny face, and it was clear he wasn't joking. He started grabbing his throat and his face turned red, and he fell over. Astrid called for help and luckily a paramedic was available to help Derek. It turns out that Derek had an allergic reaction to the mushrooms on the pizza. Astrid, being terrified at the situation that happened that night, swore that she would never cook with mushrooms, because she would never want to hurt Derek. She began to monitor her recipes very closely, but became agitated with how difficult it was to find recipes that did *not* include particular ingredients, like mushrooms.

While using our product, Astrid was looking for a recipe for chicken a la king, but when she saw that there were mushrooms in the recipe, she thought of that night with Derek and made sure that the recipes she was searching did not contain mushrooms. She made sure to exclude mushrooms from the recipes she was searching, and was shocked to find a recipe for chicken a la king that did not contain mushrooms. Feeling adventurous, she made it for herself and, even though it was not perfect, it was delicious nevertheless. The next week, she made it for both her and Derek, and he loved it, which made her very happy.

F. Requirements and Goals

i. Design Requirements

- The ability to limit which ingredients are within the recipes
- Login protocol
- The ability to submit recipes
- The ability to communicate with users' recipes submissions
- The ability to upload pictures with recipes
- The ability to create a shopping list of ingredients found within a recipe with the ability to “eliminate” ingredients from the list which the user already possesses
- The ability to base recipes around certain ingredients
- The ability to modify a recipe for individual use

- The ability to keep track of recipes via a Favorites option
- The ability to modify the number of servings, which is reflected within a generated recipe list

ii. Usability Requirements

Effectiveness:

- The application will allow the user to search for the recipe and see the recipe as well as be able to provide nutrition information, detailed typical recipe ingredients, and the ability to give the user the option of modification within the recipe.
- The user can communicate with other users to bounce ideas, suggestions and modification.

Efficient:

- The application will be easy to use with a simple interface that the user can use to view and upload data.
- With minimal effort semiotics can be effective.

Utility:

- The user will be able to rate the recipe to influence where it will show up in the search results
- The user will be able to modify the taste, adding ingredient and see how it will affect the nutrition information, they will be able to change serving size as well as they can edit and add comments to the recipe.
- The users, when they are finished, can create a shopping list.
- The users can do conversions to metric and to English measurements.

Safety:

- The users have to log in and create user names and password to prevent unlike consequences from people logging on their behalf.
- By creating a user name they will be able to submit their recipe and share with other users.

Learnability:

- We really want to emphasis on simplicity, so that the tasks require less effort and will use familiar terminology.
- Recipes will be presented in a conventional way so that the users won't have to learn nomenclature distinct to the application.

Memorability:

- Conventional notation, content will change but the general layout won't change.
- By having the option to "favorite" recipes or other users, the primary user can track previous changes that have been made.

G. Conceptual Design

The conceptual design of Big Plate is based on our field studies and usability requirements to establish our application; below is the IDM map of Big Plate which illustrates this. IDM is a design technique for multichannel applications such as websites. In this map we are presenting our interaction dialogue model, which shows the logical design of Big Plate.

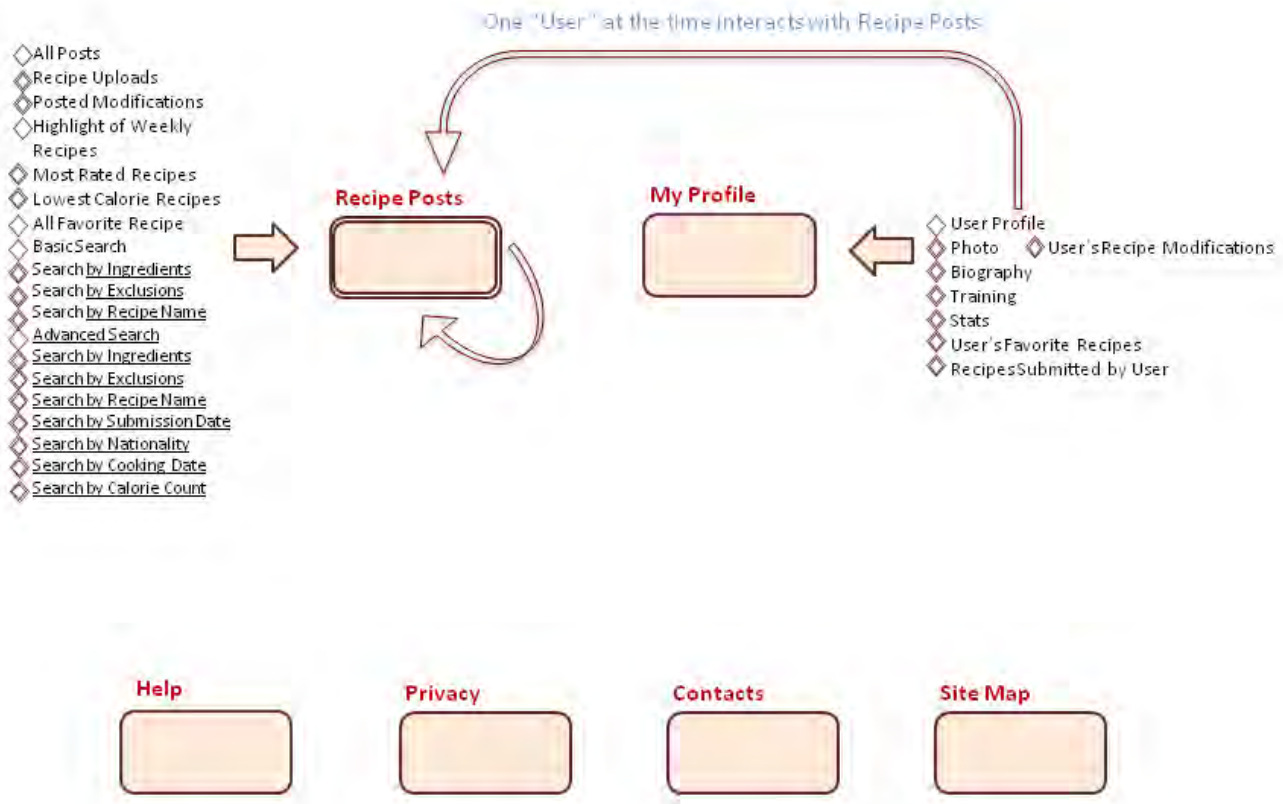


Figure 8: IDM of Big Plate

Big Plate facilitates finding recipes based on desired ingredients for its members and fans. With Big Plate, every cook can access the highest-rated weekly recipes and find out which recipe has the lowest calorie count, among other factors. Fans can browse the application and benefit from other member’s contributions to the recipes. Members can sign in and add recipes to Big Plate and share their recipes with other users. Members can also save or modify other members’ recipes in order to improve their cooking experience. With Big Plate, members are able to create shopping lists and print them, which makes it easier to see the recipes while cooking or shopping. Big Plate features high quality photos, reviews and tips from its members, thus increasing the information value presented to its users.

i. System Architecture

The user can employ either basic or advanced search by ingredients, exclusion of an ingredient, recipe name, submission date, nationality, submission date, and calorie count. The main concepts of Big Plate receive data from the user such as specific ingredients and then

recommends to the user what they can cook with those specific ingredients. The other main concept of Big Plate is allowing the members to modify other members' recipes by providing the reason as to why they are modifying the original recipe. We felt that including modification options for members would help them to explore new ideas about the original recipes.

ii. Navigation/Interaction

User's interaction with Big Plate will be through the routine use of mouse and keyword. The mouse would be used to navigate the website by clicking on the websites hyperlinks, and the keyboard would be utilized by the users to input search keywords in the search box of Big Plate, as well as to make and give reason to modification.

iii. Interaction Types

- Instruction
 - User inputs data (ingredient, recipe name, submission date, nationality, cooking date, calorie count)
 - User explores the outputs (Recipes with their images, rates, dates of submission and user's name)
- Manipulation
 - User can modify recipes of other users by providing a reason

H. Page Design and Prototypes

Big Plate is similar to other websites by utilizing interactive steps through an advanced process. Our group initially started the process of developing the interface of the application by brainstorming on a whiteboard and later creating paper prototypes of promising screens and navigation paths. After those steps were complete, our team composed a high fidelity prototype, consisting of functionality and interactive navigation.

i. Initial Design Ideas

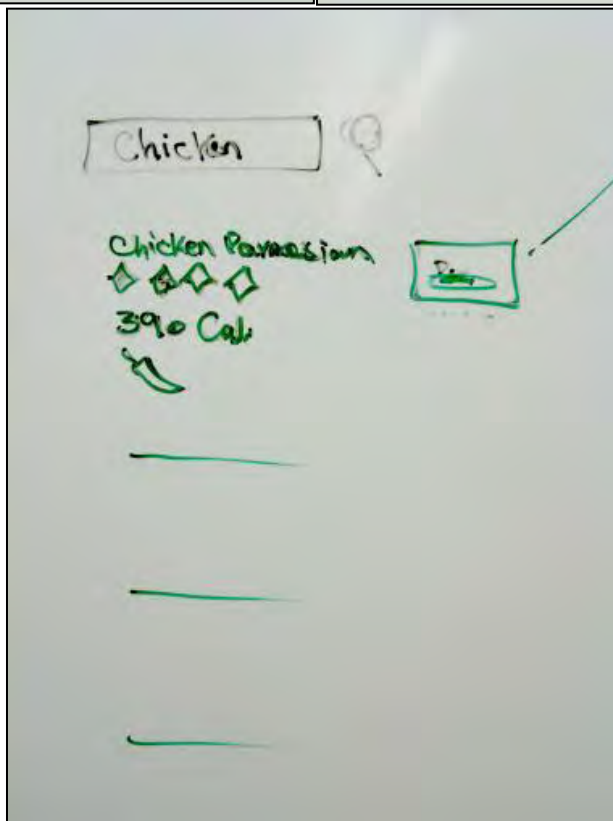
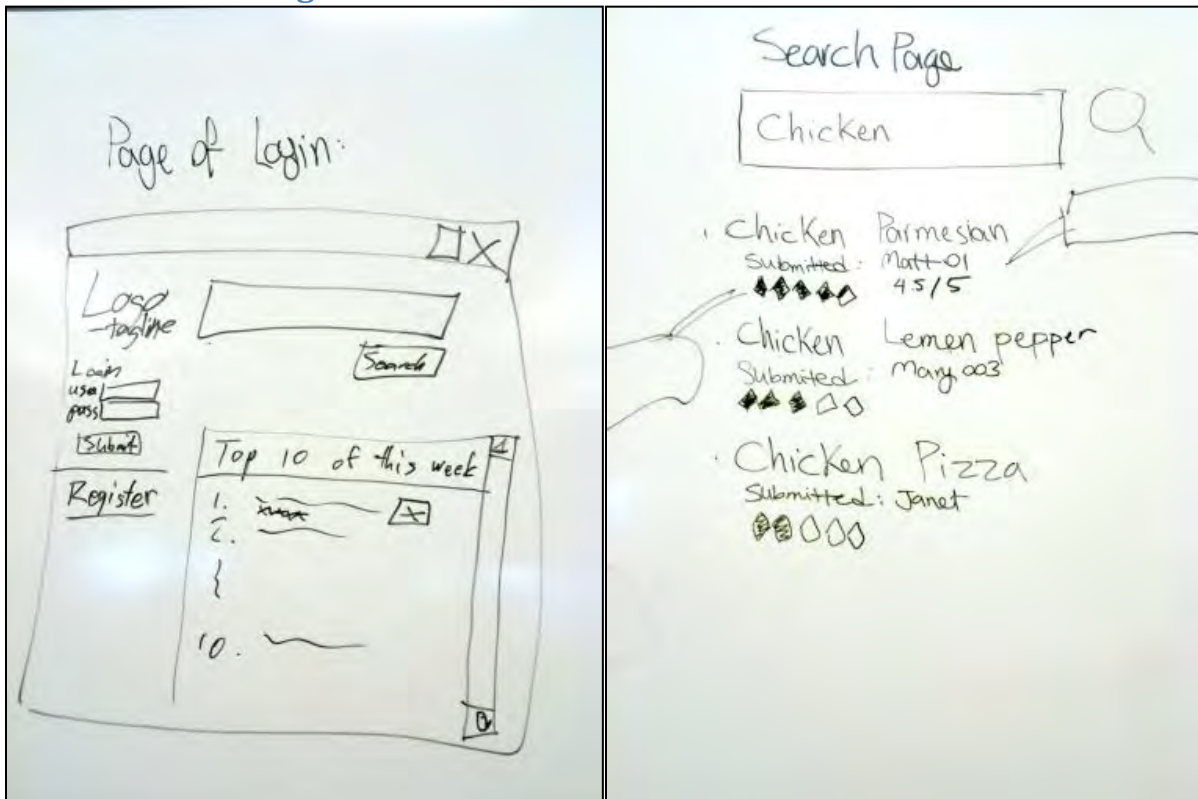


Figure 9: Initial Brainstorming Images

Initially, before we employed our thoughts based on our contextual models on paper, we did lots of brainstorming on whiteboard, which was often one of the best ways to discover new ideas through group discussion. See the Appendix for additional initial design ideas.

ii. Low-fidelity Prototype

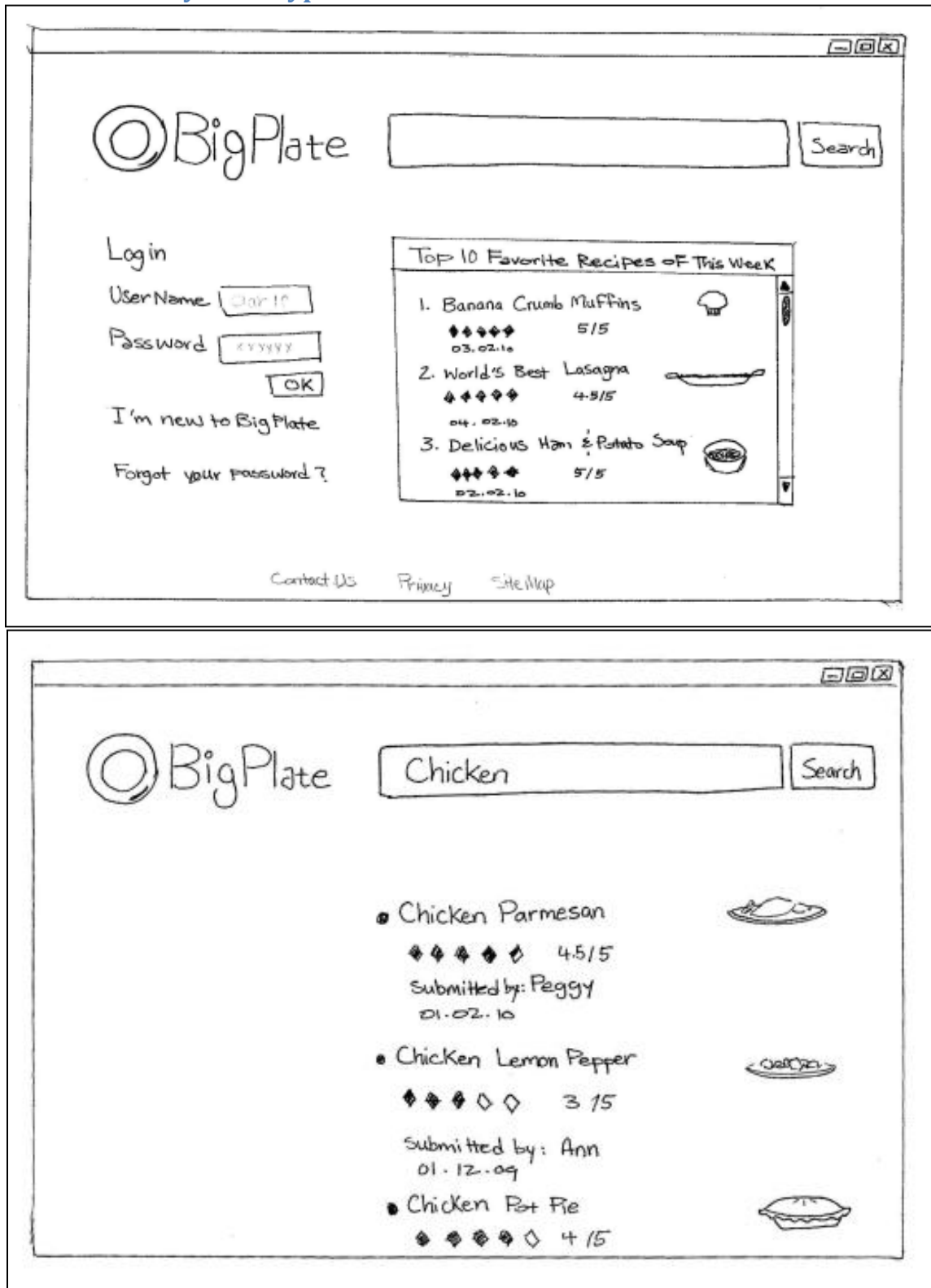


Figure 10: Low-fidelity Prototype Images

Our low-fidelity prototypes highlight the sketches that we were used to combine our preliminary data about the function of the application with the initial brainstorming conducted previously, and were fundamental to the design of the high-fidelity prototype. Each page was designed for its exclusive purpose as well as icons and texts for the touch interactions to resemble the proper workings of the application. These sketches include:

- Homepage
- Search box
- Login box
- Highlight box of weekly recipes (including: ratings, dates, submitted user's name and image of the dish)
- Search results
- Member page (including: Profile, Favorites and Recipe Posts)
- Modification page
- Rating page

Please see the Appendix for additional low fidelity prototype images.

iii. Internal Evaluation

After completing the low fidelity prototype a member of our group performed an evaluation walkthrough. The suggestions based on their results were as follows:

- Profile tabs in paper prototype changed to menu items on the homepage.
- Single search box on homepage in paper prototype was converted to a side search box that has both basic and advanced search.
- A link to the original recipe page was added to the modified recipe page.
- A "Print Shopping" button was added to the recipe pages, in order to facilitate printing the recipes in a readable format.
- The option "Date" was added to recipe page in order to help users find out when the recipes were either originally uploaded or modified.

iv. High-fidelity Prototype

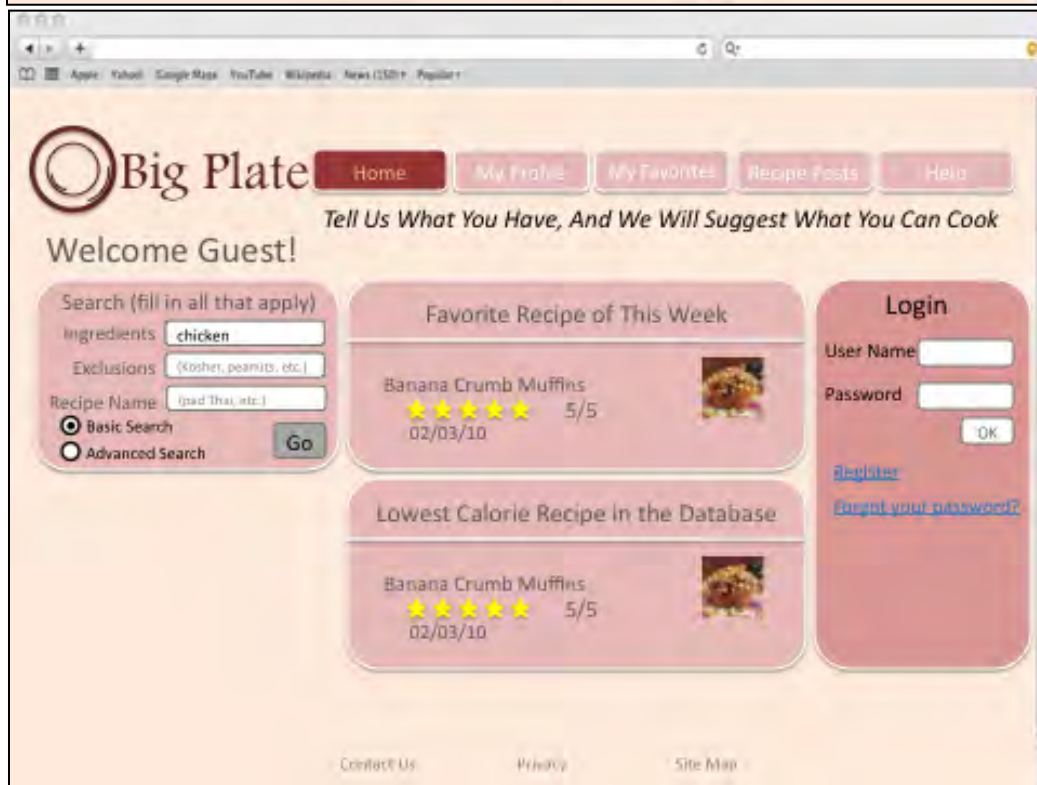
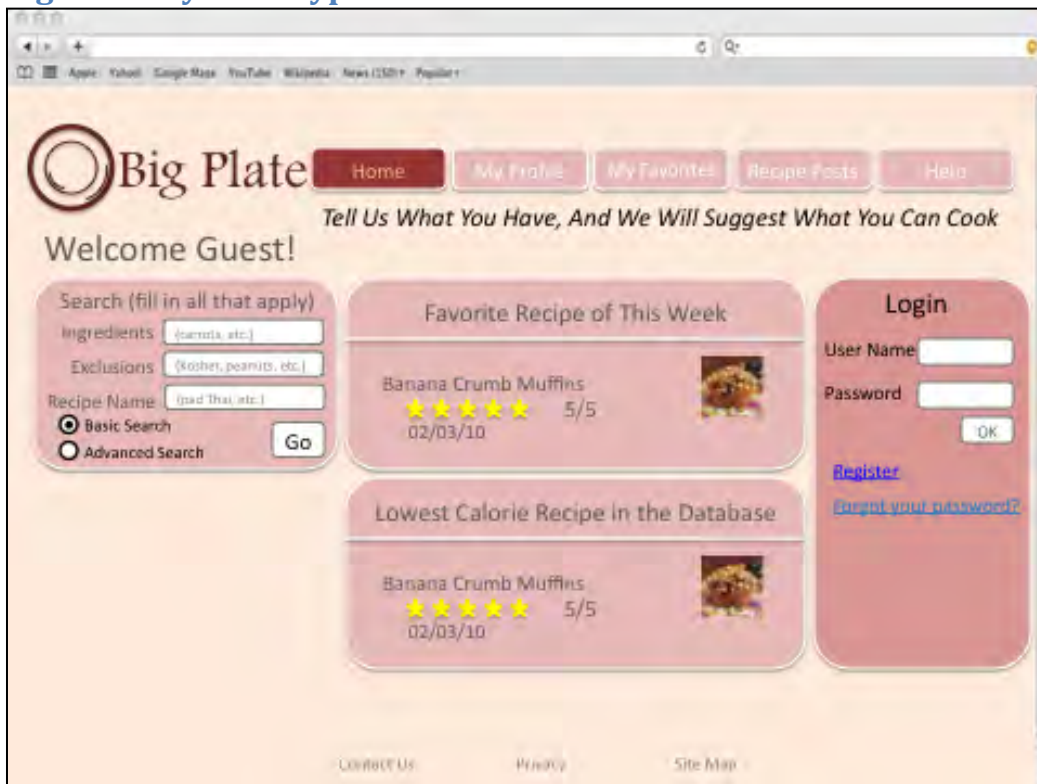




Figure 11: High-fidelity Prototype Images

Our high-fidelity prototype had some changes compared to the paper prototype due to the changes that were identified during the internal walkthrough. See the Appendix for additional high fidelity prototype images.

For the sake of an overview of the high fidelity prototypes, we have expanded upon our scenario here:

John, an avid cook, is looking for a recipe to make a delicious lunch with chicken. He starts Googling online and finds out that Big Plate has a number of recipes for chicken. He opens Big Plate's website and searches for "chicken." A number of recipes come up and he chooses chicken parmesan posted by a user named Peggy. John reads the recipe and finds it interesting. John clicks on Peggy's name to find out if she has posted any other recipes. Big Plate's website prompts John to register if he wants to find out more about Peggy's postings. John starts the registration by clicking on the link that is provided to him. He fills the online registration form with his email and desired username and password. No personal information is collected from the users and John seems to be happy by that. After completing the registration, John logs into Big Plate and now he can browse Peggy's recipes. John makes sure that he has all of the ingredients handy and then starts cooking the chicken parmesan. After making his lunch, John realizes that the chicken was overcooked based on the recommended time (30 minutes) in the recipe. He thinks that 25 minutes should be enough and goes back online to provide this suggestion. He clicks on the "Modify" button and changes the "30 minutes" to "25 minutes" and saves the changes. Big Plate prompts him for a reason as to why he made the change, to which he complies, and after giving his suggestion, Big Plate immediately applies the changes and shows both the original version posted by Peggy and the modified version posted by John. John likes the fact that both versions are posted and that the users can see the changes made by other users.

I. User Feedback

i. Methods Used

After our high-fidelity prototype was complete, we wanted feedback from our potential users to see if we had observed the problem space effectively and if we had solved a problem within the problem space, allowing for ease of finding a recipe with minimal difficulty. We took our high-fidelity prototype and, since it was a series of PowerPoint slides, ran it on a computer with our participants —in control" of the computer with one of our group members sitting beside them, taking notes of their interaction, observations, and suggestions for improvement. As such, we employed the think-aloud protocol, asking the participant to vocalize what they were thinking for ease of transcribing it. For notes taken from each participant, see the Appendix.

ii. Problems Identified

After concluding the evaluation tests, it was apparent that there were some problems with the design of the prototype. We had identified one major problem which would have to be fixed in order for the prototype to transition into a released product, and a series of minor problems which were not sufficient problems toward the success of the design, but which caused problems to the participants which, given the level of usability that we were trying to achieve, should be fixed. The problems realized were as follows:

- Major issue
 - Layout stayed similar, while labels and functions of buttons did not
- Minor issues
 - The color scheme was too light
 - The “instructions” for the recipe did not stand out, due to being Lorem Ipsum filler text within the prototype
 - “<<” was unclear
 - Recipe pictures should be clickable

The layout of the page was concise, so gross changes to the layout was not something that we felt was appropriate from a design perspective. However, the participant felt that since sometimes text (and the function) of a button was all that changed without any visual cue that anything else changed, it was difficult to know what had changed (if anything) and how that impacted the task at hand. This participant asked where the option was to save a modification, when the option was visible, but there was no indication that such an option had ever come into existence.

One participant commented on the color scheme of the high-fidelity prototype, saying that it was too light. This confused him, because the lack of contrast between elements caused content to bleed over without boundaries. Other than the confusion caused by the light color, he did not mention if the color scheme made him feel uncomfortable at all—just confused. When we created the recipe page, we used Lorem Ipsum filler text to show that text would be present in certain areas, but we decided—for the prototype’s sake—to keep the detail out of the pages. This confused one of our participants, because he was specifically looking for the recipe instructions and did not see them—all he saw was filler text, which got his imagination running as to what could be in that space. He thought that nutrition information could be there, for instance. One participant found that “<<” was unclear, which was the website’s “back” feature. It would return the user to their previous page other than clicking the back button. We wanted to keep all of the functionality of the page centered within the page itself and not have the user having to click on a back button. In a nutshell, the feature of “<<” would be to return the user to their previous page, such as if they were searching for something based off criteria. Last but not least, the pictures of the recipe were not clickable within the prototype. This was a technical problem and was crystallized due to our lack of forethought. In the product itself, this would be enabled.

The level of interactivity that was felt between the participants and the product allowed us to visualize this product within the sphere of the participants’ (and subsequently, the users’) everyday practice. There were some glaring issues which would need to be addressed, but for the most part, when the issues were fixed, it would be possible for the users to make use of the product without any challenges. Possible solutions to the issues raised are given below.

iii. Ideas for Improvement

When the prototype was designed, we imagined consistency within design elements. As a result, the color scheme was observed and maintained throughout the prototype. However, the lack of alerts that some content was changing caused difficulty for one of our participants. In order to alleviate the major issue of not being able to know if something had changed (due to the layout being similar while labels and functions were not), it should be possible to pull from the same color scheme to find other colors to show a second layer of interactivity so that when the colors change, the user still knows that the buttons are clickable, but the changing colors brings changing labels, functions, and expectations. On par with the color scheme, choosing a darker

scheme or identifying a particular “genre” such as “earth tones” could allow for a more-concise experience for the user, and there would not be confusion between certain colors and how they related to other ones within the set. Within the real product, the technical issues would be corrected, so the Lorem Ipsum filler text and the images that were not clickable would not be an issue for the user of the product. With a more-dynamic product, the “ \ll ” feature could update dynamically, saying “back to Search results: chicken” or “Return to Search Results.” The design was chosen because it was smaller, so it could be placed in the top-left of the window, similar to the back button, and out of the way of the participants’ interaction. However, the feature itself was unclear to one of the participants, so it would be revised to incorporate the intended features without becoming too glaring to the user, possibly using the semiotics described above.

Another interesting point brought up by our evaluators was the level of trustworthiness that should be allowed when modifying a recipe. Should John’s suggestion of 25 minutes have caused the chicken to be on the verge of raw, other people may get sick. In such a case, our evaluators were curious as to how to prevent that. One suggestion we had was to have a set of users who were experts in the field, such as professional chefs or culinary anthropologists, who could offer advice and have a final say before a modification goes live, in order to prevent any problems with modifications from occurring.

J. Appendices

i. Contextual Inquiry Notes

Contextual inquiry: Observee #1

Male, 25-29, graduate student, used to cooking Western cuisine, single

Took steak out of the fridge (was defrosting in there). He won't use the microwave to defrost the meat because it may start to cook the meat

Sliced some garlic

Heated oil in a pan on an electric stove

Doesn't like cooking, so he makes simple dishes

Learned the recipe he was using from his mom

Uses a water heater to heat water to cook broccoli

Speed when cooking is the most important thing to him

Makes non-Chinese food frequently (past, salad, steak) due to the convenience of ingredients, since he doesn't have a car

Frozen broccoli is put into a pan of hot water. Salt is added for flavor

Since he uses an electric stove, it makes cooking the steak take longer

Uses a rice cooker as well

Goes out to eat frequently (~5 times a week)

When he cooks, he prepares extra

Would use leftovers

Never uses the internet to find recipes. He uses Skype to talk to his mom, who taught him to cook

He mentioned that he may use the internet, but prefers Skype more

His mom knows how to cook some Western dishes. Also, his aunt and uncle live in the states and also offer recipes

He turns the steak over and adds McCormick Montreal Steak seasoning

Goes to Marsh for groceries, because their food is fresher and the steaks are cheaper

New shuttle bus from campus goes to Saraga, Wal-Mart and Meijer, so there are more options available, but he would probably still go to Marsh

If no food is in the fridge, he will go out to eat

Sometimes has difficulty gauging how much food will be used or be fresh, due to varying expiration dates

When the steak is done, he puts the steak on plate, and continues cooking vegetables

Won't cook steak if he doesn't have seasonings. He mentioned that in the previous week he didn't have any garlic, so he didn't prepare any steak

Adds A.1. steak sauce

Since he has roommates, the top shelf of the fridge belongs to him, so space is limited

Always cooks for himself—no one else

Likes his steak medium-well

Post-Interview Questions: Observee #1

Are you comfortable around computers?

Yes, I am.

Do you enjoy using touch screen interfaces?

I think I do, but actually I don't have any electric products like iPhone which has touch screen till now.

How well equipped is your kitchen?

It's great. I will like it.

How many people do you typically cook for?

Only cook for myself.

How often do you search/use new recipes?

One time per two months

How do you typically find and choose recipes?

Through cookbooks, computers, magazines, etc
I will ask people, for example, my mom

When you choose a recipe, does its nutrition information/healthiness make an impact on your decision?

No, usually it would not make any impacts on my decision.

Do you ever make up recipes?

-What is your favorite recipe/style?

I seldom make up recipe. I prefer the recipe which is simple and quick

Do you ever base a recipe around a single ingredient?

Yes, I do, for instance, steak and pasta.

How do you plan dishes where you want to modify the recipe (spice/taste)?

-Before you cook/during cooking?

-How do you typically deal with leftovers?

I usually plan dishes before cooking. I would put leftovers in the food storage container

Where do you typically buy your ingredients?

-What size grocery store do you shop at?

I usually buy them from Marsh.

When you want to cook/are cooking any dish where you are unable to find a certain ingredient (due to lack of availability at the grocery store or inability to go out shopping, etc) what do you do?

I would give up cooking that dish

Contextual Inquiry: Observee #2

Male, 25-29, graduate student, used to cooking Chinese cuisine, married

Start in fridge

Use older produce first (used 2 week old green bell peppers)

Uses mostly vegetables

Made the peppers with chicken (boneless and skinless) because it was easy to eat

Defrosted the frozen chicken

Prepares 2 cups of rice while chicken defrosts in the microwave

Washes rice and drains it while defrosting chicken

Used a Betty Crocker rice cooker

Cut up some cloves of garlic with the peppers

Also used green onion

Most food is bought from Saraga on Lafayette

The green onion and garlic was finely chopped

If the chicken is still too hard, a butcher knife maybe used to split it up—the rest of the chicken went back in the freezer so it wouldn't go bad

The chicken was cubed

All meat is stored in the freezer, even if meat is wanted the next day

Some frozen-ness is still desired in the chicken, so it's easier to cut

He doesn't use coupons or look at store flyers because the stores are too far away

Cubes the pepper

When he cooks, he goes with the taste, not the calories

Discovers dishes by experimenting

He's from southeast China, where there is a lot of spicy food with peppers

1 chicken breast and 2 peppers cooks enough food for him and his wife

Prepared meals aren't modified after they're made (he won't add mushrooms when this meal is already made)

Added salt to chicken; was going to add rice wine, but didn't have any

Cut arbol chili peppers with scissors

Uses blended (vegetable and canola) oil

Lots of prep time, not a lot of cooking time

Cook meat first

Not a fan of improvising while cooking

Shows interest in different culture's food, but would rather go to a restaurant, because it's easier and more convenient

Stirs meat with chopsticks, because it's more precise

Mostly uses soy sauce and vinegar

Uses a chicken flavor soup base mix instead of MSG

Multiple soy sauces—some are more fermented (darker) than others

Adds water & soy sauce o chicken (after soup base)

Adds arbol chilis

Adds green peppers

Adds spicy oil, which he bought in Chinatown in Chicago as an impulse buy to try with food, saying that the flavor is similar to flavors of southeast China

Some extra salted fish was in a container on his countertop. This may be eaten as a meal, or as a snack dipped in vinegar. It may also be heated up

He likes to try new recipes on the Internet

- Wants recipes and instructions
- Some ingredients are difficult to come across
- Uses American ingredients if needed (American celery is bigger than Chinese celery)

He would use an application to look for a recipe, but he draws attention to potential cultural issues when cooking. He posited the idea for maybe having a list of traditional dishes

Will use salt instead of soup base if he doesn't have the soup base

Will use spicy oil instead of the arbol chilis

If no soy sauce, dish has to be modified (no substituting soy sauce)

More focus on flavor than calories

Salt, soy sauce, and vinegar are essential to him

A flavor is identified prior to cooking and it is followed

1. Identify flavor
2. Clean out the fridge
3. (depending on the dish) add meat
4. Keep flavor in mind throughout cooking process

Will look up recipes online to identify dishes around an ingredient only if a plan isn't identified

Plan = "what can I do with this/these ingredients" (he doesn't innately know what to make with chicken and celery so he would look up recipes)

Will look at a cookbook and online videos for ideas and instructions

Learned to cook by himself by watching others

Post-Interview Questions: Observee #2

Are you comfortable around computers?
Yes. Quite comfortable.

Do you enjoy using touch screen interfaces?
Yes. Except the part of typing. It's not as convenient and error-free as traditional keyboards.

How well equipped is your kitchen?
Not very hi-tech I should say. But sufficiently equipped for my cooking.

How many people do you typically cook for?
 2.

How often do you search/use new recipes?

Not very often. I always try to cook dishes that I'm good at. Not a very innovative person regarding cooking I guess.

How do you typically find and choose recipes?

Through cookbooks, computers, magazines, etc
My recipes are imitations from my mom. I just guess what would she do with the materials at hand. Maybe I'll ask her directly. But I almost never consult books for references. Couple of times I did use the internet for confirmation on my guessing. But that's it.

When you choose a recipe, does its nutrition information/healthiness make an impact on your decision?

I'm not quite concerned about that. I go whatever I feel like to eat.

Do you ever make up recipes?

-What is your favorite recipe/style?
Not very often. Small variations maybe, but nothing fundamentally inventive. I love spicy food. Chinese food mainly.

Do you ever base a recipe around a single ingredient?

Not really.

How do you plan dishes where you want to modify the recipe (spice/taste)?

-Before you cook/during cooking? *During the cooking.*
 -How do you typically deal with leftovers? *Fridge.*

Where do you typically buy your ingredients?

-What size grocery store do you shop at?
Something I need to cook authentic Chinese food I have to go to a small-sized grocery store not far from campus. Others I usually go to Meijer or Wal-Mart.

When you want to cook/are cooking any dish where you are unable to find a certain ingredient (due to lack of availability at the grocery store or inability to go out shopping, etc) what do you do?

Some can be replaced by others. If something irreplaceable is unavailable. I may have to change plan.

Contextual Inquiry: Observee #3

Mental process:

Can begin two ways:

1. External Stimulus

Some kind of external stimuli (craving, magazine article, newspaper article, online video or TV show) triggers a memory related to a specific dish (i.e. "I haven't made that..." or that sounds like a dish I've had before", that dish then becomes the basis for a recipe search.

2. Ingredient based

While at the Farmer's Market, user examines the produce for sale, with each type of produce sparking a memory of a dish that becomes the recipe for a search. Or materializes after she gets

home, sees/hears/smells/remembers something and it triggers a recipe or dish memory that includes ingredient, and recipe search begins.

Goal: find recipes for chocolate Babka, Chicken Parmesan, apples.

Person searches around house for cookbooks. Cookbooks are stacked and organized throughout the house: on shelves, in stacks near furniture, in piles in tables, etc. For this instance, the user is looking to bake something, so she only chooses cookbooks centered around baking. She moves from room to room, search all stacks, piles and shelves for the books (recalls certain books from memory). Once she finds all the books she feels she needs, she sits down and reads through the index of each book to find the recipe. Books not used are placed next to previously sat furniture and create a new pile/stack. Computer is typically at one desk (sometimes a laptop is available)*

** Books that present the information clearly, and have worked before.*

A recipe search will move to an internet search if no suitable recipe is found in books. Recipes are chosen based on expectation when to make it. Baked: wait till weekend, Entrée: make next night or very soon (within a week). Other factors for choosing include: pictures, ingredients, time, comments, source, and memory.

Pictures:

Pictures of dish help confirm which recipe to choose, along with ingredients kept from mental image (usually goes by instinct of inventory 90% of time).

Recipes can have problems when they display video (takes up more time to get information), easier to browse recipes based on the text or picture. Will often look for recipes for inspiration.

Ingredients:

Chicken recipes pop out because they are inexpensive and readily available. Prefers chicken since it can taste like anything you cook it with.

If at work, send husband out to shop for groceries based on an exact list. When not busy, buys ingredients herself (and thus may change or substitute if something unavailable).

Usually get food from grocery store, Kincaid's meat market, Trader Joe's, or Marmer's Market (during season).

Coupons not used because coupons are for sale of pre-packaged foods rather than meat and vegetables.

Ingredients are easy to get, but usually choose based on inventory of kitchen.

Ingredients that are unavailable will often use substitutes.

Time:

Total time including prep work, rising/resting time, and actual cooking time

Some Babka recipes take 2 days to make

Don't like stuff that is work intensive

Efficiency over fuss: Don't want to spend the whole day making something that will be eaten in twenty minutes.

Fussy :physical exertion, time, ingredients (obscure)

Comments:

A lot of sites have comments sections which illustrate how versatile recipes can be and what substitutions people have made for themselves.

Stars help determine which recipes are good or do-able. Also, give greater sense of satisfaction when a popular recipe is chosen. Martha Stewart, Food network, have comments sections and that is why they tend to stick more mentally.

Sources:

Has about five cookbooks that she uses regularly, but says that cookbooks are worth it even if there is only one recipe that com Uses sources that seem reliable (some sites are more for advertising than cooking).

When searching, usually same websites come up (food network, epicurious). Does also look at description, but it must be a detailed yet brief explanation of dish.

Food network is good, a little hard to navigate, and a little slow.

Epicurious.com good for gourmet recipes that are made from scratch rather than pre-packaged goods

Sometimes go to food blogs, but don't see them as a good source for recipes but rather as a source for food experiences. Judges a site's blog status based on how the website address sounds.

Martha Stewart: Long time fan of her work, feels empowered by her because she made homemaking an achievement of excellence, rather than simple janitorial work. Plus recipes involve real food, not pre-packaged goods. Chose this recipe based on time, ingredients, and picture.

Memory:

Most often recipe since each family has their own favorites. Her family has about ten or so favorite dishes

Design ideas:

Prefer that when search for recipes the most popular ones come up first. Likes a star system, or similar (i.e. four stars out of five). Not into online chatting, doesn't like to let people know she's online. Likes idea of iPhone app or any mobile app, since one could do it on foot. Website would be useful, but not as much as a mobile device.

Having time included in brief not such a big deal (low priority)

Enough "foodies" out there that there that comment on recipes accurately.

Certain words jump out:

Quick, simple, no fuss

Post-Interview Questions: Observee #3

Are you comfortable around computers?

Not Particularly

Do you enjoy using touch screen interfaces?

Yes

How well equipped is your kitchen?

As far as cooking equipment?

-Yes

Pretty well equipped.

How many people do you typically cook for?

On a daily basis, four.

How often do you search/use new recipes?

Several times a week

How do you typically find and choose recipes?

-Through cookbooks, computers, magazines, etc

I will do searches on the internet, if I've used a recipe before of course I'll look it up in one of my cookbooks, but frequently, especially lately, I've been looking on the internet.

- What keywords do you typically put in for a recipe search? (asked post-interview)

If I am interested in a specific kind of chicken recipe, I will type in, for example, "Chicken piccata". If I am interested in a more general category, for example, "chicken recipe", that's what I'll put in and then scan through the possibilities.

-What typically makes a recipe entry in Google or Yahoo stand out? (asked post-interview)

As far as how I chose which one to try, I will look at the list of ingredients, figure out whether I have them, can substitute or get them easily enough, that sort of thing, as well as how difficult/how much time it takes to make/whether I have the required equipment, etc.

When you choose a recipe, does its nutrition information/healthiness make an impact on your decision?

Yes

-Out of a 1 to 10, would you rate that a nine?

No probably a 7.

Do you ever make up recipes?

Yes

-What is your favorite recipe/style?

Probably Italian

Do you ever base a recipe around a single ingredient?

Yes!

-Like in what sense

Usually what's fresh or local

How do you plan dishes where you want to modify the recipe (spice/taste) ?

-Before you cook/during cooking? *During cooking*

-How do you typically deal with leftovers? *They get saved and put away in lunches*

Where do you typically buy your ingredients? *We have a local Safeway down the street, Trader Joe's, Marsh*

-What size grocery store do you shop at?

I prefer the smaller ones, even though the bigger ones are better as far as price goes, it takes so much longer to shop in a bigger store.

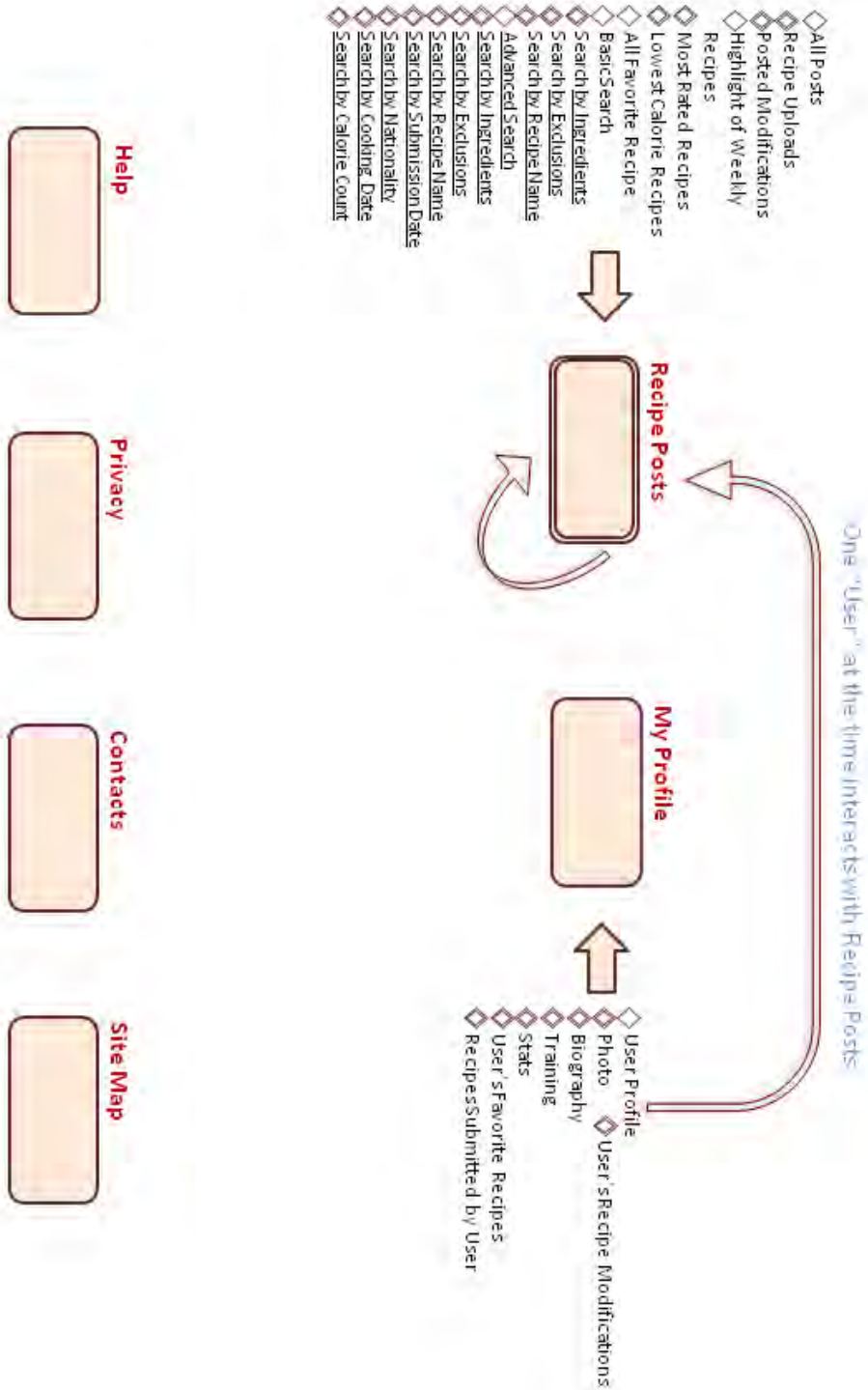
When you want to cook/are cooking any dish where you are unable to find a certain ingredient (due to lack of availability at the grocery store or inability to go out shopping, etc) what do you do?

I'll substitute, or not make the recipe. It depends on how vital that ingredient is to the recipe.

-So when you substitute you choose something very similar?

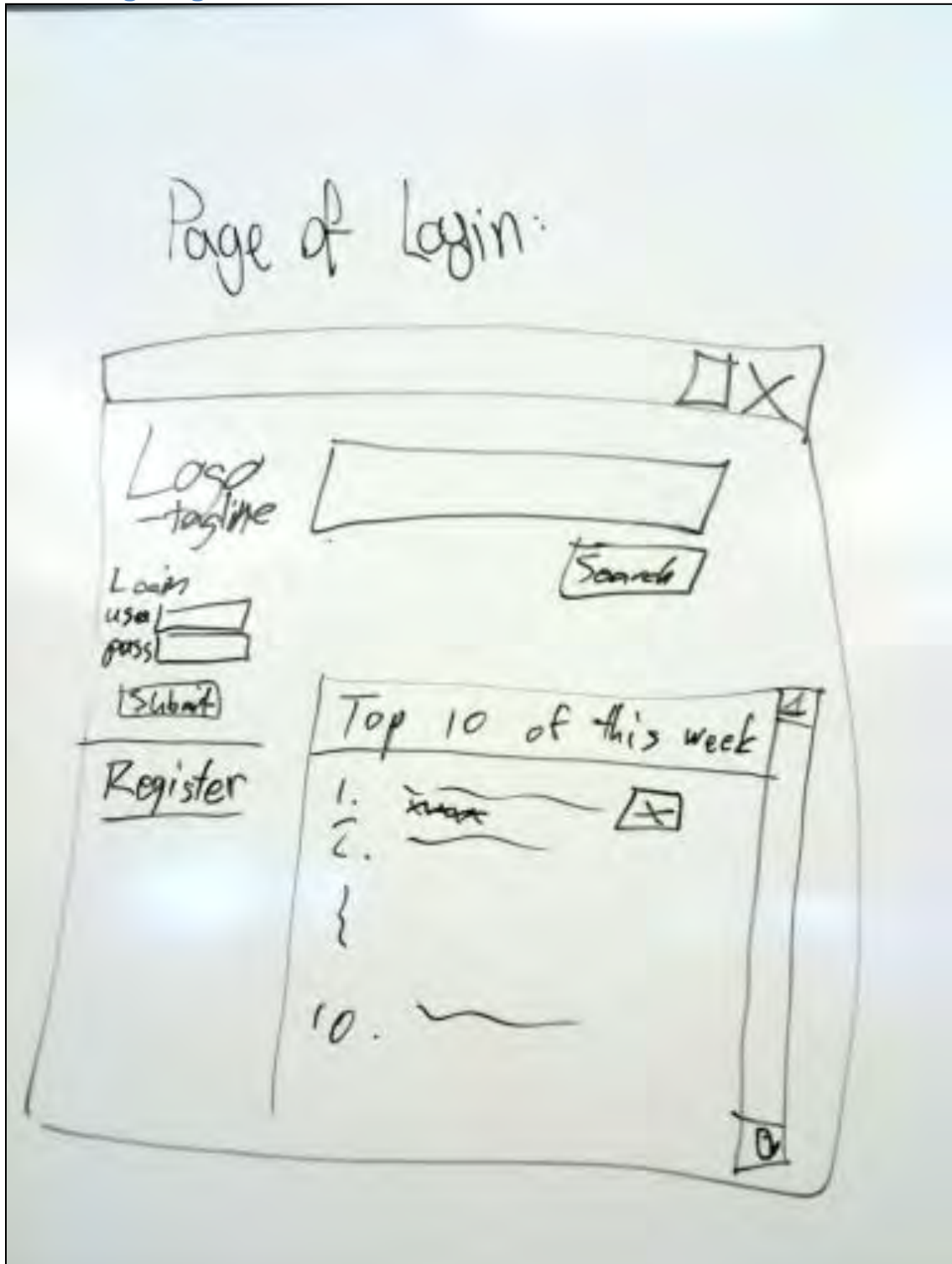
I try to, for example, the tarragon chicken I made the other night actually didn't have any tarragon which turned it into something else. But I did have summer savory and the savory did have a nice pleasant taste.

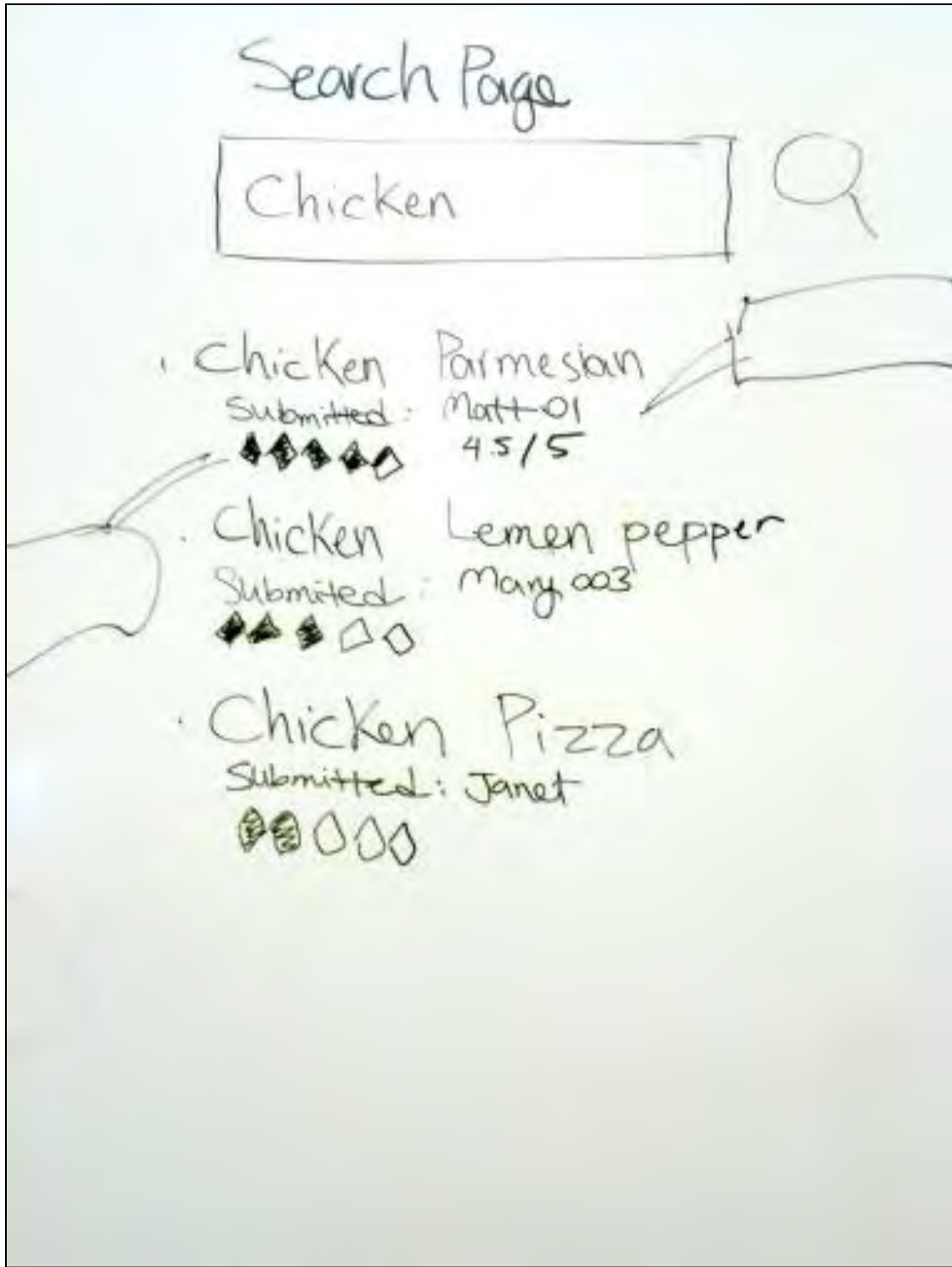
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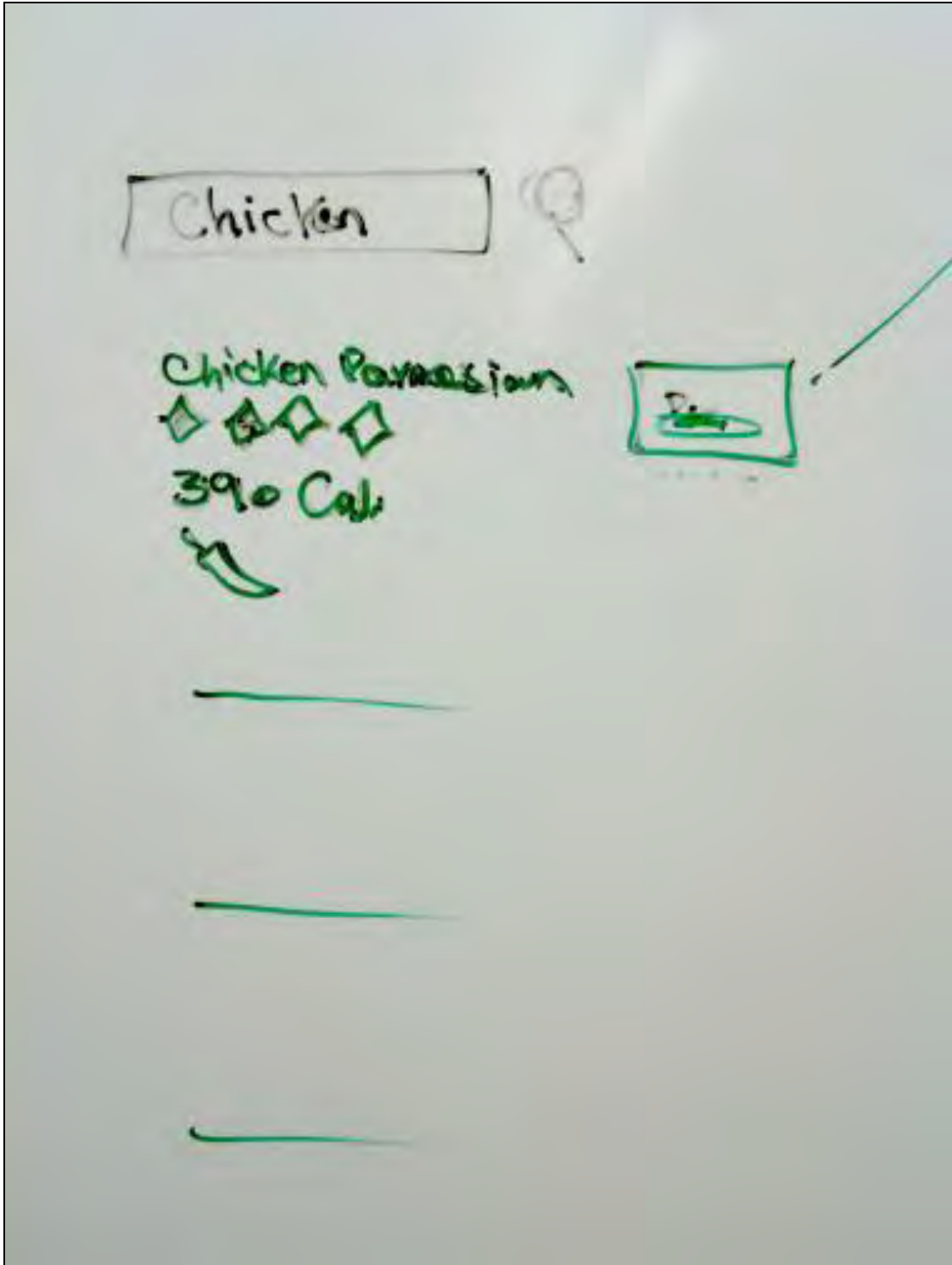


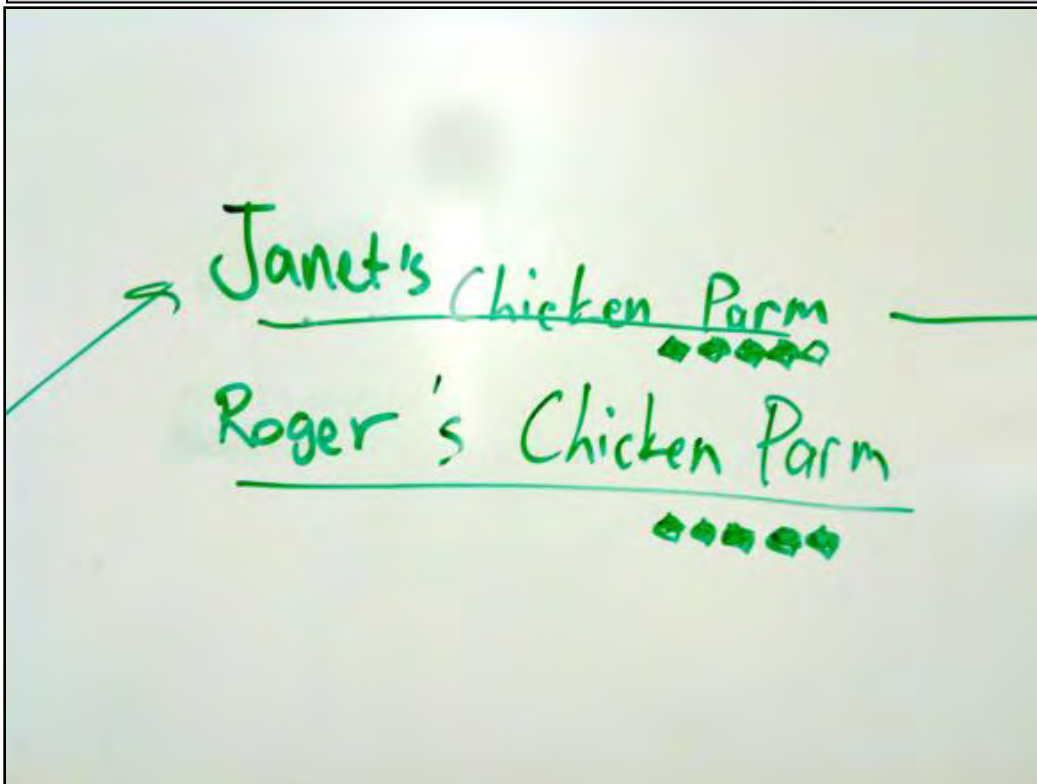
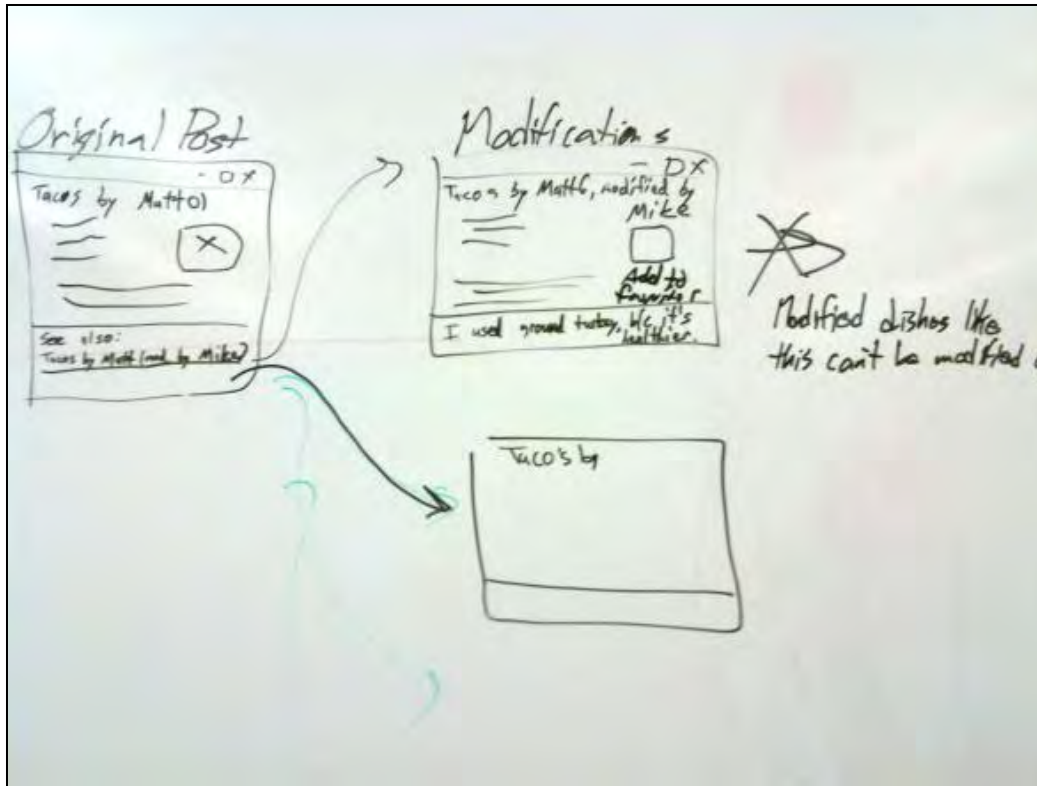
iii. Brainstorming and Prototype Images

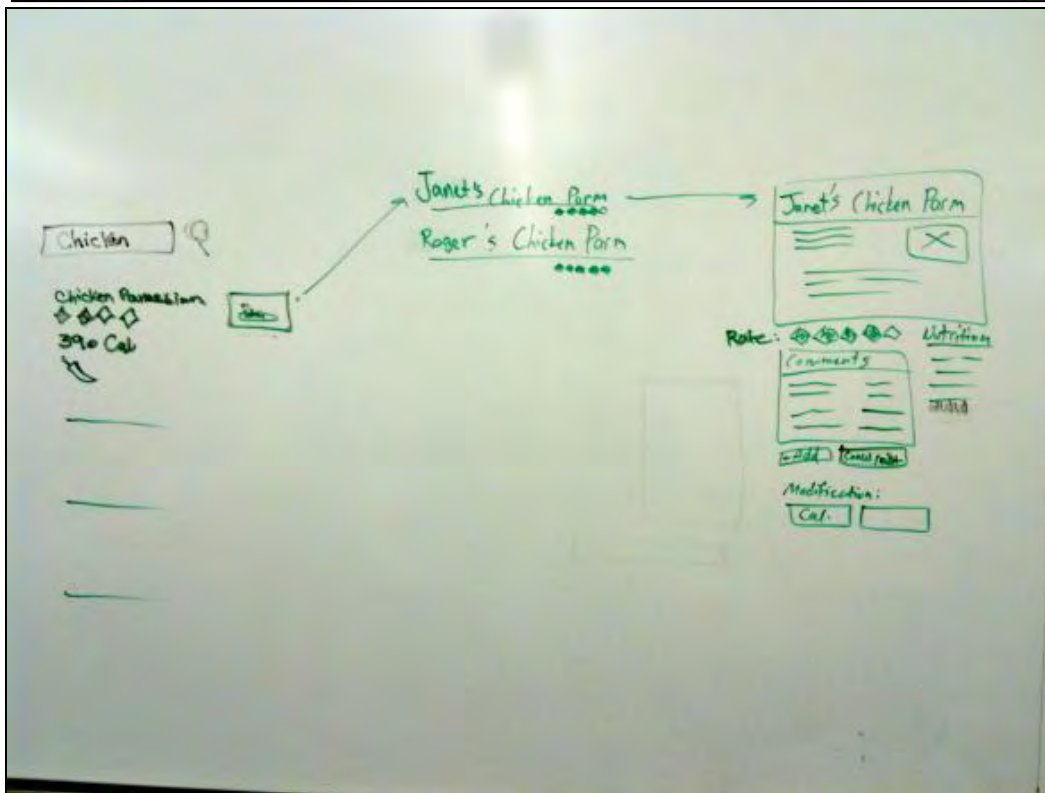
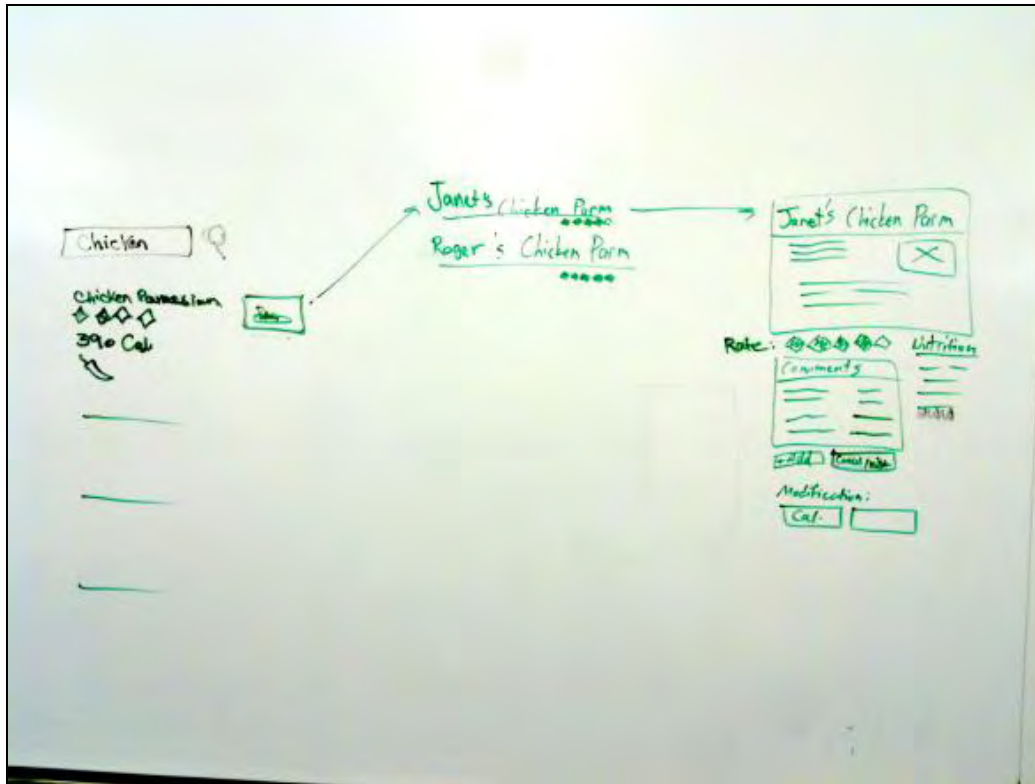
Brainstorming Images

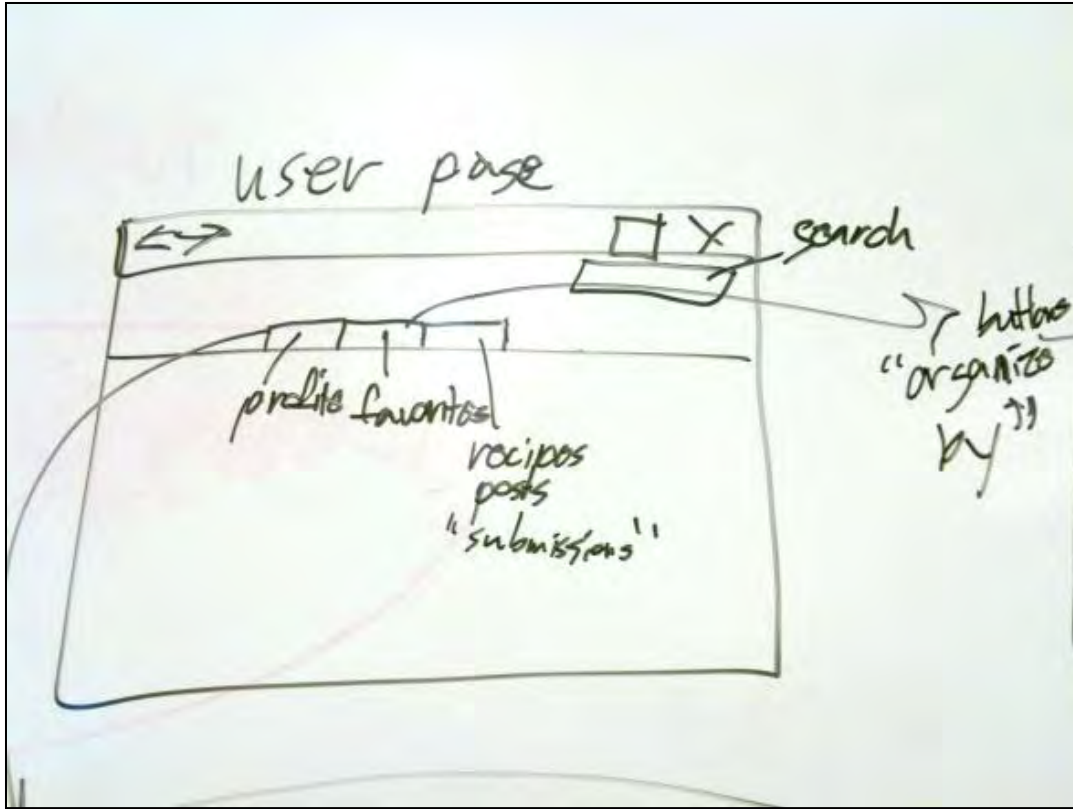


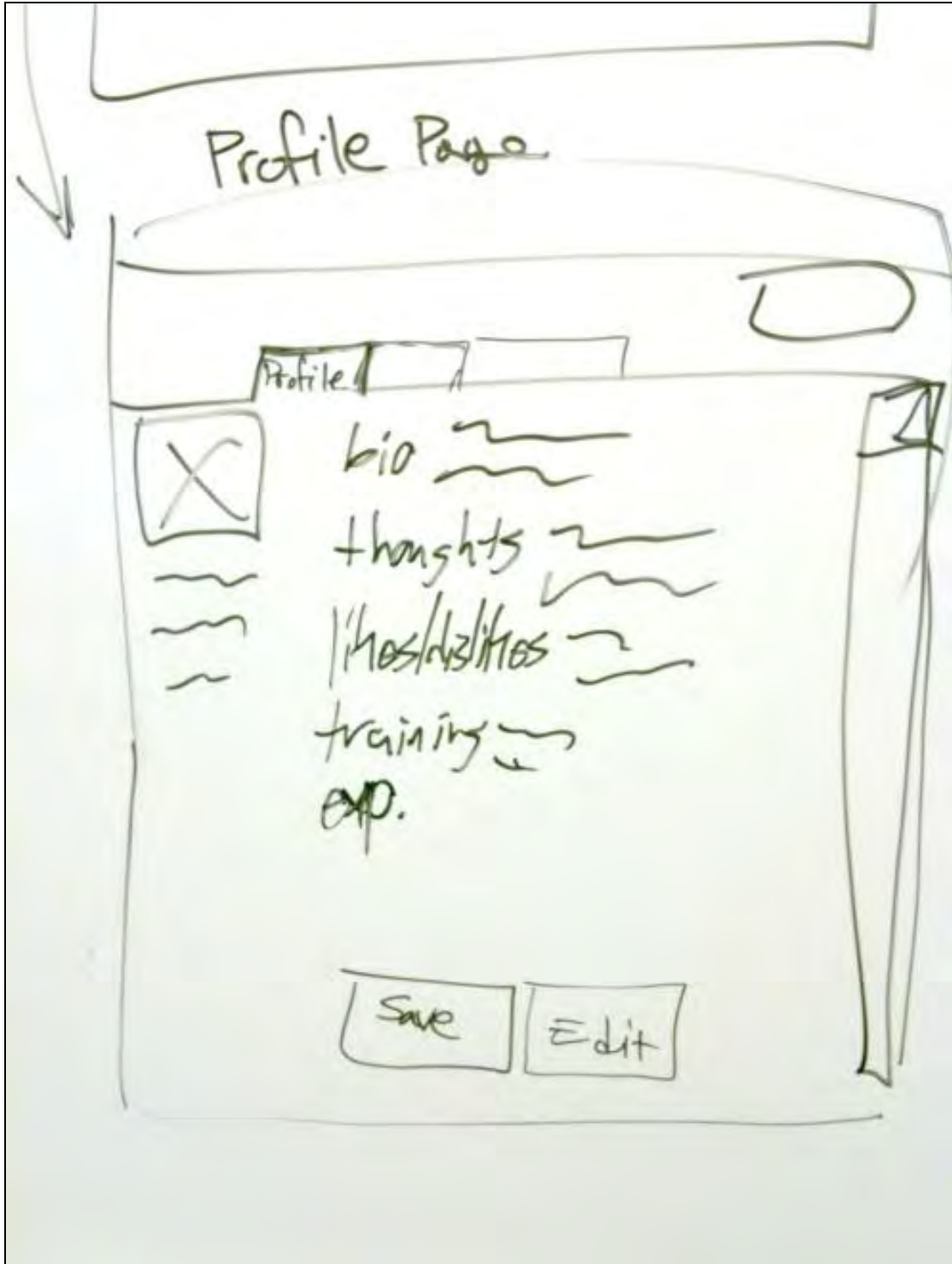


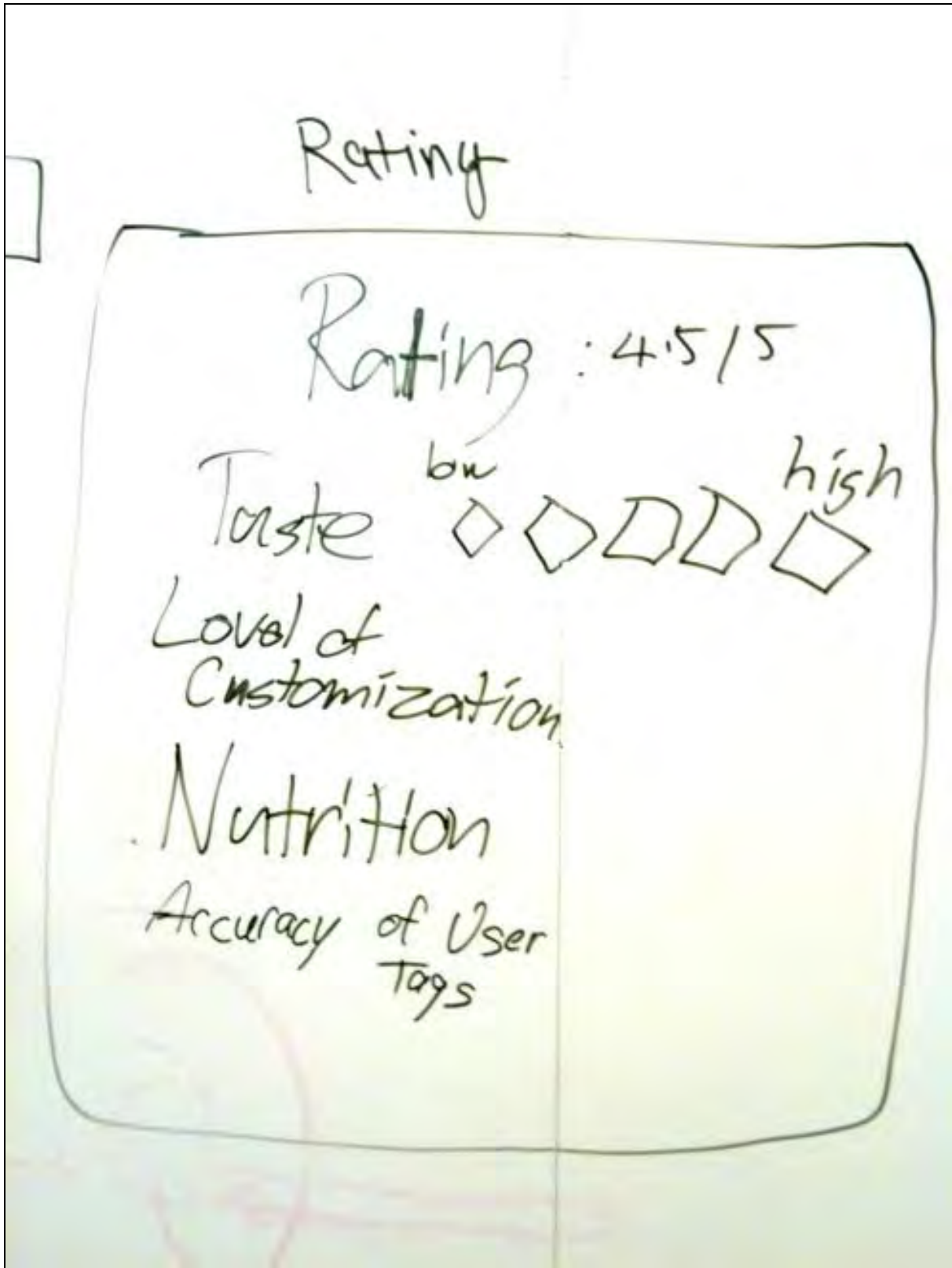




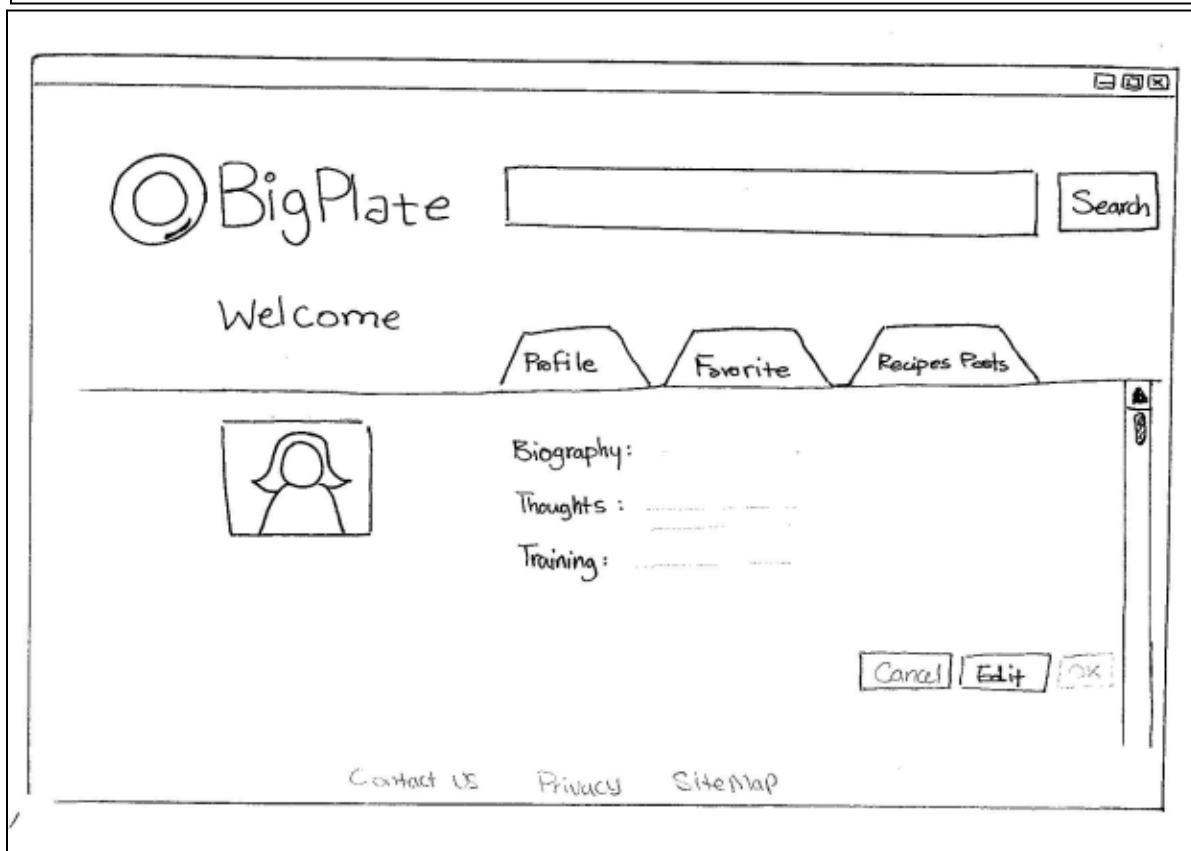
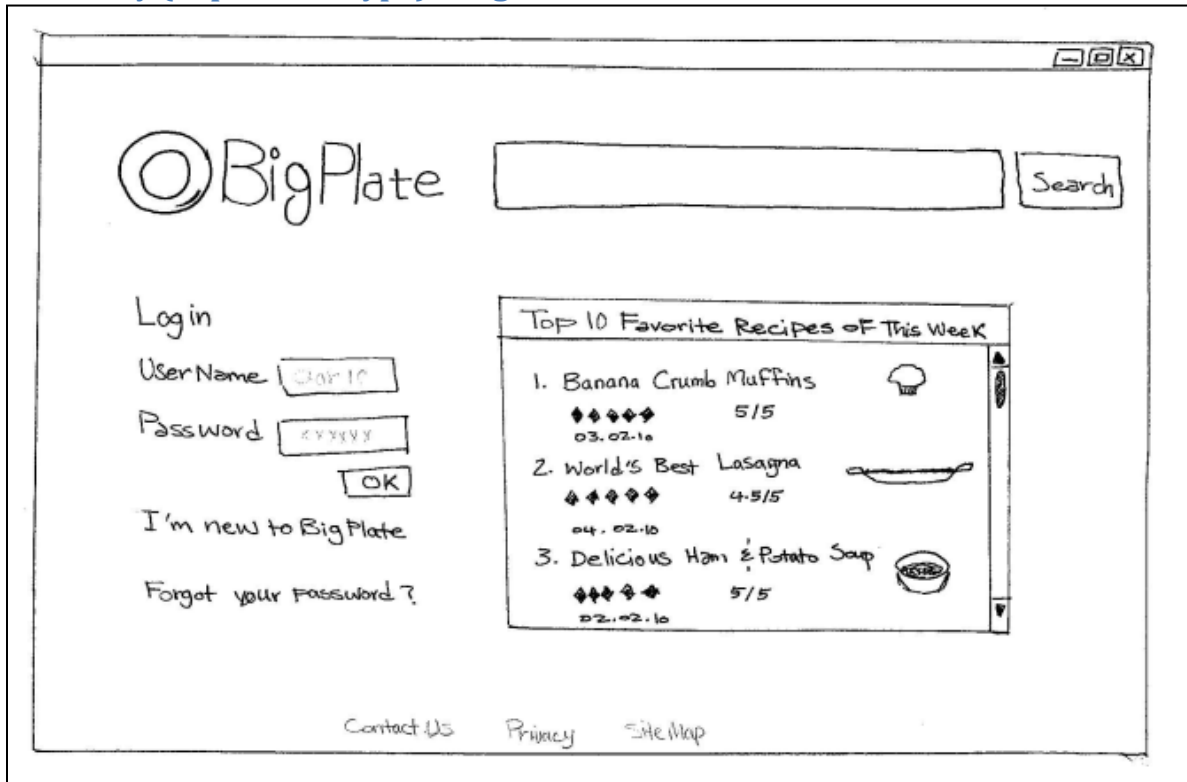


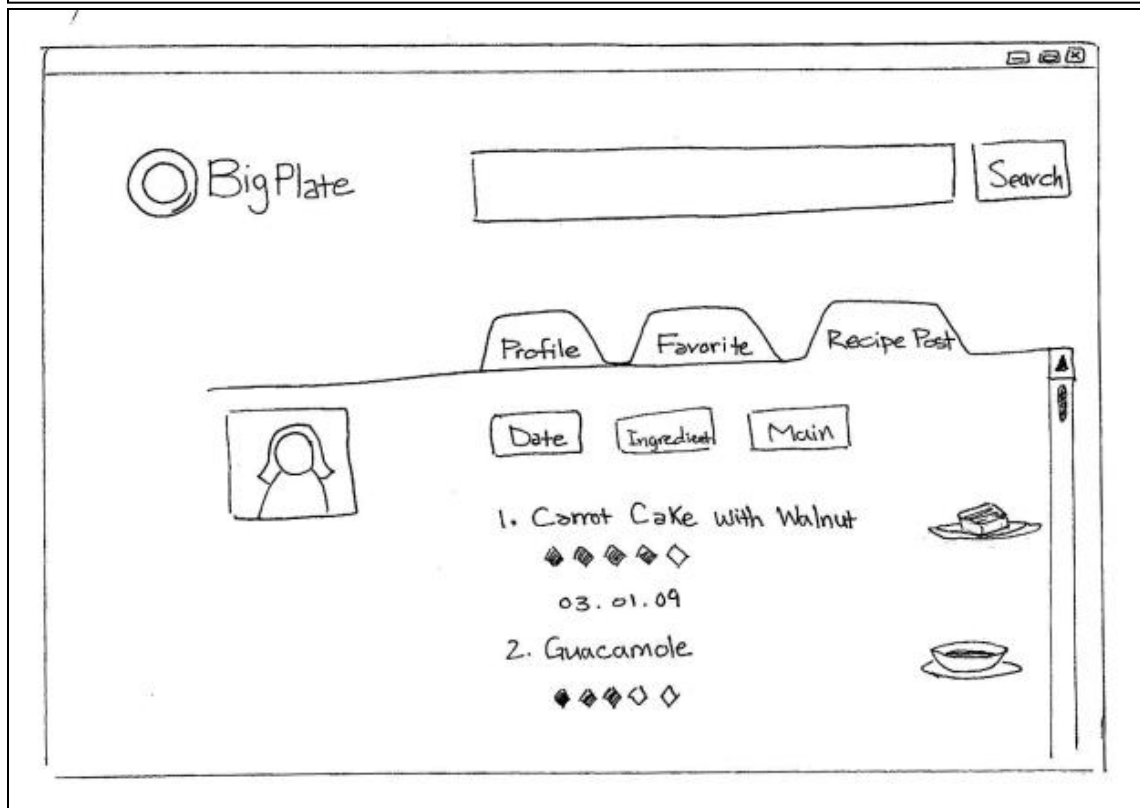
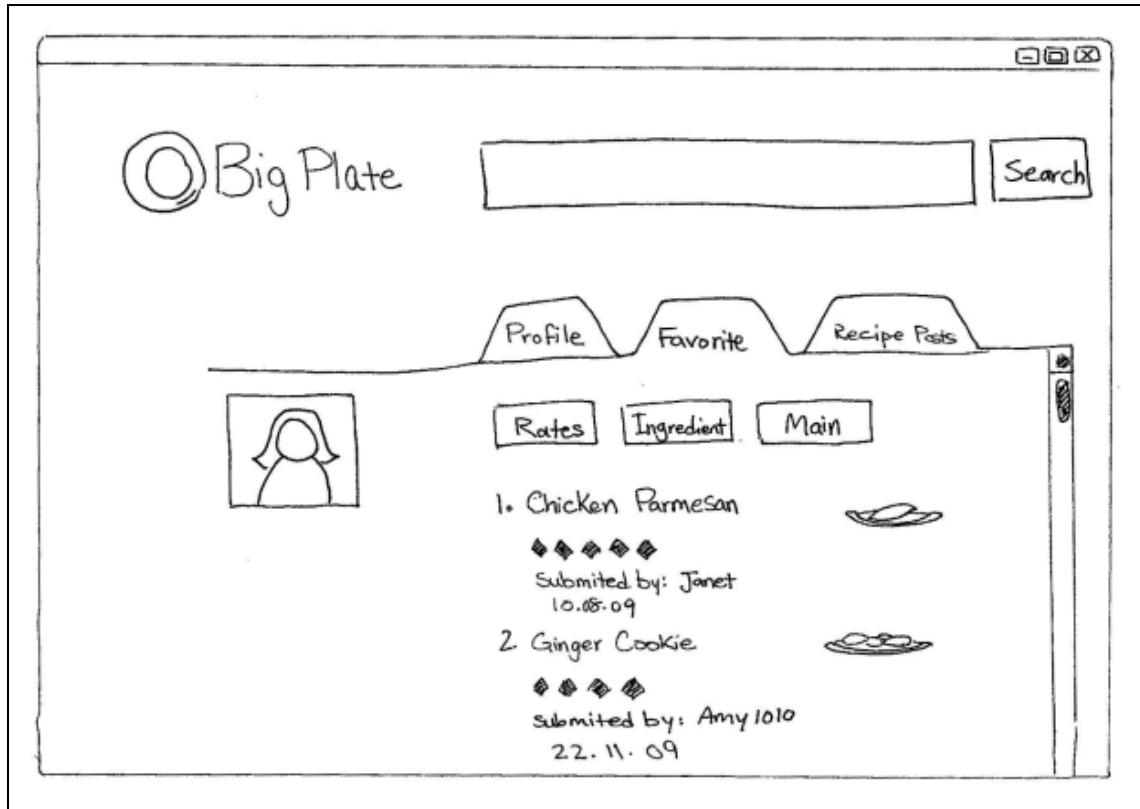


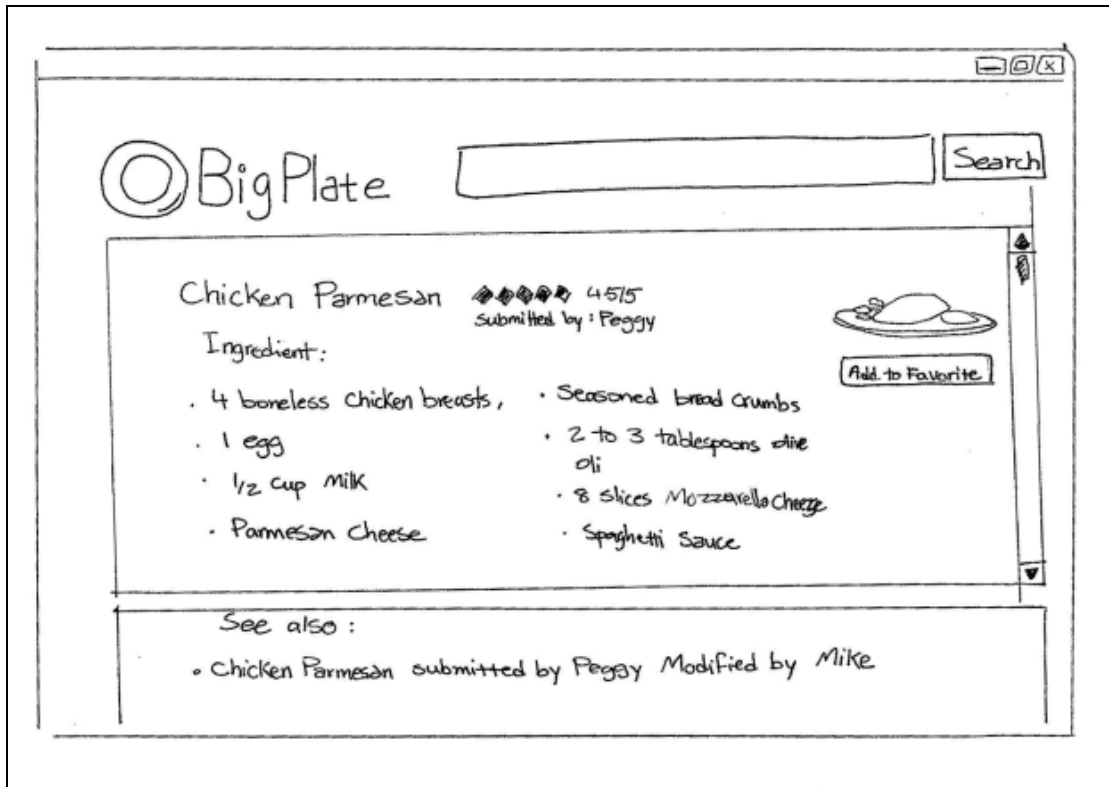
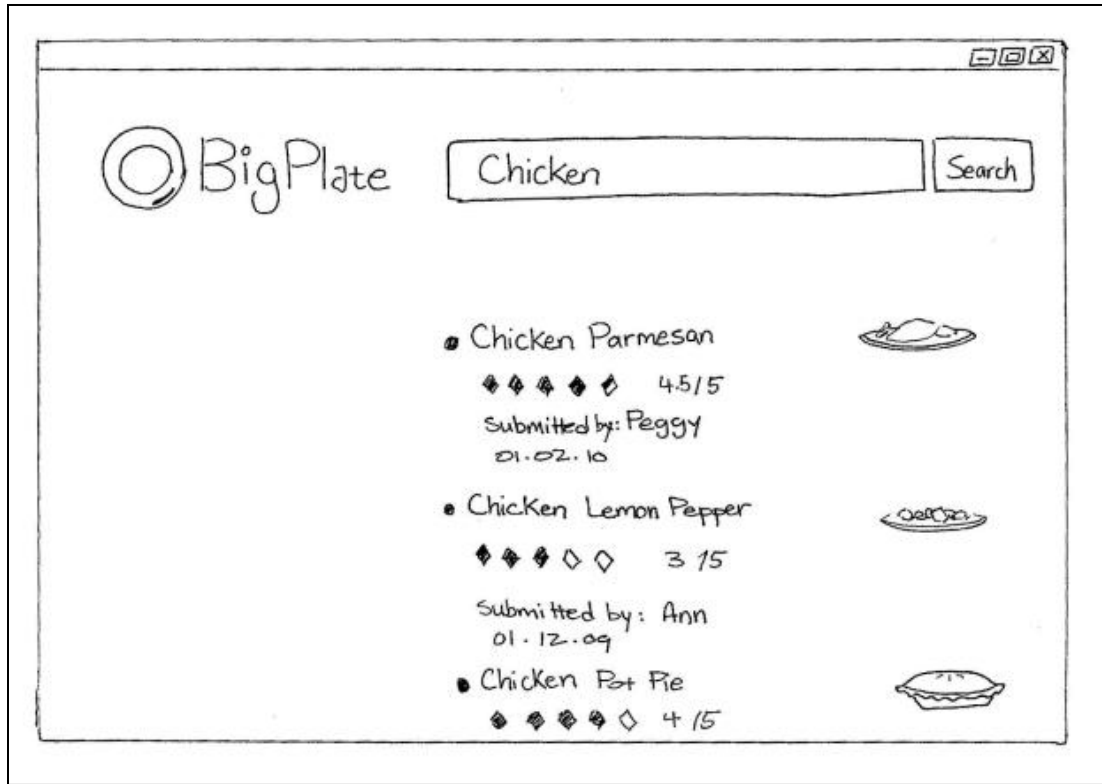


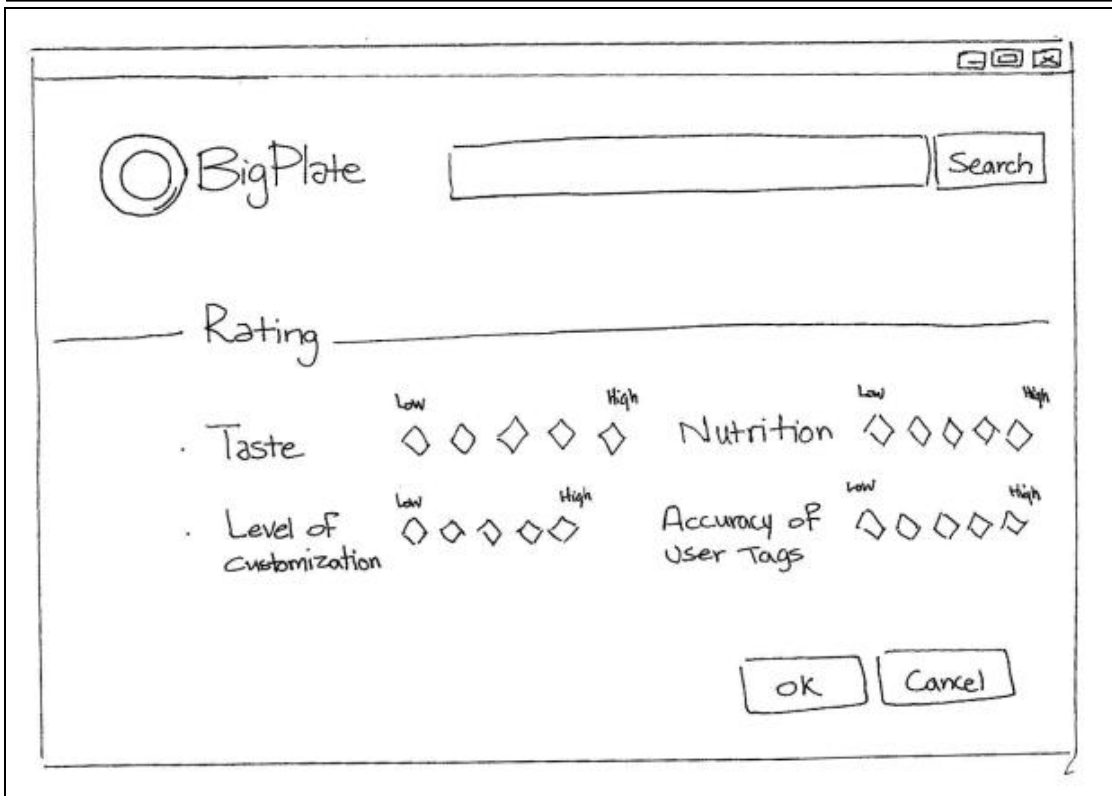
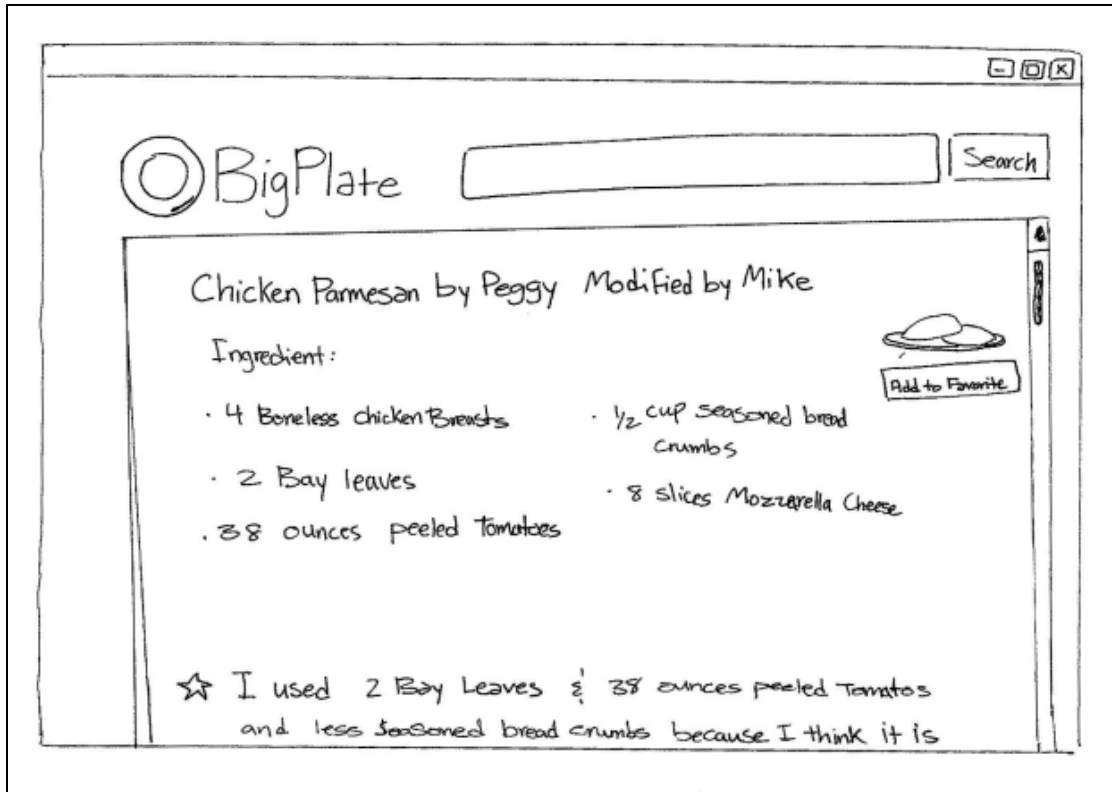


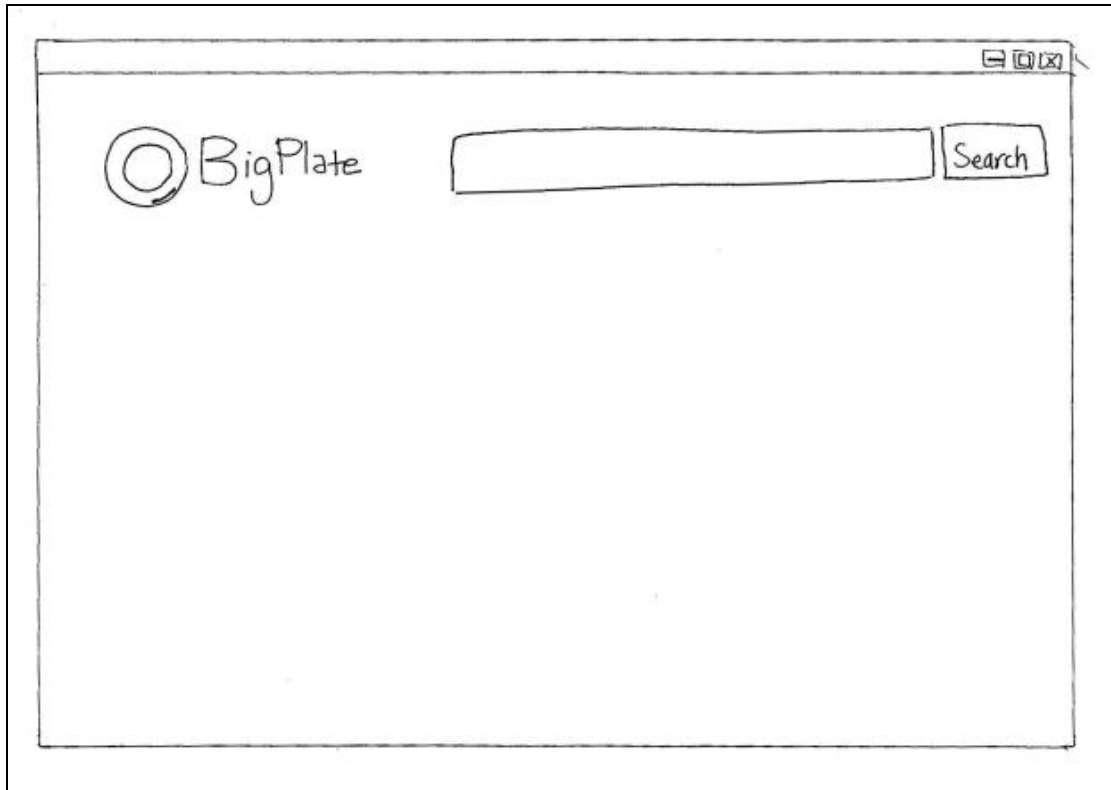
Low-fidelity (Paper Prototype) Images



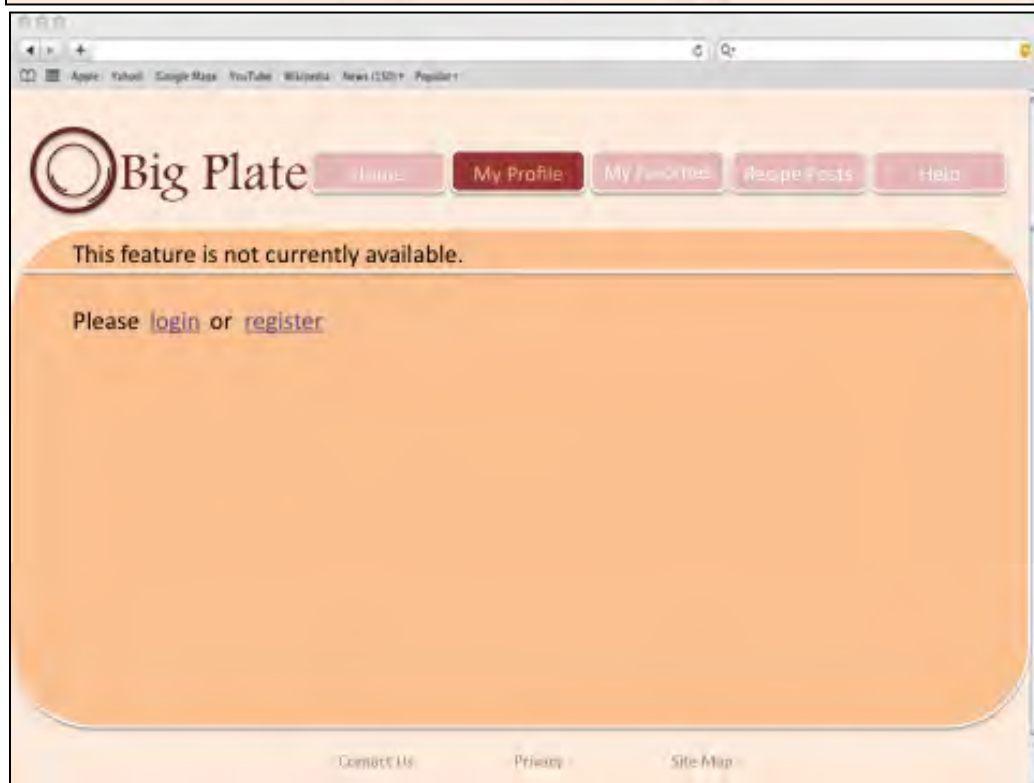


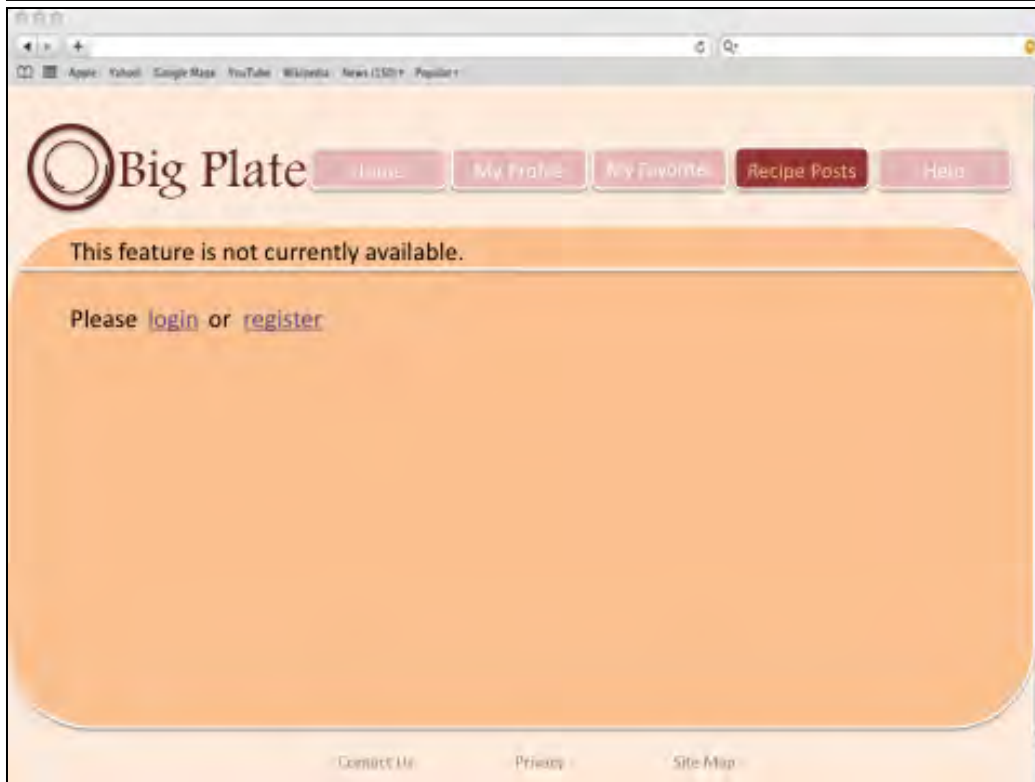


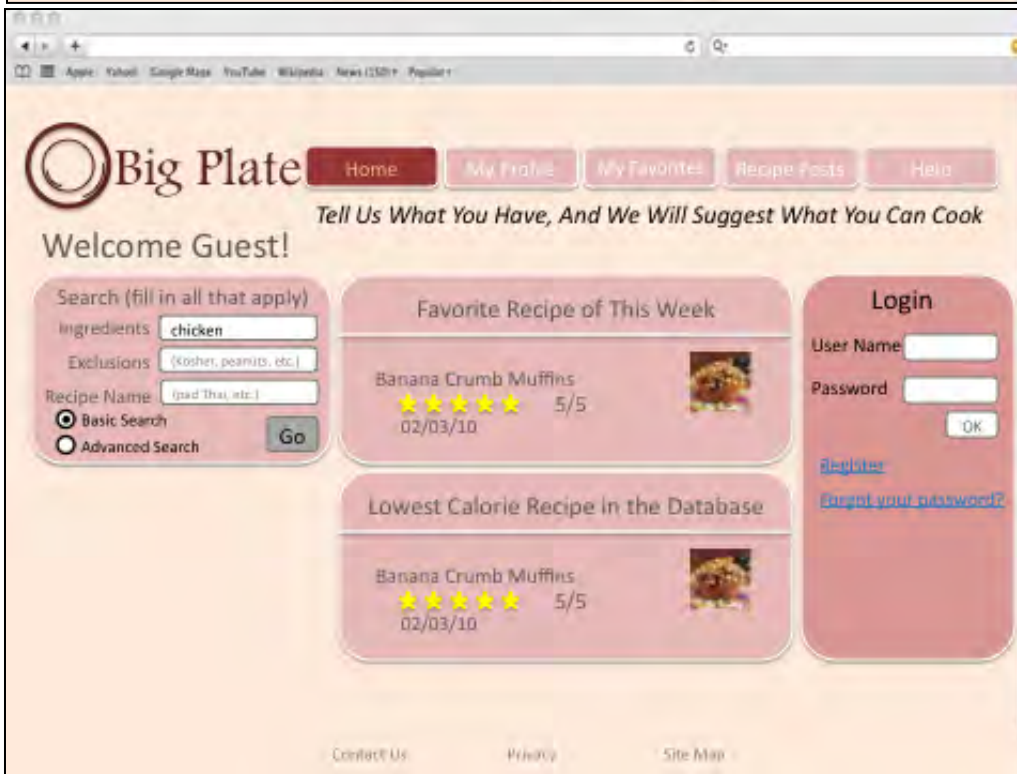


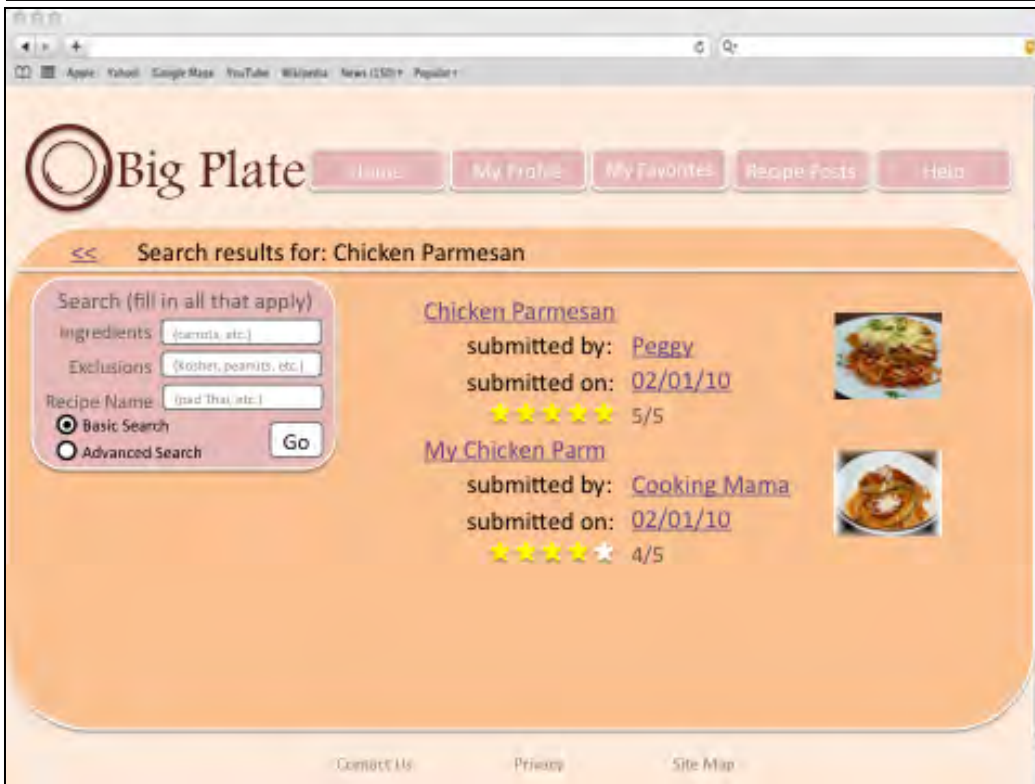


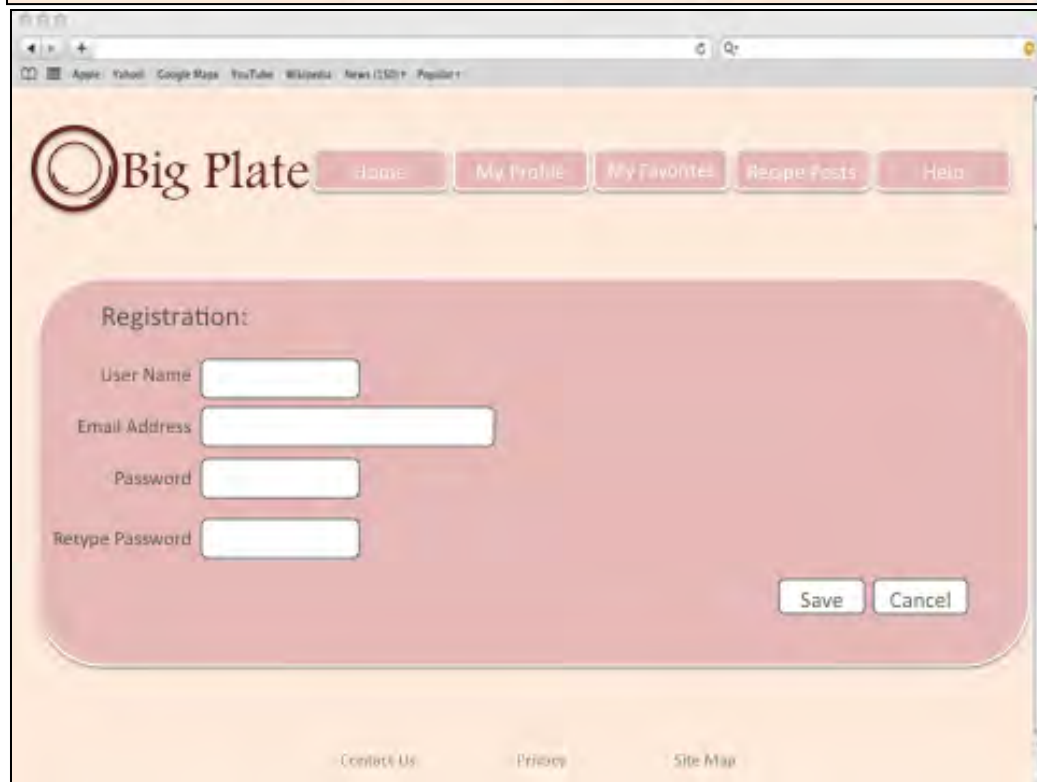
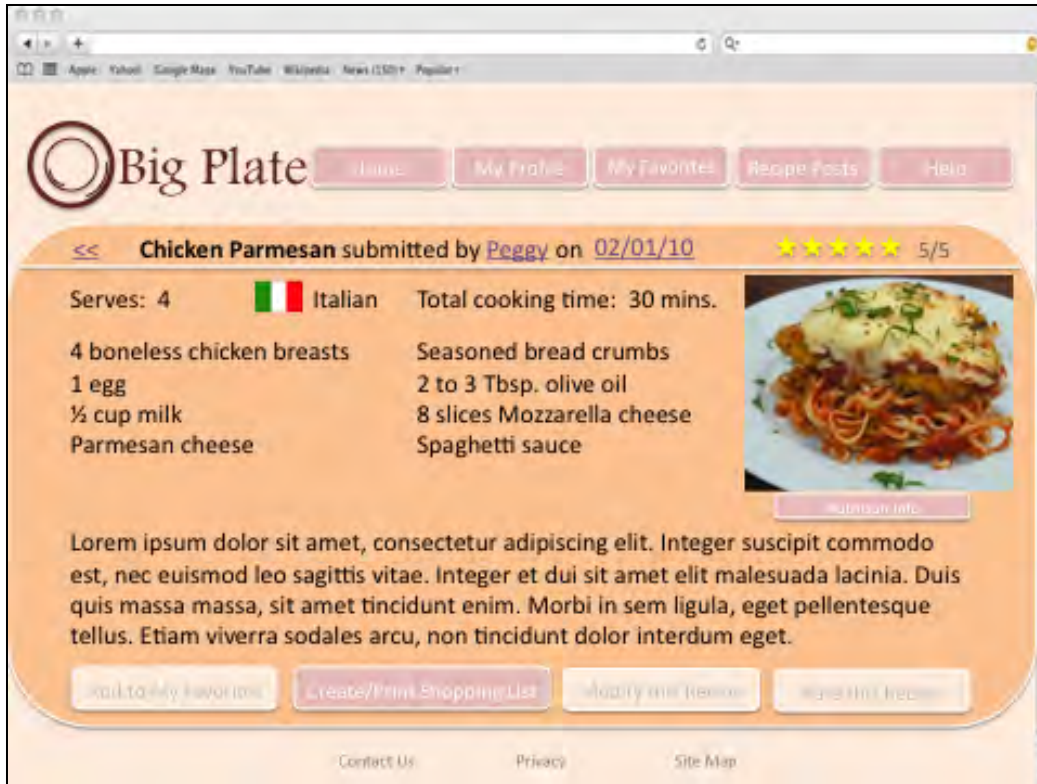
High-fidelity Prototype Images

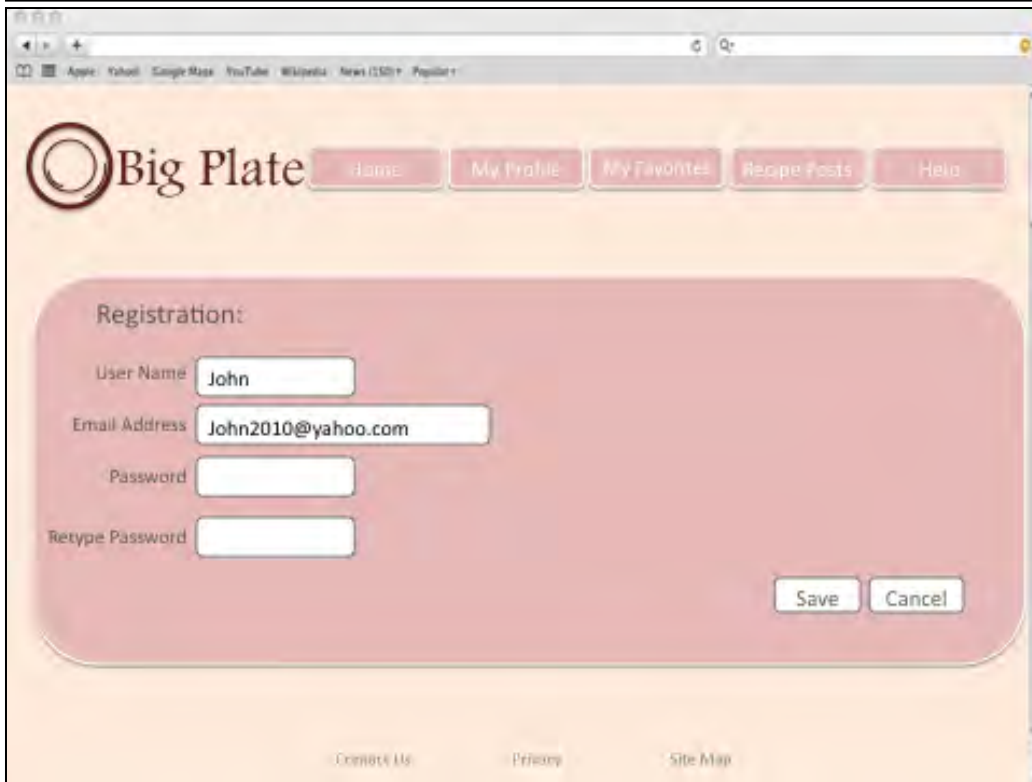


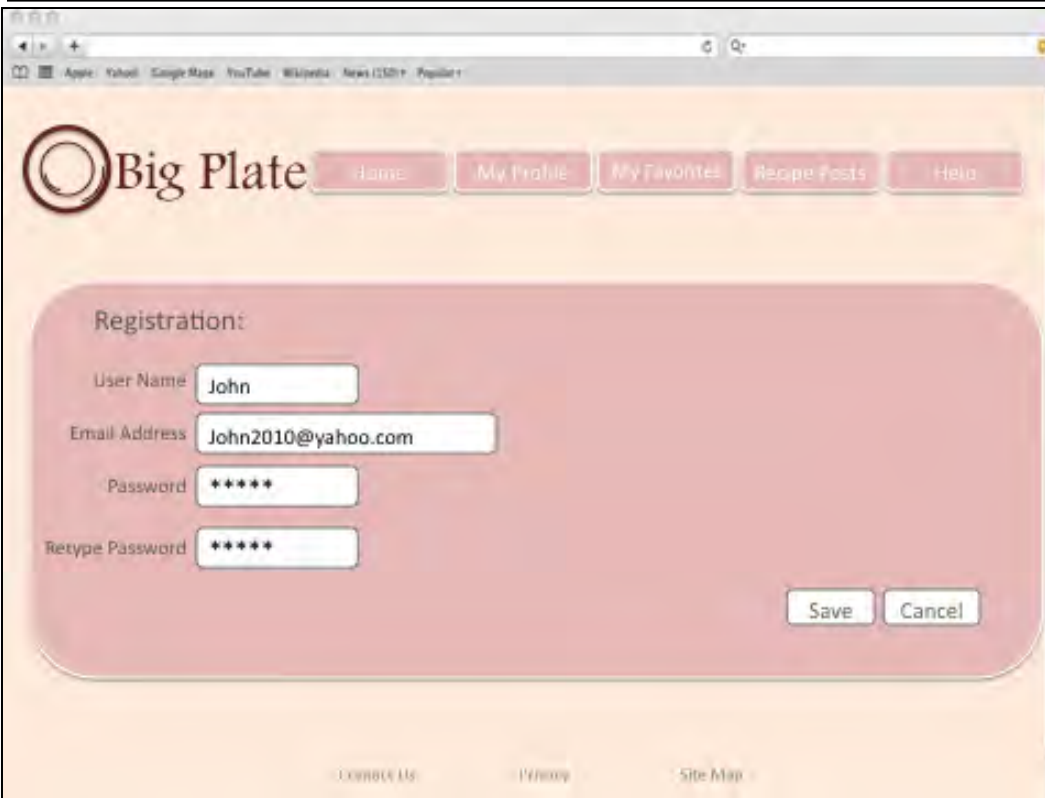












A screenshot of a web browser displaying the registration page for 'Big Plate'. The browser's address bar shows 'http://www.bigplate.com/'. The page features a navigation menu with buttons for 'Home', 'My Profile', 'My Favorites', 'Recipe Posts', and 'Hello'. The main content area is a rounded rectangle with a light red background, titled 'Registration:'. It contains four input fields: 'User Name' with the value 'John', 'Email Address' with 'John2010@yahoo.com', 'Password' with five asterisks, and 'Retype Password' with five asterisks. At the bottom right of this form are 'Save' and 'Cancel' buttons. At the bottom of the page are links for 'Contact Us', 'Privacy', and 'Site Map'.

A screenshot of the same web browser showing the confirmation message after registration. The navigation menu and footer links remain the same. The main content area now displays the text 'Registration:' followed by 'Thanks John for registration to Big Plate'. A single 'Continue' button is located at the bottom right of the message box.

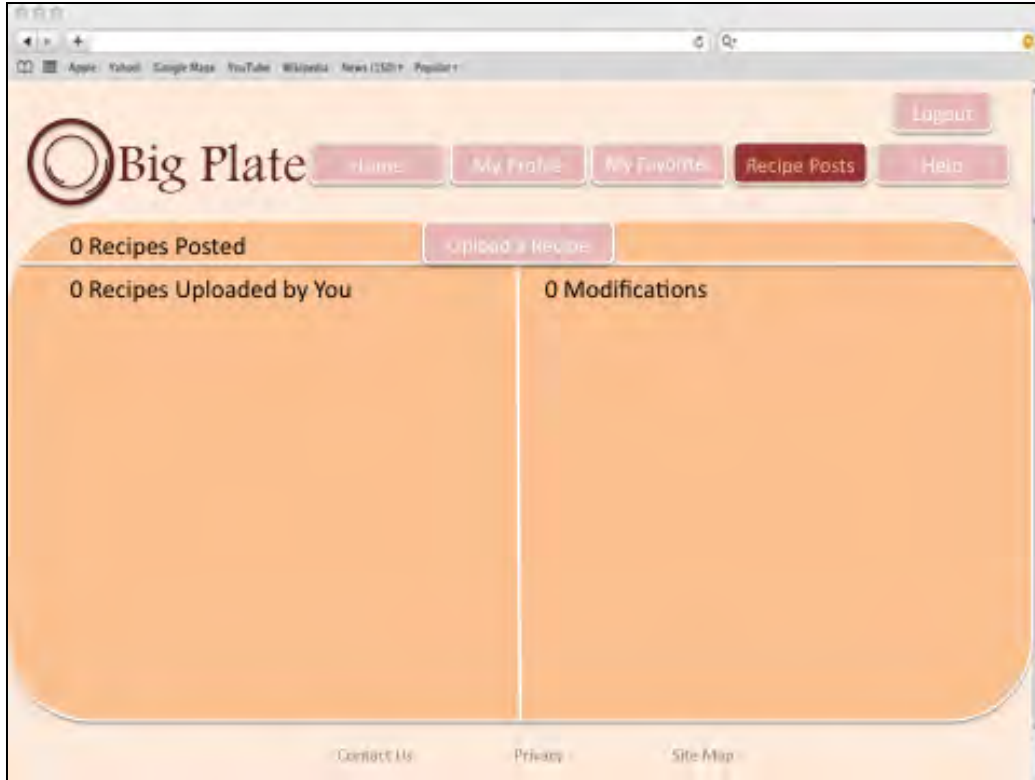


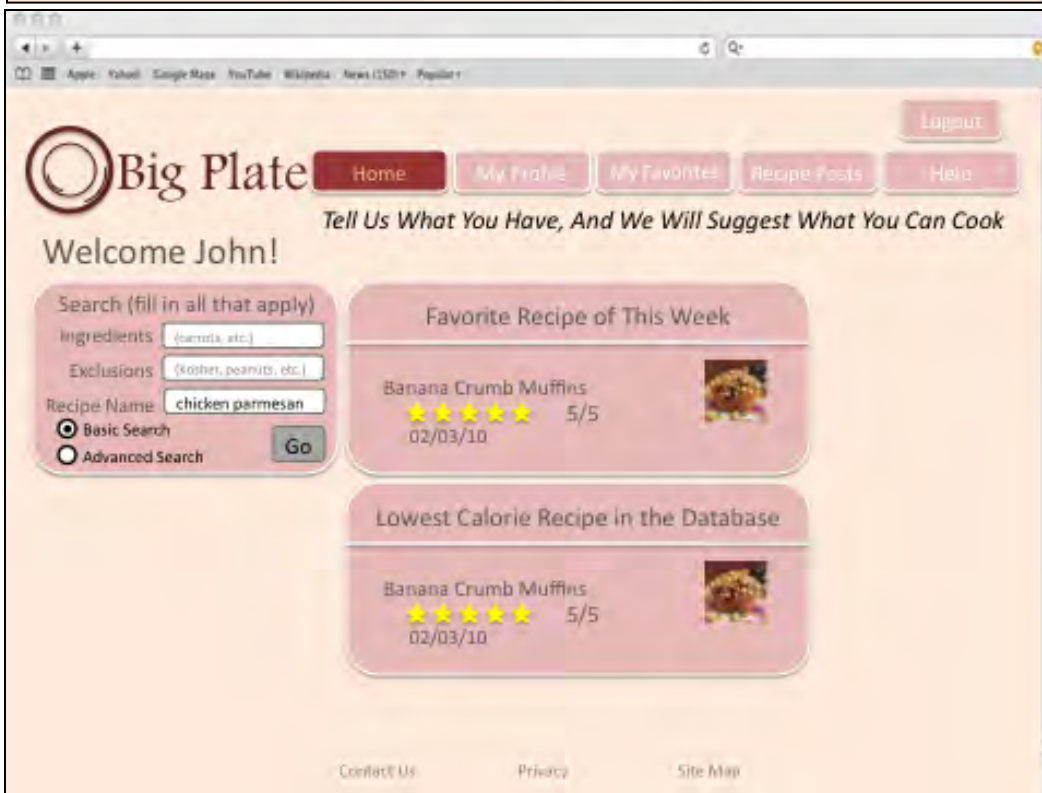


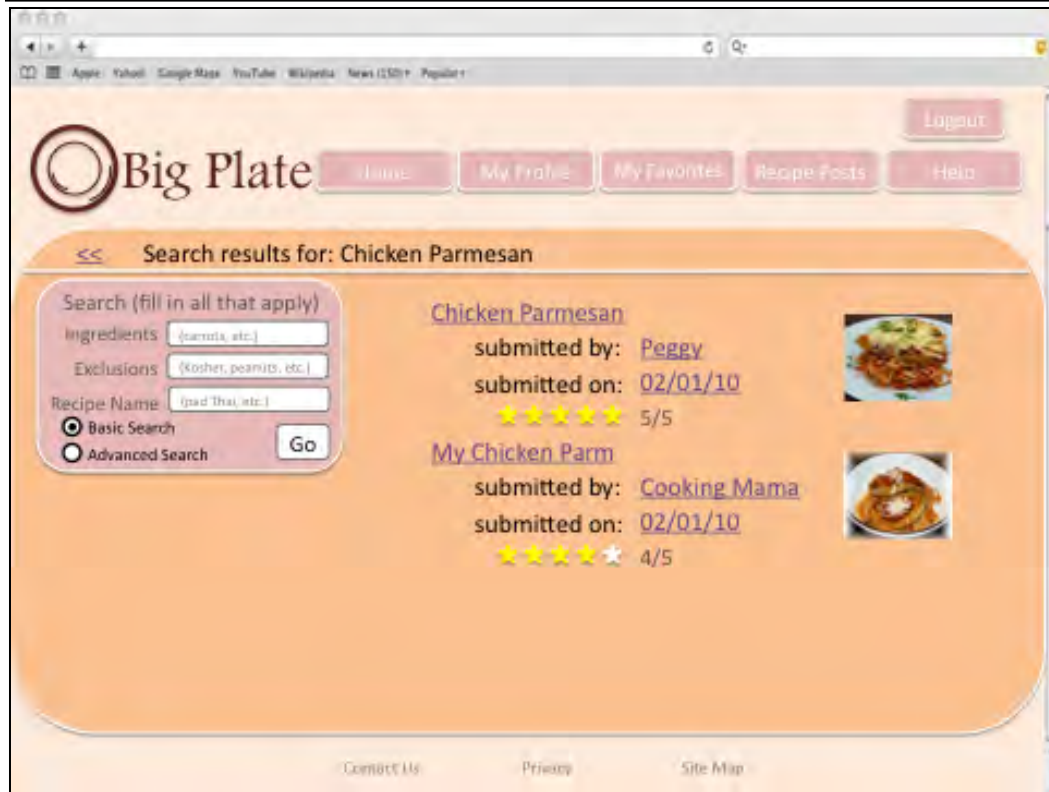
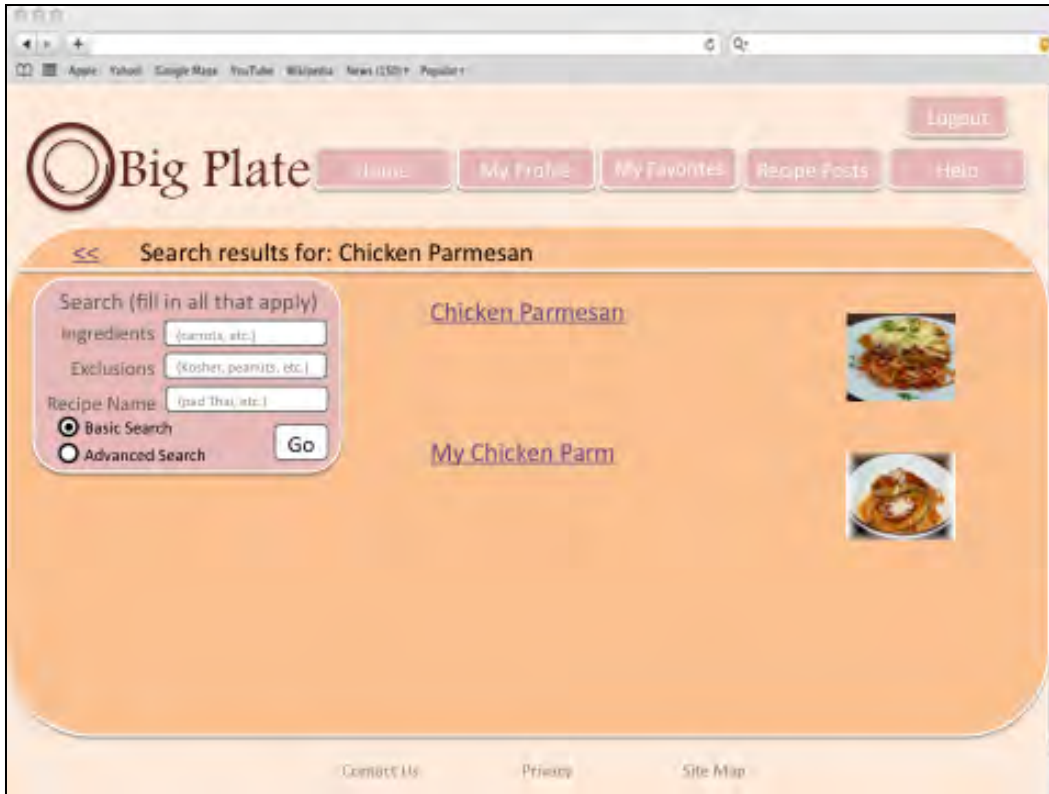


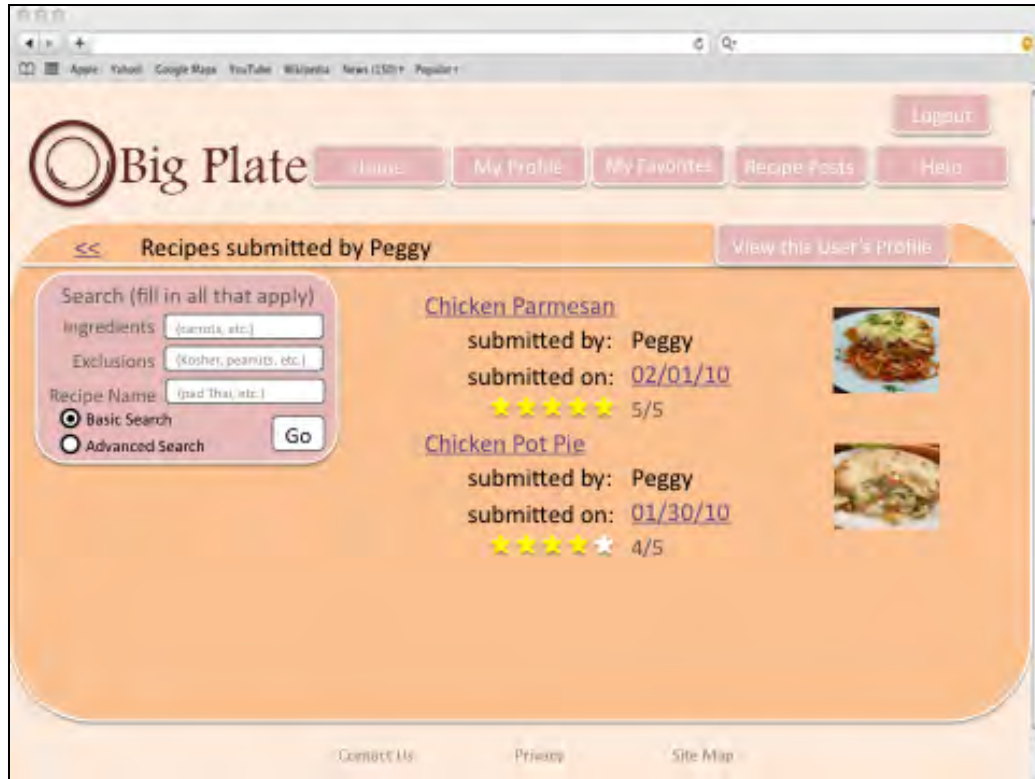


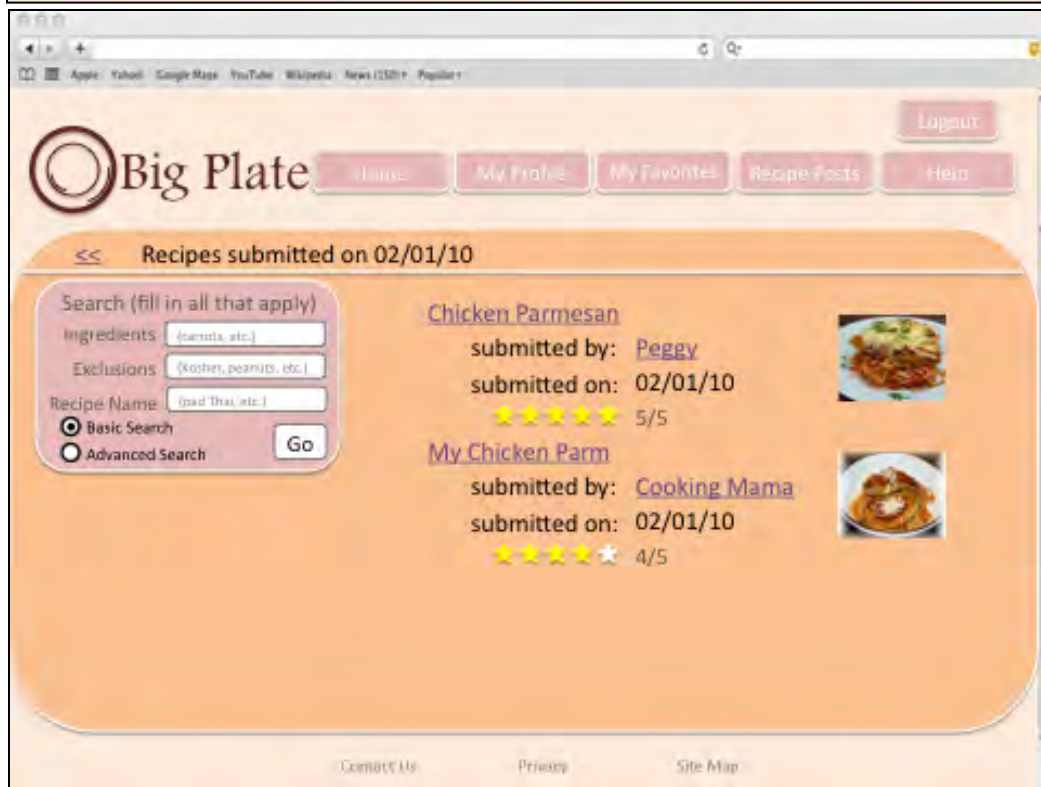






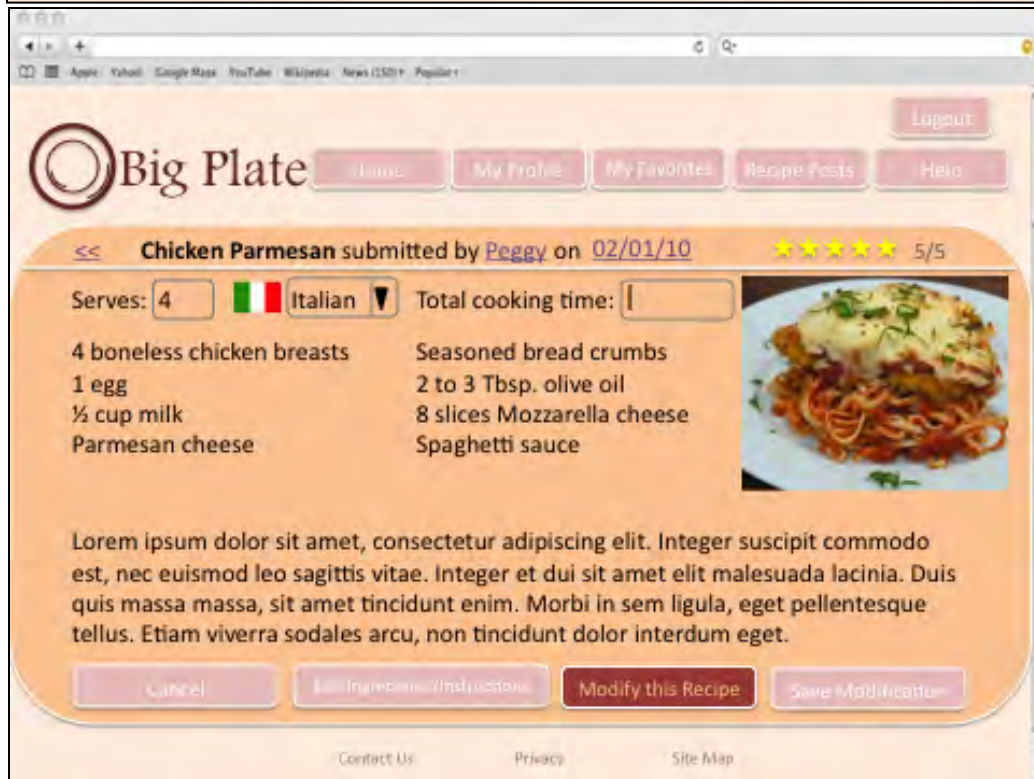




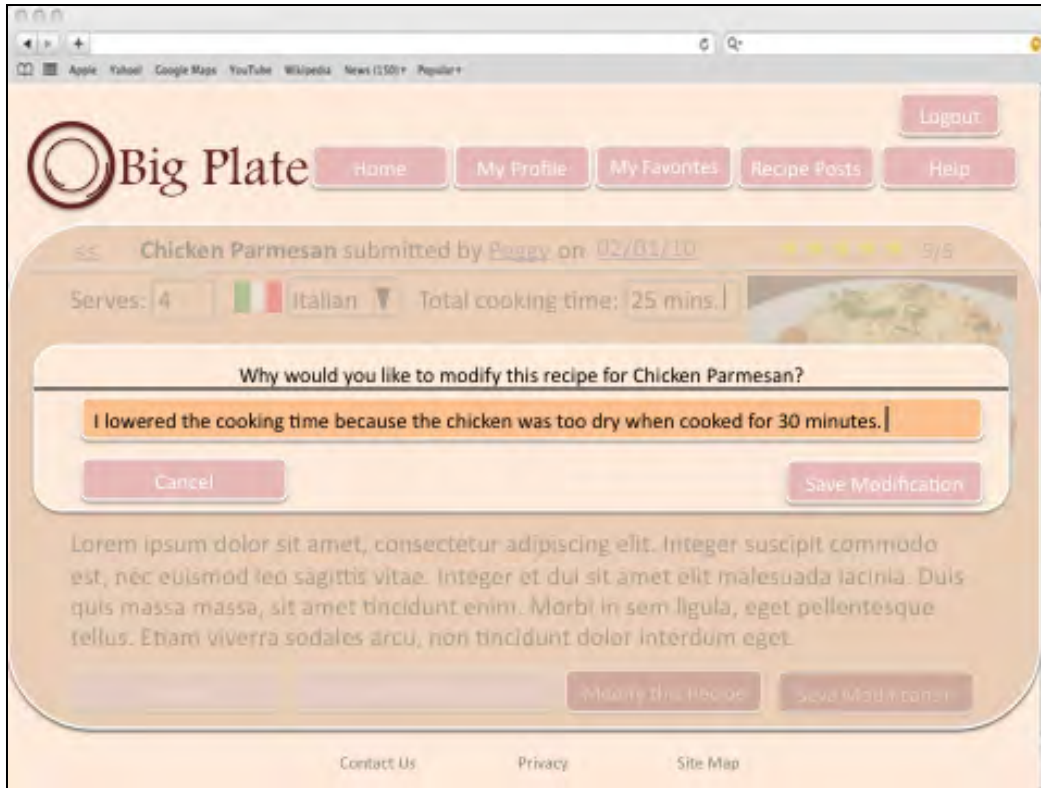




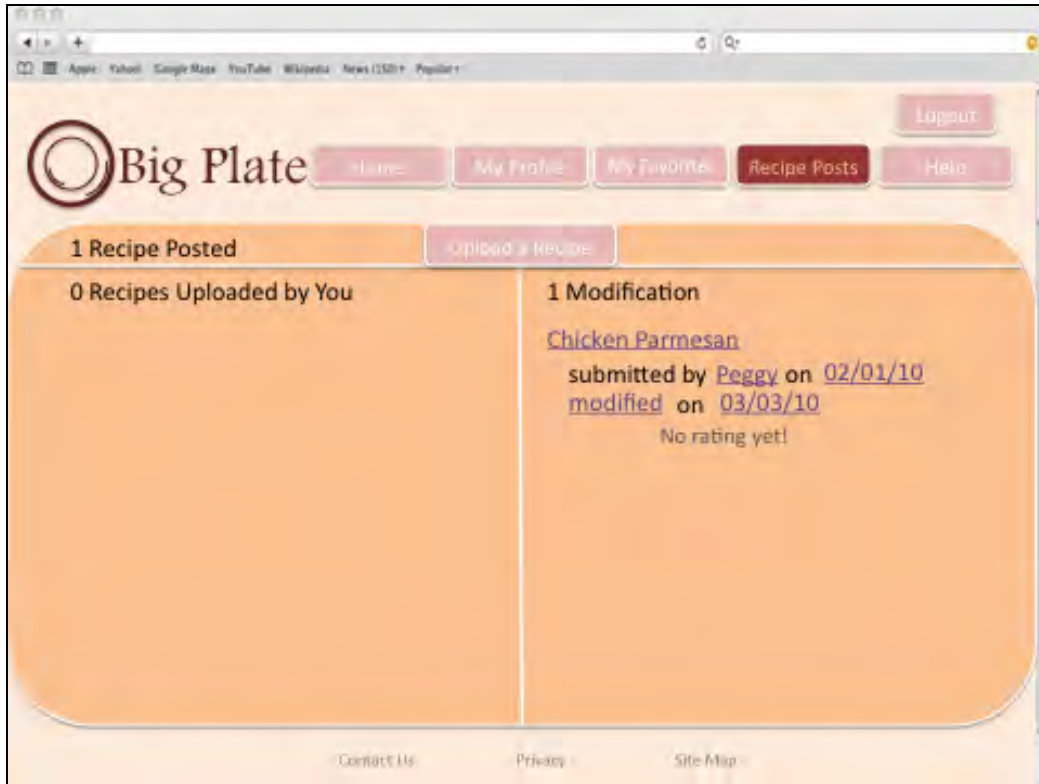


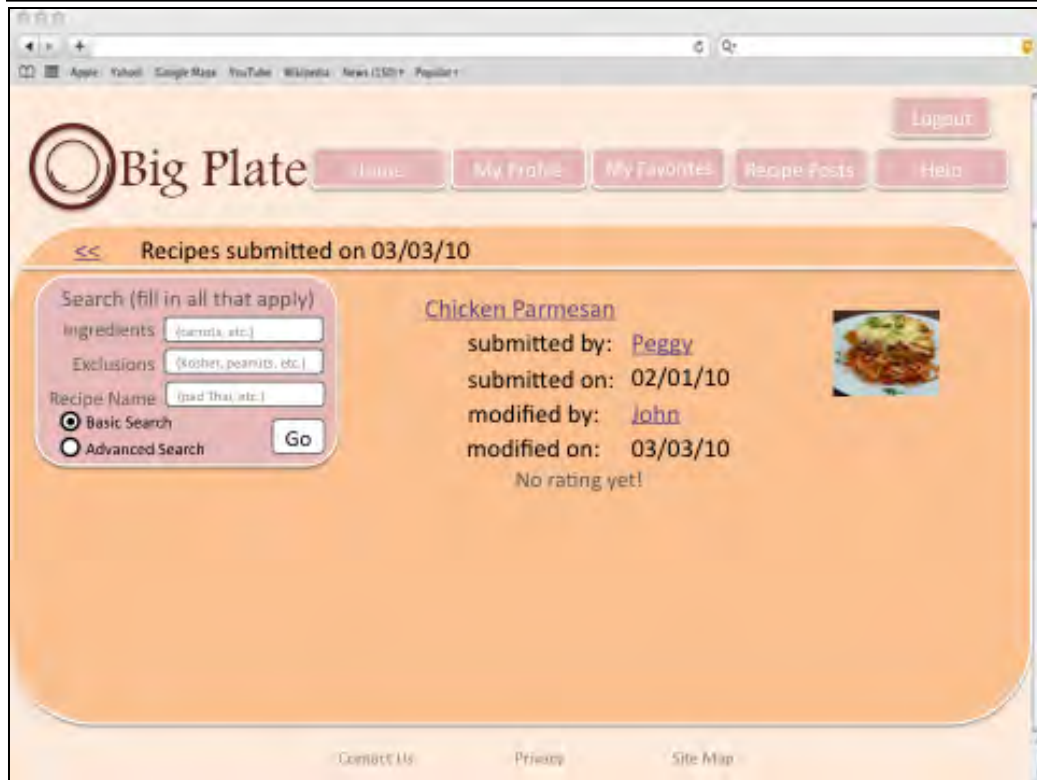
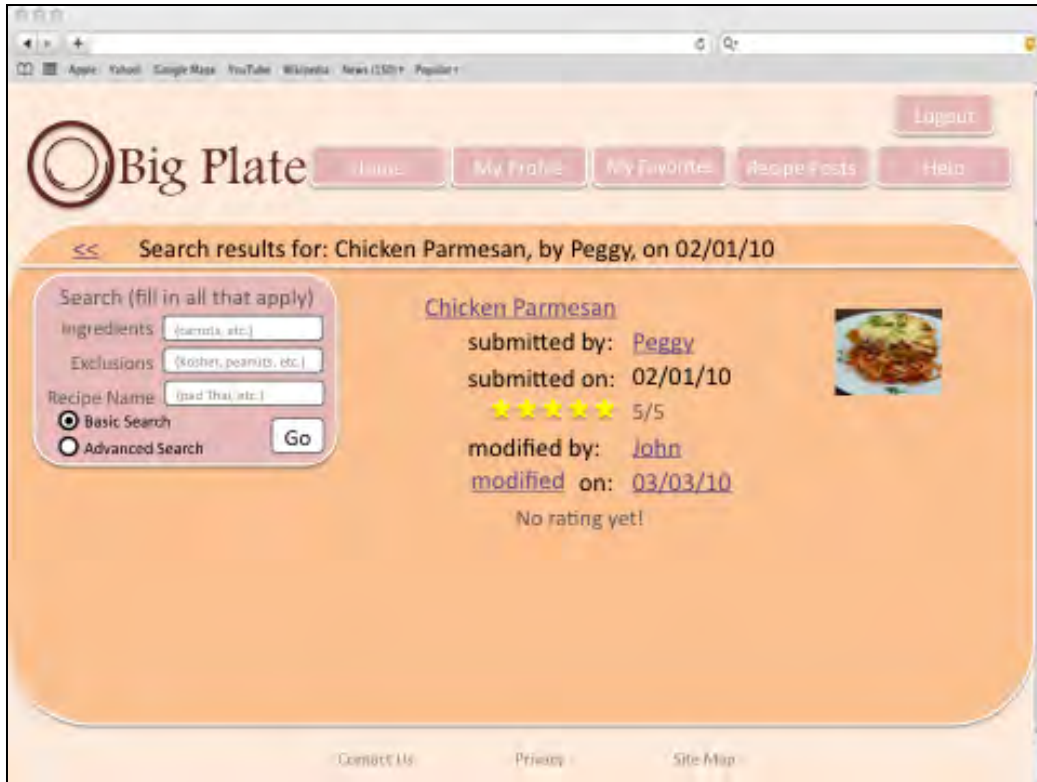


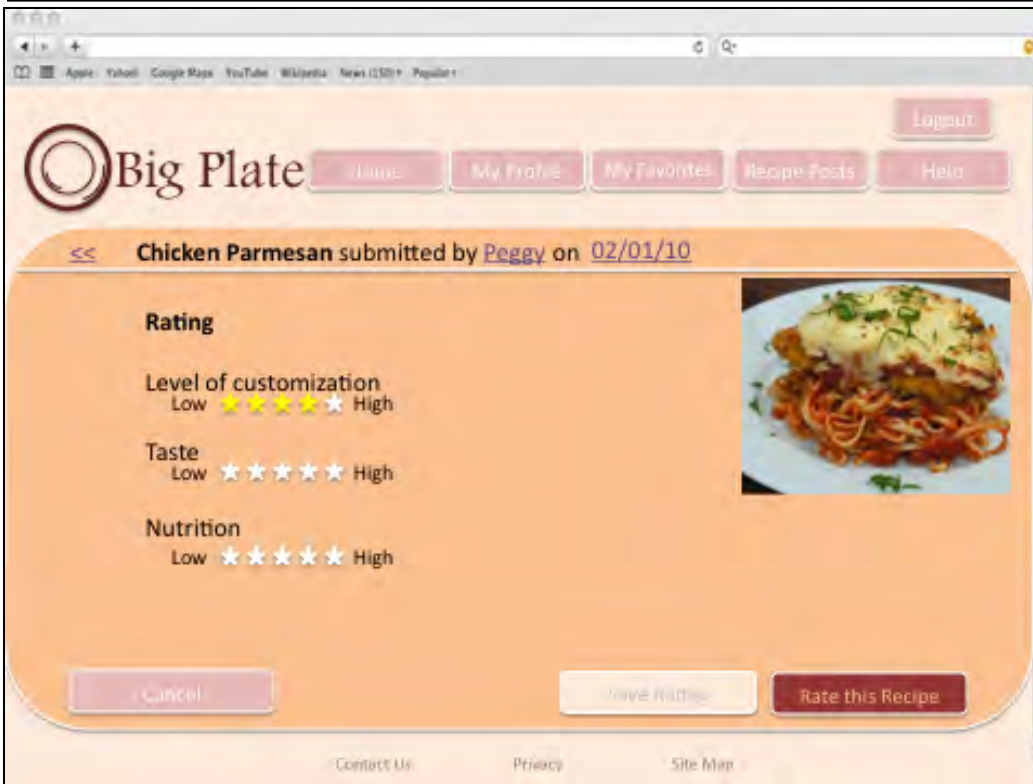
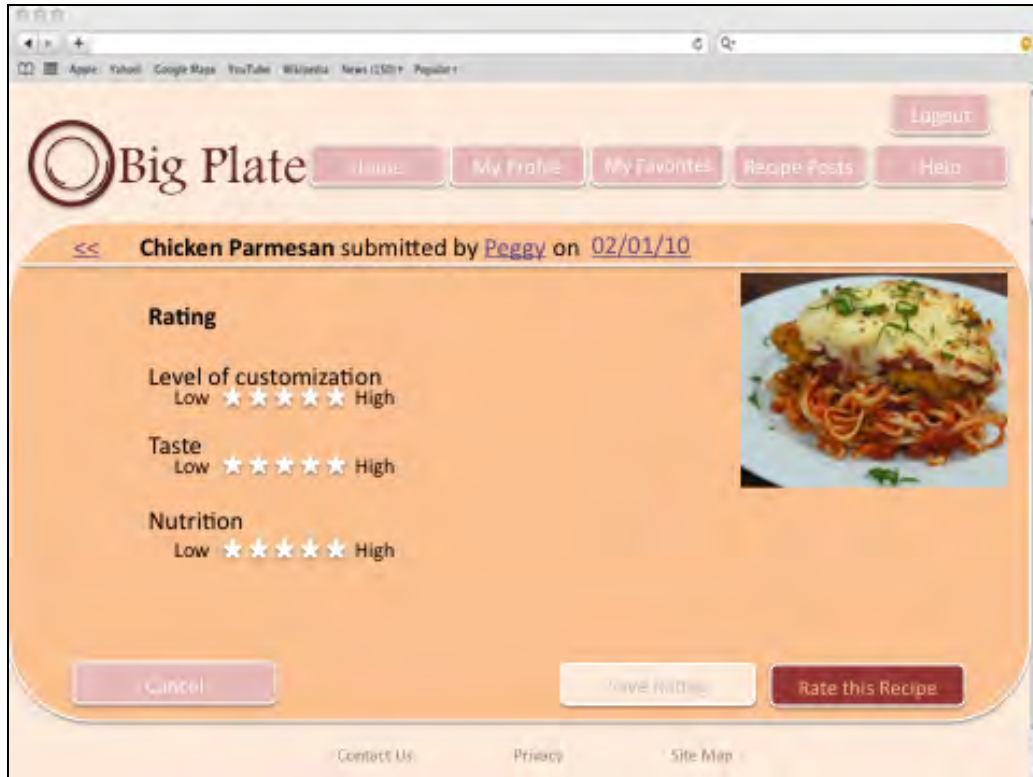


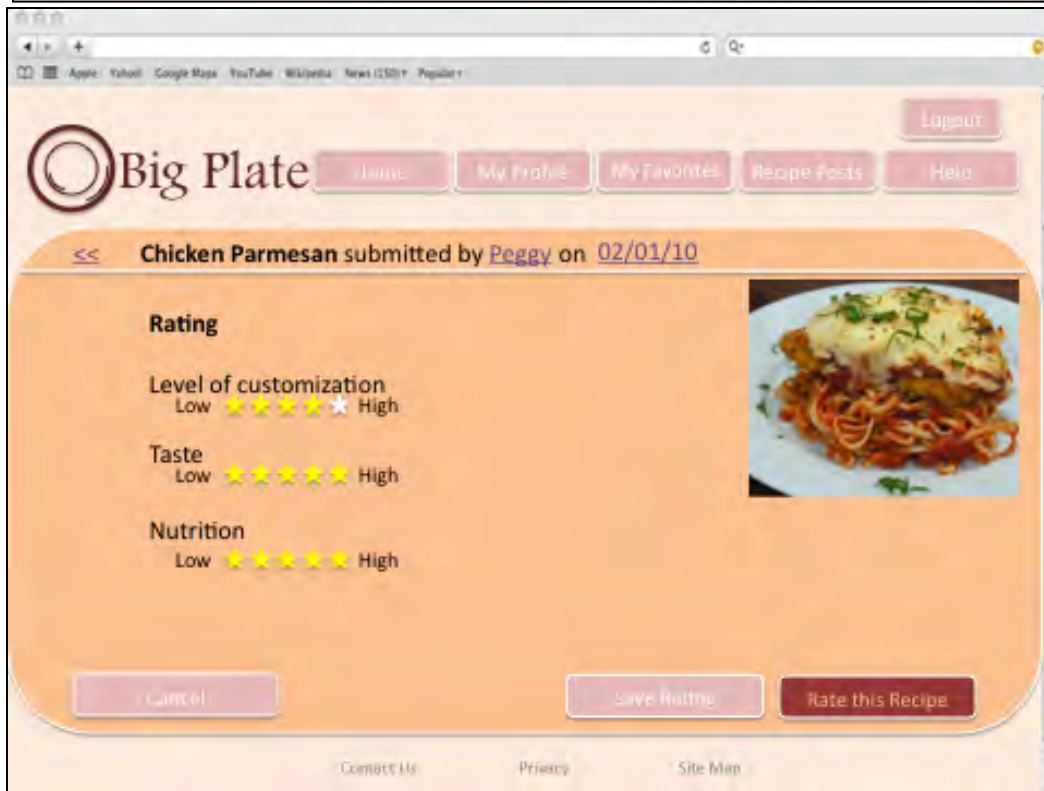
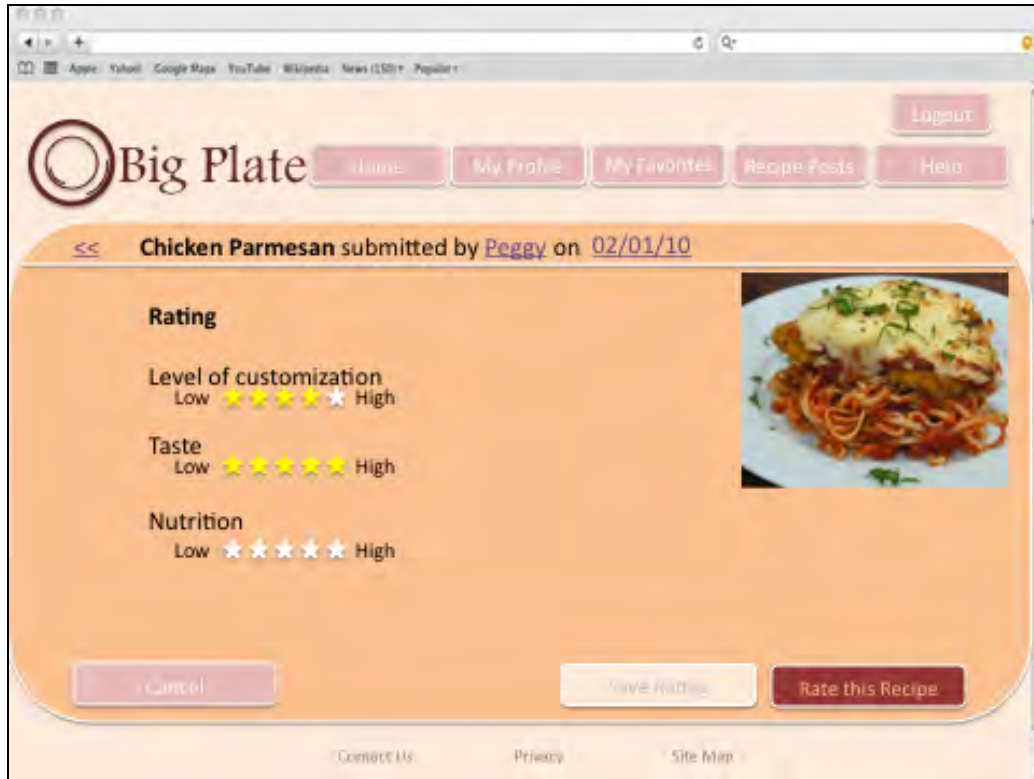


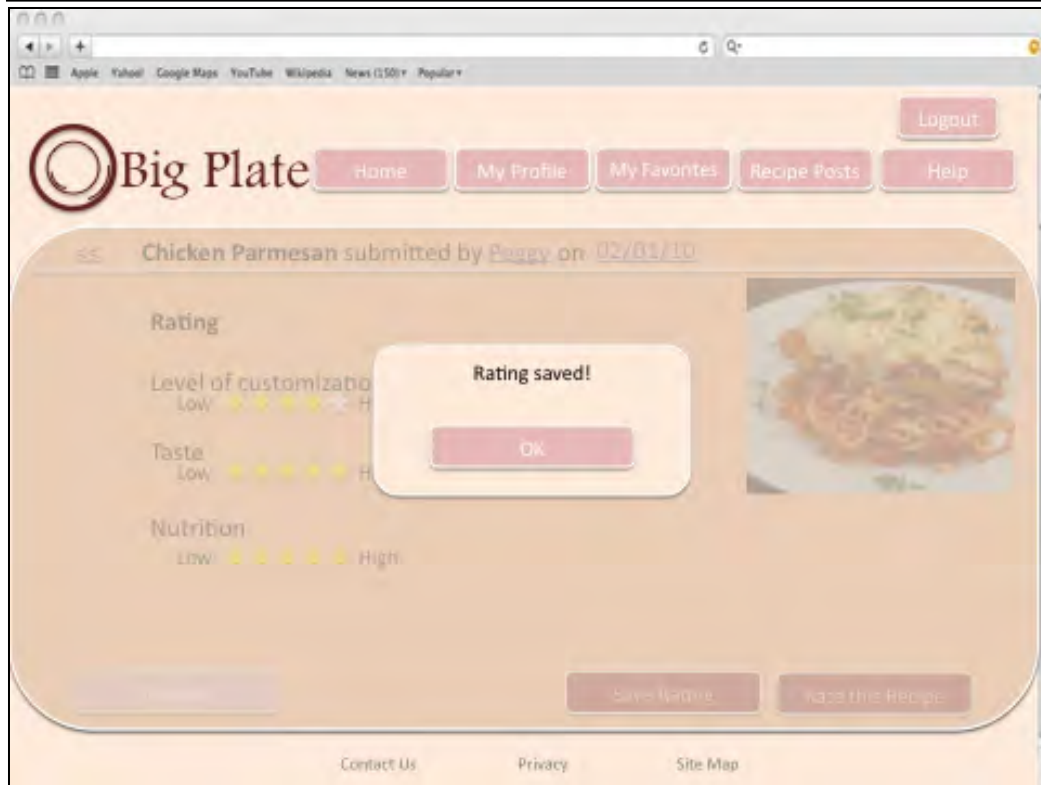
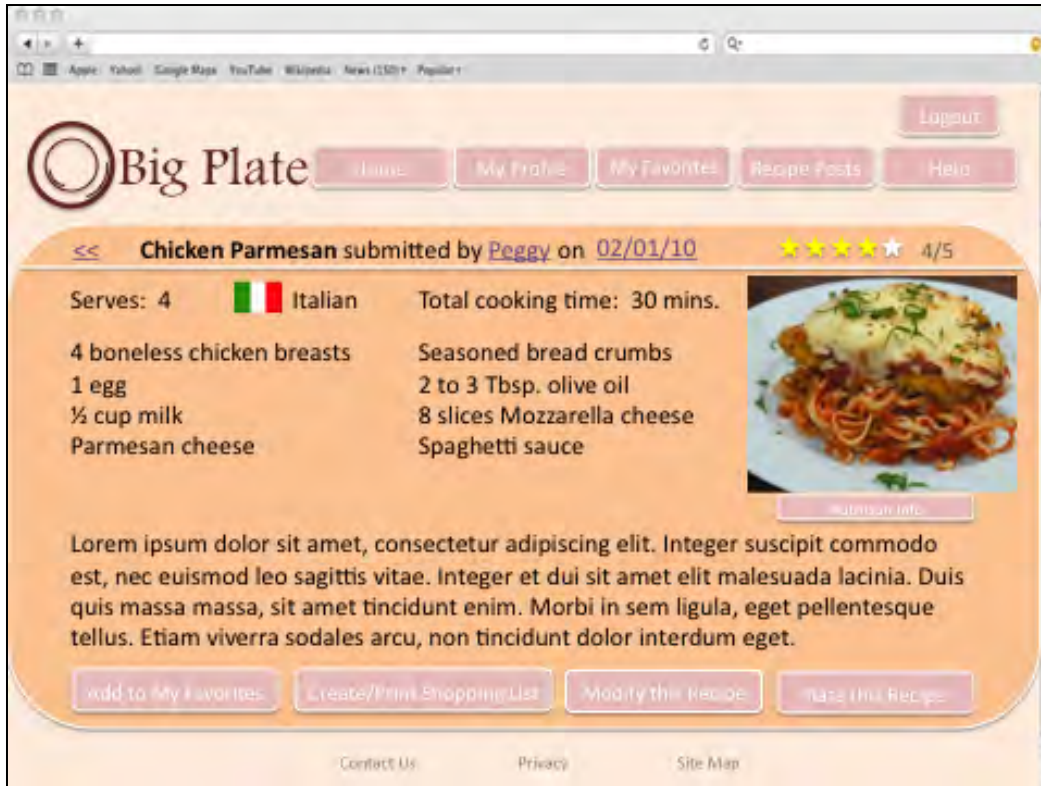


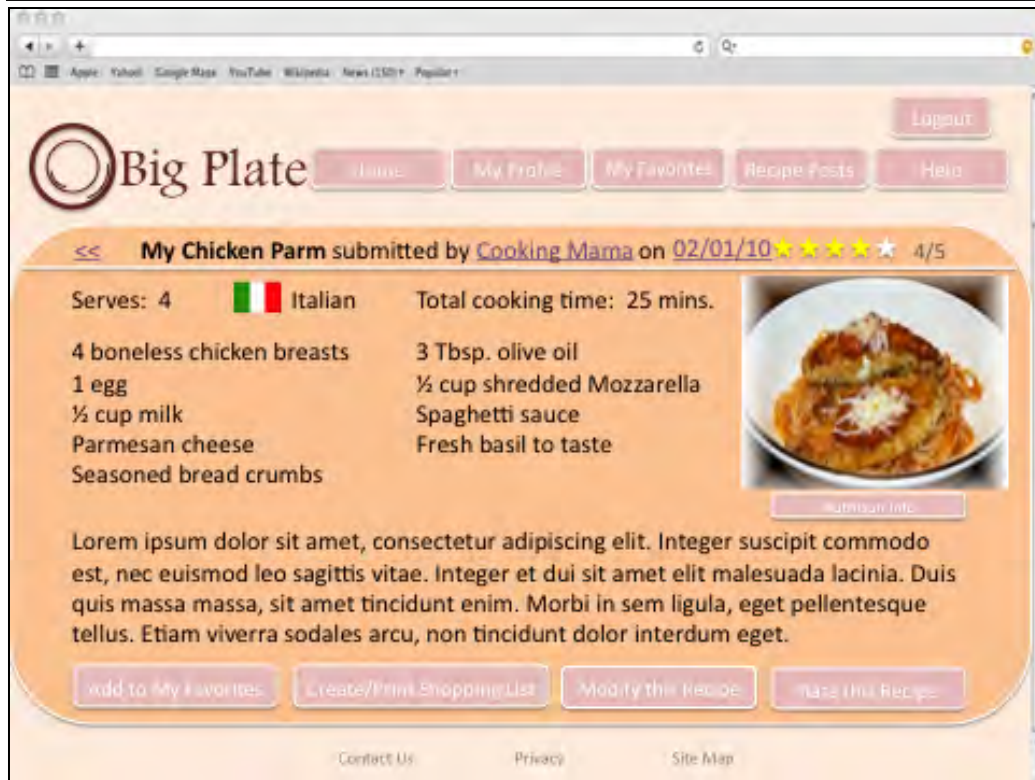
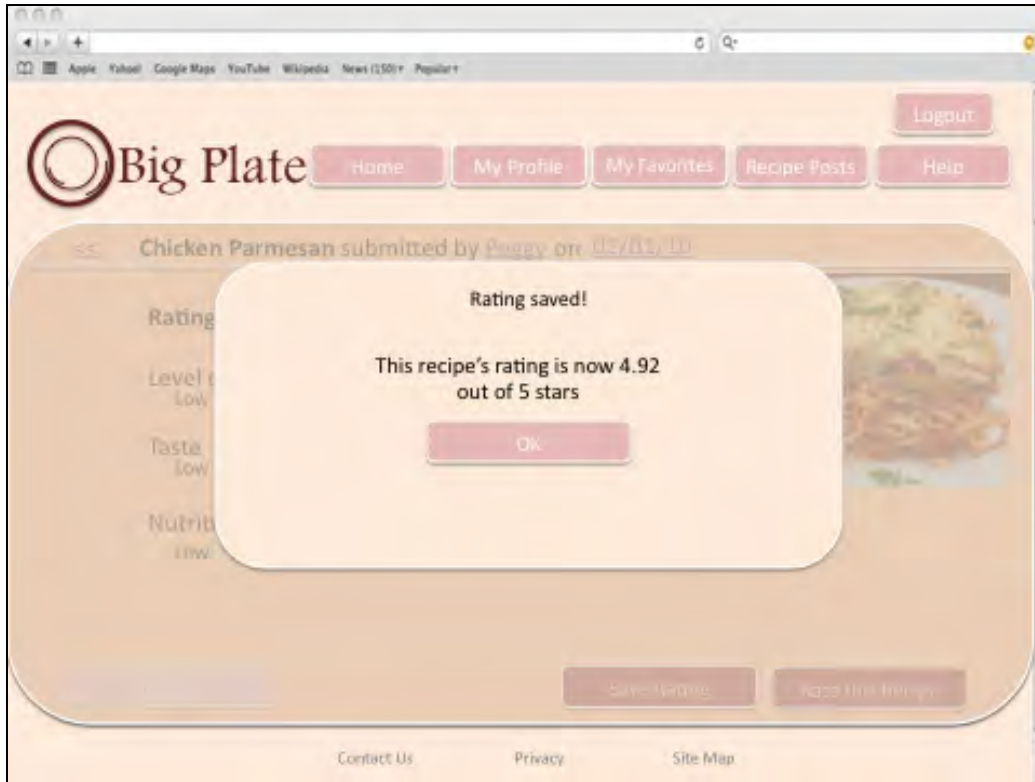










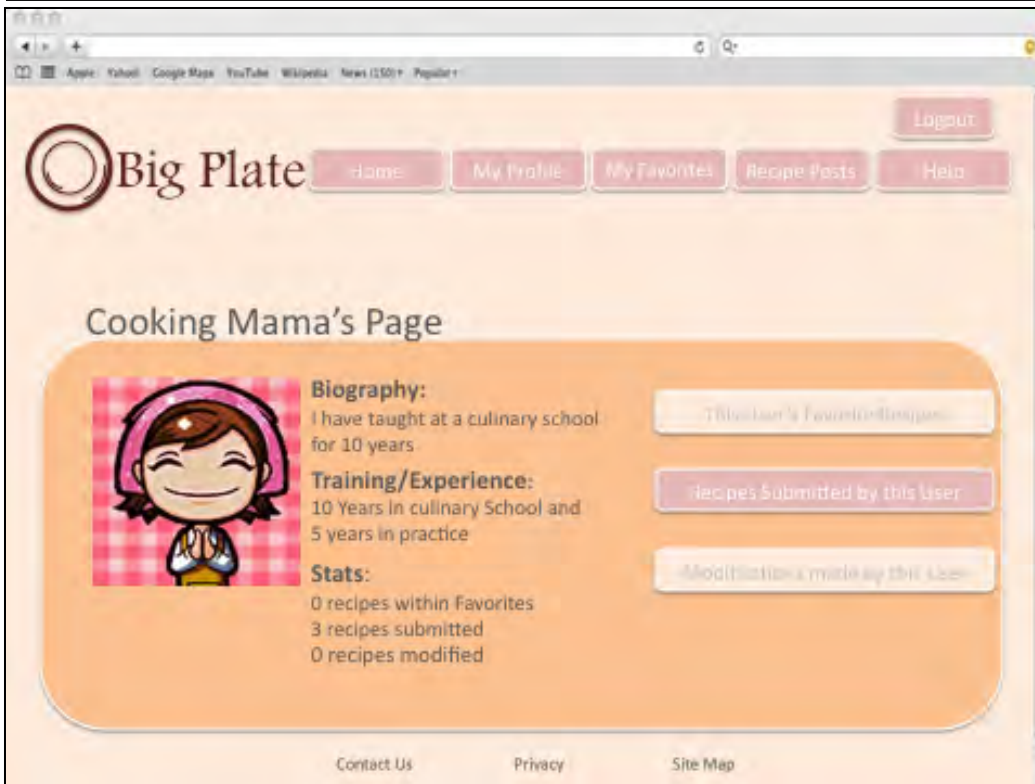


The screenshot shows a web browser displaying the Big Plate website. The page features a navigation bar with a logo and buttons for Home, My Profile, My Favorites, Recipe Posts, and Help. A Logout button is also present. The main content area displays a recipe for "Chicken Pot Pie" submitted by "Peggy" on "01/30/10". The recipe is rated 4/5 stars. It includes the following details: Serves: 8, American flag icon, Total cooking time: 50 mins. The ingredients are listed in two columns: 1 chicken (cut up), 1 tsp. salt, Water to cover, 4 med. potatoes, sliced, 2 tbsp. minced parsley, 2 c. flour, 1/2 tsp. salt, 2 eggs, 2-3 tbsp. water, and 1 tbsp. shortening. A small image of the pot pie is shown on the right. Below the ingredients is a paragraph of placeholder text: "Lorem ipsum dolor sit amet, consectetur adipiscing elit. Integer suscipit commodo est, nec euismod leo sagittis vitae. Integer et dui sit amet elit malesuada lacinia. Duis quis massa massa, sit amet tincidunt enim. Morbi in sem ligula, eget pellentesque tellus. Etiam viverra sodales arcu, non tincidunt dolor interdum eget." At the bottom of the recipe card are four buttons: "Add to My Favorites", "Create/Print Shopping List", "Modify this Recipe", and "Rate this Recipe". At the very bottom of the page are links for "Contact Us", "Privacy", and "Site Map".

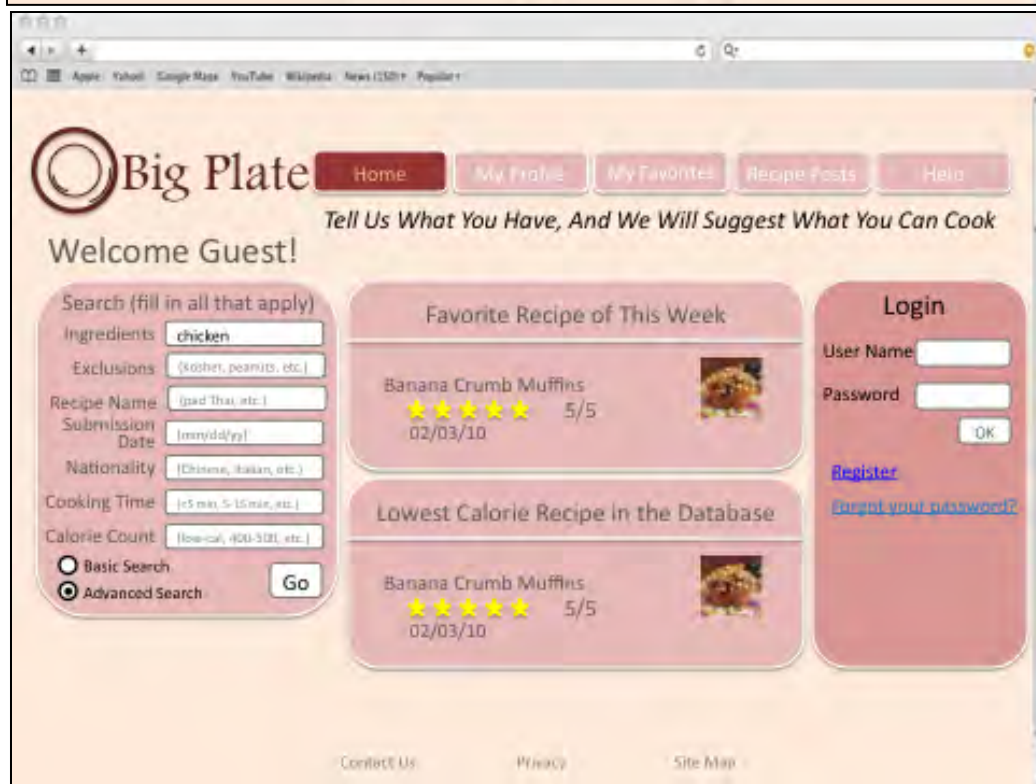
The screenshot shows a web browser displaying the Big Plate website. The page features a navigation bar with a logo and buttons for Home, My Profile, My Favorites, Recipe Posts, and Help. A Logout button is also present. The main content area displays a recipe for "Banana Crumb Muffins" submitted by "X" on "02/03/10". The recipe is rated 5/5 stars. It includes the following details: Serves: 12, American flag icon, Total cooking time: 60 mins. The ingredients are listed in two columns: 1 1/2 cups all-purpose flour, 1 teaspoon baking soda, 1 teaspoon baking powder, 1/2 teaspoon salt, 3 bananas, mashed, 3/4 cup white sugar, 1 egg, lightly beaten, 1/3 cup butter, melted, 1/3 cup packed brown sugar, 2 tablespoons all-purpose flour, 1/8 teaspoon ground cinnamon, and 1 tablespoon butter. A small image of the muffin is shown on the right. Below the ingredients is a paragraph of placeholder text: "Lorem ipsum dolor sit amet, consectetur adipiscing elit. Integer suscipit commodo est, nec euismod leo sagittis vitae. Integer et dui sit amet elit malesuada lacinia. Duis quis massa massa, sit amet tincidunt enim. Morbi in sem ligula, eget pellentesque tellus. Etiam viverra sodales arcu, non tincidunt dolor interdum eget." At the bottom of the recipe card are four buttons: "Add to My Favorites", "Create/Print Shopping List", "Modify this Recipe", and "Rate this Recipe". At the very bottom of the page are links for "Contact Us", "Privacy", and "Site Map".

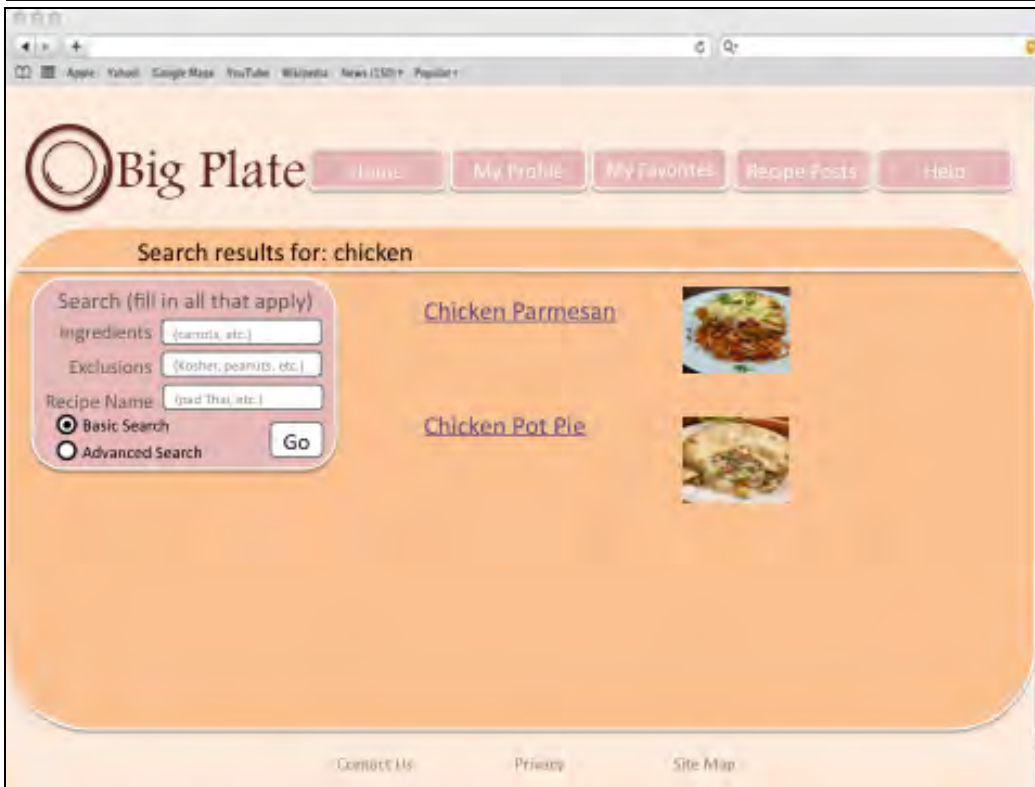
The screenshot shows a web browser displaying the Big Plate website. The page features a navigation bar with a logo and buttons for Home, My Profile, My Favorites, Recipe Posts, and Help. A 'Logout' button is in the top right. The main content area highlights a recipe titled 'World's Best Lasagna' submitted by user 'X' on 02/03/10, with a 5/5 star rating. The recipe details include: Serves: 12, Italian cuisine, and a total cooking time of 55 minutes. The ingredients are listed in two columns: 1 lb lean ground beef, 1/2 medium sweet white onion, 1/2 large green bell pepper, 1/2 lb dry lasagna noodles, 1/4 cup sugar, 1 28 oz can tomato sauce, 1/2 28 oz can stewed tomatoes, 1/2 6 oz can tomato paste, 1 lb Ricotta cheese, 1 1/2 lb Mozzarella cheese, 5/8 lb freshly grated parmesan cheese, Garlic Powder, Oregano, Italian Spice, Salt, Garlic Salt, Parsley diced, 1 Garlic Cloves, and White wine vinegar. A photo of a lasagna slice is shown on the right. Below the ingredients is a paragraph of placeholder text: 'Lorem ipsum dolor sit amet, consectetur adipiscing elit. Integer suscipit commodo est, nec euismod leo sagittis vitae. Integer et dui sit amet elit malesuada lacinia. Duis quis massa massa, sit amet tincidunt enim. Morbi in sem ligula, eget pellentesque tellus. Etiam viverra sodales arcu, non tincidunt dolor interdum eget.' At the bottom of the recipe card are buttons for 'Add to My Favorites', 'Create/Print Shopping List', 'Modify this Recipe', and 'Rate this Recipe'. The footer contains 'Contact Us', 'Privacy', and 'Site Map' links.

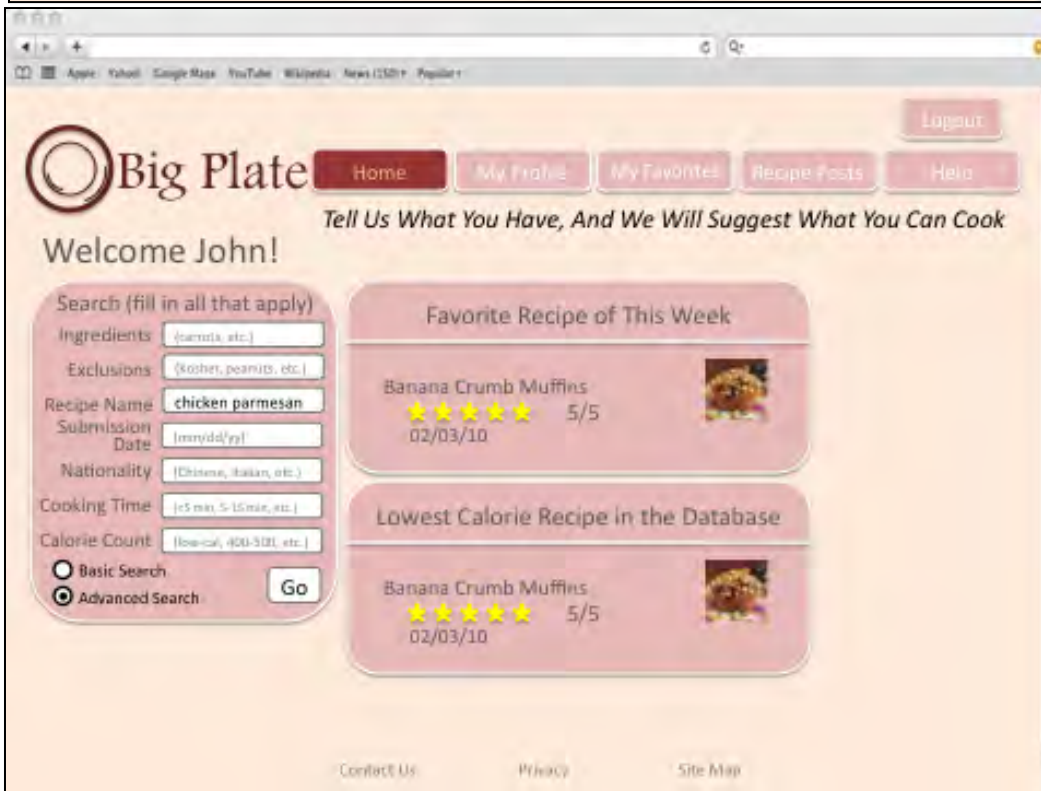
The screenshot shows the Big Plate website displaying a recipe for 'Delicious Ham & Potato Soup' submitted by user 'X' on 02/03/10, with a 5/5 star rating. The recipe details include: Serves: 12, American cuisine, and a total cooking time of 20 minutes. The ingredients are listed in two columns: 3 medium red potatoes peeled and cut in small cubes, 2 cups water, 1/4 teaspoon salt, 1/4 cup finely chopped onion, 3 tablespoons butter, 3 tablespoons all-purpose flour, ground black pepper, 3 cups milk, 1 cup shredded Cheddar cheese, 1 cup cubed cooked ham, and Pepper to taste. A photo of a bowl of soup is shown on the right. Below the ingredients is a paragraph of placeholder text: 'Lorem ipsum dolor sit amet, consectetur adipiscing elit. Integer suscipit commodo est, nec euismod leo sagittis vitae. Integer et dui sit amet elit malesuada lacinia. Duis quis massa massa, sit amet tincidunt enim. Morbi in sem ligula, eget pellentesque tellus. Etiam viverra sodales arcu, non tincidunt dolor interdum eget.' At the bottom of the recipe card are buttons for 'Add to My Favorites', 'Create/Print Shopping List', 'Modify this Recipe', and 'Rate this Recipe'. The footer contains 'Contact Us', 'Privacy', and 'Site Map' links.

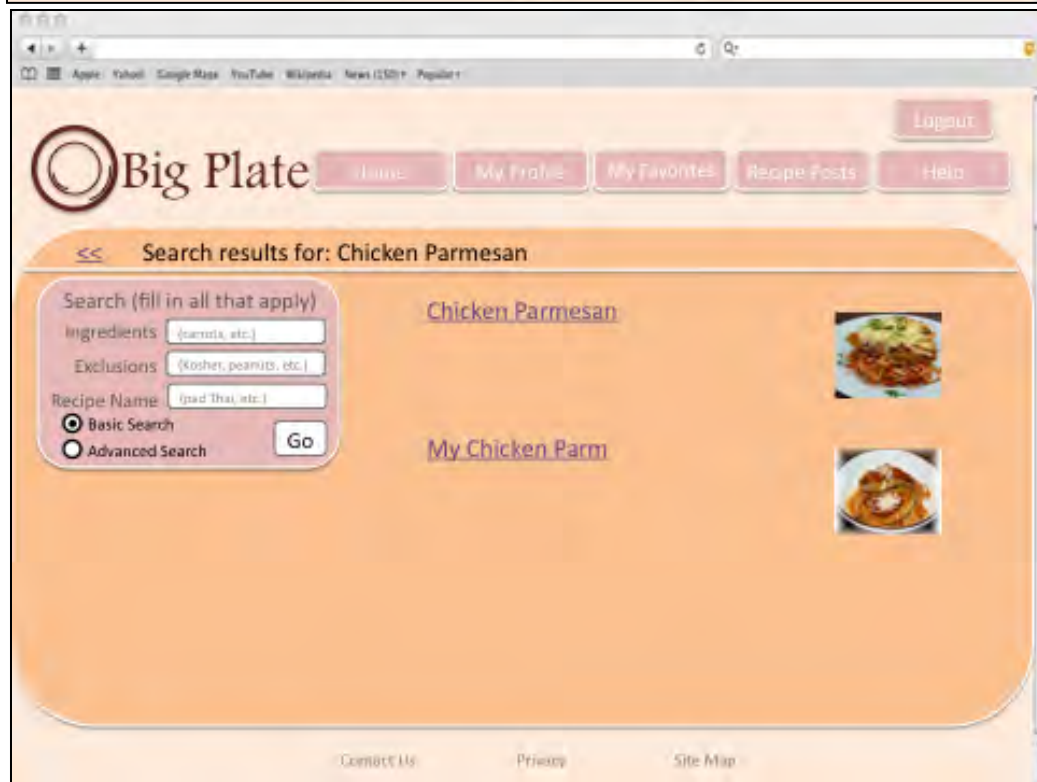












iv. User Evaluation Notes

User Evaluation: Participant #1

Male, 25-29, graduate student, used to cooking Western cuisine, single
 Did not immediately understand what searching by serving size meant
 Thought that within Registration, it should be optional to attach a picture
 Thought that the Sign-in process was a little bit complicated
 Thought that there were some semiotic problems with labels
 The color scheme was too light for him, and was slightly confusing
 After “John” logged in to the homepage, the right part is too empty (*where the Login area was on the Guest page*); he suggested making the top recipe box bigger
 Did not understand what “<<” meant
 Thought that the picture of a recipe should be clickable, not just the text
 Thought that the Cancel button (*when making a modification*) was clickable, but the Edit button on the user’s profile page was not, since the colors were different

User Evaluation: Participant #2

Male, 25-29, graduate student, used to cooking Chinese cuisine, married
 On the home page, he thought that by logging in, more advanced options would be available
 Understood the difference between “search” and “advanced search”
 He thought there should be an element of community, which, when he saw the ratings of recipes, thought that some of that was achieved
 The animation after “Search results: chicken” was too fast
 He didn’t see the “instructions” of the recipe, as Lorem Ipsum filler text was used; he thought that nutrition information would have gone there
 Understood what clicking on Peggy and 02/01/10 would do
 Understood the buttons on the bottom of each recipe
 Thought all options represented by buttons should be interactive, whether the user is logged in or not
 Lack of a “user search” prompted the participant to want to log in
 Participant felt that there wasn’t enough enticement to log in
 While part of the “flow” of the process, this user opted to not create biography information upon registering
 “How do I confirm a modification?”
 Thought that other users may be able to modify recipes, but just once, when prompted with the question of “what does this button [Modify recipe], while different from the others, suggest to you?”
 Clicked on 02/01/10 to get to the original chicken parmesan recipe
 Thought that “Recipe” stayed, and didn’t change to “Save modification”
 Was not sure what clicking on 02/01/10 would accomplish, but clicking on Peggy was clear
 Thought that “ser” would be a good search criterion, not “Submission Date”

Thought there should be a modification history for recipes

Thought that it should be possible to copy Peggy's recipe and modify it, then save it for personal use, not for other's use