



foodie

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*Mobile Application Prototype and Supporting Materials  
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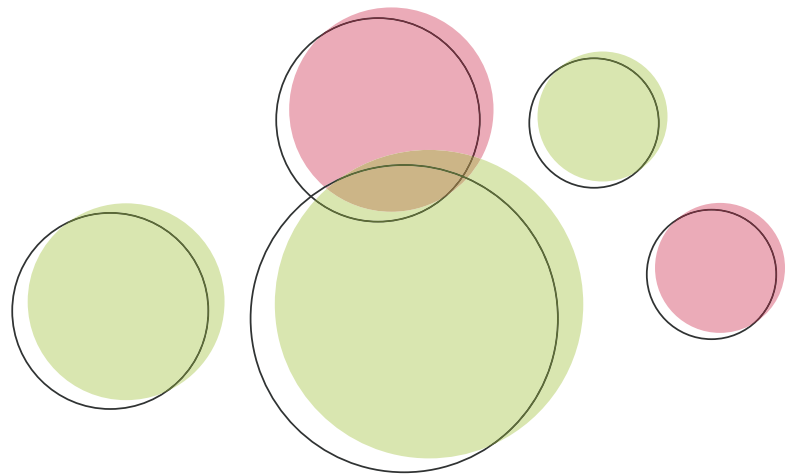
## ABSTRACT

An exploration of the use of food menus within the restaurant industry through a diner's perspective to help inform and influence the design of a mobile application providing a community-like platform to rate and compare local restaurant dishes. Includes process of using research, design, and prototyping principles to deliver a final product ready for IT development, launch, and marketing.

## ACKNOWLEDGMENTS

A sincere thank you to my family, and especially my husband. With a budding career in marketing, a job that had me traveling 2-3 times per month, two small daughters, and the continued training for long distance races, I couldn't have done it without him. He was my rock throughout this program, and supported me with no questions asked. I know how lucky I am to have him in my life.

Thank you to my mom, who stepped in to help with the kids when I was away or at class. Thank you to my friends and family who listened to my ideas, my ramblings, and gave me ideas and suggestions along the way. It's been a long, but rewarding eight years to get to this point and I'm looking forward the where it all goes from here.



# Introduction

The restaurant industry is a booming one. In the US, there are over one million restaurants currently in service dishing out over \$700 billion in industry sales (National Restaurant Association, 2017). Americans have limitless choices of where to eat: fine dining, take-out, fast food, gourmet, etc. Too many choices can drive research, especially in the data driven world we live in today.

Consumers have lots of tools to help them identify the right restaurant to satiate their dining mood. Websites and mobile applications such as *Yelp* provide information and ratings to review an establishment prior to dining. *Open Table* offers the ability to review and make reservations all in one easy-to-use mobile application. But what many of these restaurant apps lacked is a foundation on what restaurants do best and what usually keeps customers coming back—the dishes they serve.

Once you've decided against making dinner at home, you may ask, "What am I in the mood for?" You could peruse restaurant listings and reviews to answer this question, but ultimately you are driven by something off the menu, not the location or atmosphere or valet parking.

Even more interesting is the fact that most people don't know what they are in the mood for, but they do know what they are not in the mood for. Taste buds can be swayed with the right menu design or food item descriptor. Is there a science to menu design? What verbal and visual cues push people to order one chicken dish over another? How much description of the dish is too much or too little? Is it different between high-end restaurants vs. a pizza joint? What have people become accustomed to when it comes to menus? How does placement or order affect demand? Is there a language of design we can learn so consumers can make better decisions? And can we ultimately sway a person to order something by supplying a recommendation?

The menu is the heart of a restaurant's promotional capabilities, yet very few consumers can get a good look at a menu before they visit a restaurant. While many have websites with menus listed, there is not one place to shop and compare menu items between restaurants. And for smaller establishments, the only view of their menu may be a scanned take-out menu that someone uploaded into *Yelp* or some other website. Seven out of ten restaurants are single-unit operations without access to the on-line capabilities of chains (National Restaurant Association, 2016).

What if, at the end of the day, you could search for that perfect BLT at the price and location you want? Or what if you could eliminate the things you don't want—nothing spicy, nothing fried—and get help with suggested menu items? You would still want access to things like location, reservations, and even pricing, but it's all driven by your menu choice. Making an app that fills this need could create a simple, user-friendly experience where users can search, rate, and even choose your food.

It could have added features that allow you to log menu items you've had in the past and mark as enjoyed or disliked so you don't have to wonder if you've had that before. It could put the power of persuasion through menu design back in the hands of the consumer, driving dining choices to be made solely on the food itself.

While I aimed to create a unique application and experience for users, restaurant or food platforms are not new to the world. That being said, it was important that I reviewed competitors and other industry technology to better understand how to make this application successful. Other platforms run the gamut of being very specific to very generic, and insights were gathered from them all.

*Yelp* is a popular site that connects people to businesses. They provide a desktop site and mobile application, and both digital platforms offer comprehensive reviews and information for restaurants, stylists, stores, and beyond. In the restaurant space, some menus are included at restaurant page level with the ability to review items and sometimes see pricing. However, to find menus, users often are sent to the restaurant's owned and operated website. There is the ability to search by food item, but only through comments and reviews, not a menu list. They cannot be compared across venues. One thing *Yelp* does well is garnering customer reviews, with over 90 million logged reviews as of the third quarter in 2015 (*Yelp*, 2016). Automated software that aligns recommendations based on ratings provided by users can also be a helpful tool that personalizes each person's experience with the platform.

Another site reviewed for this project was *Menusim*. At a first glance, it seemed to be the biggest competitor for my food application, however, deeper review showed limitations and differences, as well as some takeaways and learning. The site does provide menu information at the restaurant page level with some ability to rate a particular item on the menu. The platform is not available in mobile application form, and is set up as a blog and news feed with a strong social component. While there is detailed menu information that includes pricing, there is no way to compare food items between restaurants.

I also reviewed *Open Table*. It is a website and mobile application that has a primary focus on reservations and is locally driven. It offers reviews and information, as well as menu items for some places, however, minimal menu reviews or pricing. *Open Table* does integrate with other on-line sites so users can access it directly from a restaurant website when they want to make reservations. They currently work with over 32,000 restaurants and provide service to 16 million diners each month (*Open Table*, 2016). This integration provided insight on how to get exposure beyond traditional promotional advertising.

*Restaurant.com* focuses on restaurant coupons and deals. Restaurant pages include overall reviews, basic information, and links to the restaurant website or a scanned image of the menu. They do offer a mobile application version. This platform is not

comprehensive, but rather a hub to search or find a restaurant based on some criteria. Unique features include the ability to buy and send gift cards to participating restaurants.

Most of the aforementioned platforms generally drive usage prior to visiting a restaurant. So to gain some insight around the experience inside of a restaurant, I reviewed the newest in digital menus. These menu application platforms allow restaurants to display menus and place orders throughout the dining experience on a digital platform. While traditional menus are served up on paper or plastic, the digital platform menu helped me review how users might interact with a more detailed menu platform. It suggested less is more and images are everything. While these platforms were helpful and have menu integration, there was not cross-comparison as the information accessed was strictly for that particular establishment during the dine-in experience.

I began thinking an app may need to promote crowd sourcing ratings and data in order to keep the information as up to date and accurate as possible. So I dug in on this topic a little further. Crowd sourcing can be found in many forms. “As with all good ideas, gaining a critical mass is a crucial element to its success.” (Shadbolt, 2015) A few key things would remain important during development of an app. Ease of use would be key to encourage users to input information on their own. It would need to be quick and simple. Too many actions or questions, and users tend to give up and close the app.

“Other advantages of crowd sourcing include that it can be a less-expensive means of collecting data automatically and continuously and that it has the ability to mimic real-world situations that are difficult to address in a laboratory.” (Mitroff, 2014) This could be a means to share data back with restaurant owners, therefore encouraging their participation and promotion of the application.

Best practices in mobile application design gave deeper insights. Users have become accustomed to certain functionality, icons, and mapping. Understanding and incorporating these standards would help make the food app more successful during the testing phase. I did not need to create a new language.

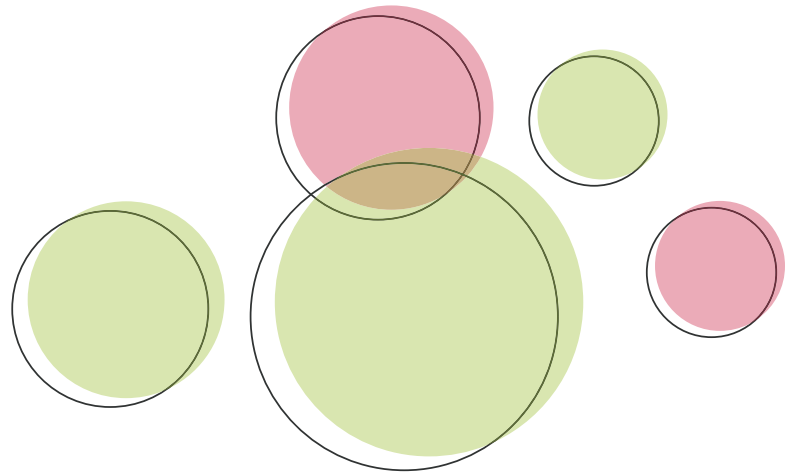
“Rather than just scaling down a site, you need to examine your client’s business and assess the importance of mobile access for their particular business.” (Jain, 2015) Since some of this usage may occur during a dining experience, I would focus on keeping it simple and easy to complete ratings on the spot to amplify the engagement of users in real time, but also provide a way for users to do it later if they preferred.

## **RESEARCH STATEMENT:**

In today’s society, the power of peer reviews and social sharing of experiences can make or break a business. The growing reliance on peer reviews can be seen with big brand

names such as *Angie's List*—a site completely dedicated to peer reviews for a variety of services. This is especially powerful when it comes to the restaurant business. While there are many places to see this in use today, there is white space for a food application that offers a unique experience connecting diners and comparing experiences with dishes.





Discovery

## RESEARCH

I used Google Forms to develop and distribute surveys to explore what was important to users when it comes to dining, trying new dishes, and information they wanted to see. Using social media, email lists, and visiting local restaurants, I surveyed 77 participants to garner somewhat of a significant value in the quantitative data collection. I also got qualitative data to help inform the viability of the app and the design itself throughout the development process and testing.

To gain participation, I offered a \$50 raffle for the first 100 participants. The raffle proved successful in getting quick responses. While this survey focused on consumers, I did qualitative research with restaurant managers or owners as well.

First results showed a very high interest in menu specific information, and getting this information in the form of an app. The top priorities for information were for menus to be up-to-date and include pricing. This was extremely important as the data showed these items as a main source of frustration with on-line menus and apps being used today. Also, while almost all respondents indicated using peer reviews to make purchasing decisions, only about one third admitted to supplying reviews. This key data point drove the need for a very simplified way to get users to supply input and encourage above average review submittal rates.

### Top-line Summary Findings from Customer Research:

- 44% of customers are frequent diners (dining out 5+ times per month).
- 28% of customers are frequently getting takeout or delivery (5+ times per month).
- Of all customers, 92% are dining out at least 2x per month; 76.7% are getting takeout/delivery at least 2x per month.
- Familiarity and menu drive 78.6% of choosing where to eat.
- However, customers use a variety of ways to choose what to eat – leading with recommendations from friends and family.
- 86.7% of customers identified food descriptions as the most useful part of a menu that helps drive decision-making. Followed by pricing (42.7%) and naming (21.3%).
- Customers are looking on-line for menus often – 54.7% sometimes, 44% most or all of the time.
- Lacking in real time data, customers found the following information on-line most of the time or always:
  - Correct menus 48%

- Correct specials 14.6%
  - Correct prices 50.6%
  - Food descriptions 32%Ho
  - Food reviews 5.3%
  - Detailed ingredients 4%
- In general, customers read on-line reviews or ratings 88% broadly, but only 34.7% submit reviews.

For one year, I took note of how many times a waiter or other diner was asked to give a recommendation. I dine out often, so I was able to participate in 47 experiences in which diners asked the waiter for recommendations 50% of the time. Diners also asked others at the table what they were having or for recommendations about 60% of the time. This spoke to the need for decision help at the time of dining in addition to the need for searching within a locale.

I also spent some time discussing how menus were managed in house with a few local restaurant owners. Many use computer systems which help them price and manage inventory with software purchased through food vendors. But when it came to menu design, it was often the owner or chef creating and managing it. This was particularly the case in non-chain businesses, as the chain restaurants had access to menus from corporate resources. However, while manual management of a menu is common, it is changing with the introduction of digital menus and platforms that allow owners to take control of the data on their menu.

Lastly, I researched the latest uses of technology within a restaurant today (National Restaurant Association, 2017):

- 81 percent of restaurants use a POS or electronic register system.
- 68 percent of restaurants offer Wi-Fi for guests.
- 37 percent of restaurants offer on-line ordering.
- 32 percent of restaurants accept mobile payment.
- 53 percent of restaurant operators say they would implement predictive ordering technology if it were available to them today.
- 37 percent of restaurant operators believe the most important area of technology development in the next five years is customer ordering.

- 32 percent restaurant operators consider their operations to be lagging when it comes to technology use; 12 percent consider their operations to be leading-edge.

See Appendix A for the detailed survey data.

## PERSONAS

In order to drive educated and targeted design decisions, I developed personas of my key type of users. These personas helped to draw out important functionality and user experience that is then tested with real users for further refinement. These personas also pick up on key audience demographics and lifestyles identified in research such as:

- Frequent diner status (dinning out 5+ times per month or more)
- Frequent on-line and app usage
- Interested in help with making dining decisions
- Values referrals, reviews, etc.

See Appendix F for detailed personas.

## INFORMATION ARCHITECTURE

Based on research, I narrowed down my needs to a list of key user experiences that would help drive design decisions. These key points below were based off best practices in the digital space, and particularly in the mobile space.

- Simple, touch/tap/click usage
- Minimal tasks per screen
- Consider natural hand movements when placing buttons and content
- Easy numbered scaling to rate (1-5 scale is best for people to rate quickly – “Krosnick and Fabrigar (1997) “did not find a monotonic increase in reliability as the number of scale points increased. Instead, a curvilinear pattern emerged in their review such that scales between 5–7 points were more reliable than scales with fewer points or more points. This was true for both bipolar and unipolar scales.” Typically, the rule of thumb is 5 pts for unipolar (e.g. never ... always) and 7 pts for bipolar (e.g. very dissatisfied to very satisfied)” <https://www.surveymonkey.com/blog/2011/01/13/how-to-number-rating-scales/>)

- Minimal input of text – possible to tie in to *Open Table* pay feature to extract what they actually had to eat eliminating finding it in the app.
- App functionality needs
  - Account creation/personalization
  - Quick buttons
  - Search/Browse
  - Menu item details
  - Link to get restaurant info and/or make reservations
  - Menu item rating
  - User profile
  - Notifications/inbox
  - Personalized menu/suggestions
  - Website functionality needs
  - General information
  - Gallery
  - Donation capabilities to tie in non-profit mission
  - News and updates
  - Social feed
  - Mobile viewing capability

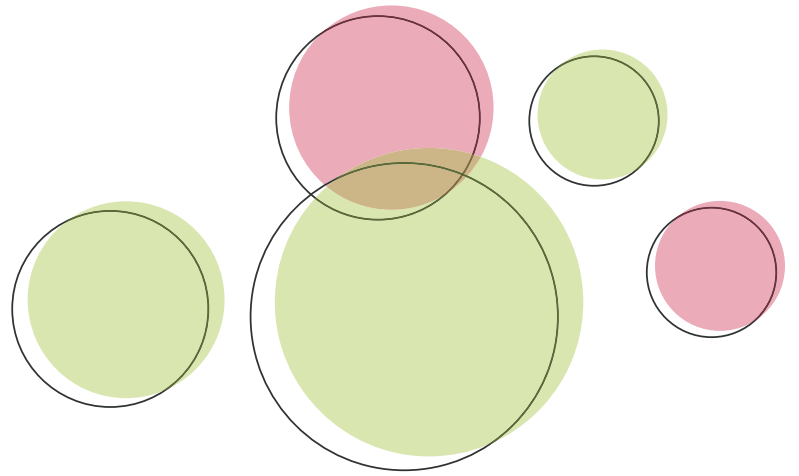
See Appendix G for site maps and more information.

## DATA COLLECTION

Most menu data is available on-line, but not in similar formats. In order to streamline the data in a way that would flow easily into the foodie platform, I thought about creating a template database sheet. This would require manual labor and therefore I looked into other technology that existed to help restaurants manage their menu content. There are a few platforms that could feed data into the app, as I do not see manual

entry working in the long term. Manual entry would drive up operational costs, errors, and time. Here are a few options I explored to resolve this issue when the time comes:

- *Maitre'D* – a tie in option. 20k customers. Could feed data such as menus, customer count by hour, “*Maitre'D* is a POS software designed for different kinds of retailers: restaurants, fast food, hotels & bars. Its different functionalities make *Maitre'D* a complete software to handle all aspects of POS business, from your mobile phone.”
- *OpenMenu* is a platform connecting menu items in one standard database model. While this is only in beta and primarily for desktop usage, it could provide the standardization of menu data.
- *OpenTable* has a pay feature that would record what the diner had eaten and allow them to pay through the app, which connects to the hosting system used for the reservation. This has the potential to push data to a user’s inbox for open ratings.



Design

## NAME

Branding was key to giving the app a personality. While I researched many eclectic names, created names by merging words together, and explored Latin terms, I found that I needed to stick to simplicity. Since users of this app will likely be high consumption, food lovers, the name “foodie” called to me. Initially, I thought something this simple would already exist in this space, but to my surprise it didn’t. In a short time, I was able to secure a URL and start the process of filing with the US Patent and Trademark Office (USPTO).

## FONTS

In search of a font, I wanted one that was simple, modern, and playful. Knowing this would be primarily a digital space, I vetted several web fonts and narrowed it down to Filson Pro. Filson Pro has a variety of weights and playful curves in some of the letters. Additionally, rounded letters such as O’s and E’s had symmetric qualities that visually align with plates and dish ware, a natural connection.

[See Appendix E.](#)

## LOGO

In designing the logo, I went through several phases of exploration. I focused on the triple round shapes created by the “ood” in the name. These reminded me of plates so I decided to play with these letters to create a subtle visual cue. However, I encountered some challenges in working with these circles. In some draft concepts, the circles began to resemble things I didn’t expect and even changed the way the word was read. Overlapping the letters in the wrong direction created “fccdie” and adding shapes inside of them created the wrong visual cues. I finally landed on a subtle inner outline to add dimension and bring in the fresh color palette.

I also extended the vertical lines in the “f” and the “i” which flank the circular shapes in the center of the logo, resembling a place setting. Finally, I tipped the “e” slightly to pull through the playfulness of the design.

[See Appendix D.](#)



## TRADEMARKING & COPYRIGHT

In order to keep such a common word from getting snagged, I've submitted an application of the logo and name to the USPTO. Upon searching the database, I only found two other uses of this name.

Existing trademarks:

- Foodie - Reg. #86641742, high chairs, high chairs for babies. 5/26/2015
- Foodie's - Reg. #77700581, retail grocery stores. 3/27/2009

Neither were in competition with the category of which I would be trademarking the name, so I was able to move forward with processing the application.

To add protection to my chosen name and logo, I applied for a copyright with the US Copyright office.

## COLORS

With a name selected, I began brainstorming visuals and color combos. In the initial research, I identified red and green as top contenders for colors associated with food. Since visual cues are important, I wanted to use this combo but absolutely needed to stay clear of any Christmas holiday connection. Choosing the right shades of these colors, magenta and lime, allowed me to develop a fresh and fun look reminiscent of a summer produce. Since the primary colors were very vibrant, I wanted to balance the palette with neutral colors to use as a base within the app itself. Using a deep slate gray and a light creamy tan gave me the flexibility of colors needed for backgrounds and legibility of copy without competing with the magenta and lime. I also wanted to have a variety of bright and dark colors to minimize screen "glow" while in a restaurant setting which may be a minimally lit setting.

## ICON STYLE

While much of the design is flat, I wanted to add some playful energy that connected with the logo. I chose to create an offset line style and simple flat icons for a clean look. And in order to be easily adopted by users, I created icons that most people were already familiar with such as a heart to "like" a dish, an arrow to designate "current location," and stars for the rating system. In user testing, I found that these were all clear indicators of tasks and action items.

## PHOTOGRAPHY

Food itself can be beautiful. I did not want to add a lot of clutter, so I decided to let the only photos to be of the food. I found a quality resource that offered creative commons usage rights for the app and site development. Ultimately, when a restaurant chooses to participate, photography of the dishes would be included as part of the initial setup fee. And long term, there may be an opportunity to allow for users to upload their own images although that was not a focus in development.

See Appendix E for visual brand elements.

## PAPER PROTOTYPE

To begin my app design, I sketched out screen format ideas on paper. I found this to help me clarify my app usage mapping in the process. This allowed me to show screens out of context to users for quick adjustments. Some key areas of changes made during paper prototype development were:

- Simplifying action items per screen
- Adding an auto-fill feature for typed text in search
- Creating sliders and one-touch rating scales - ease of use promoted users to complete the task
- Creating options for sorting rather than category buttons - this decreased the amount of clicks a user needed to do to get to the information they needed

See Appendix H for paper prototype.

## DIGITAL PROTOTYPE

I chose to use an Adobe product, Experience Design (Xd) CC, to develop my digital prototype. This program was in beta testing at the time, and I found it to be a very user-friendly platform. Similar to many Adobe products, Xd worked flawlessly between Illustrator and Photoshop which allowed for quick changes and updates to the design while I was developing the digital prototype.

The work space in the program was a large art board where all of your screens are shown. I strictly managed how screens were arranged on the art board so when it was time to add the app functionality, the flow of action was clearly defined. I found labeling each slide also helped to organize and streamline the flow.

In design, I was able to remove a few screens as they were duplicates of the same functionality of another section. I ended up with 31 screens to show how my app works, and then began testing.

## USER TESTING

To simulate real-time functionality, I developed several user testing scenarios:

### Scenario #1:

You are on a business trip with a coworker. This is the third time visiting Baltimore, and you want to try something new and local, but don't want to go far. You are open to anything, but want it to be good. So you open *foodie*.

### Scenario #2:

You are a young professional with friends visiting from town. You want to impress them with a good menu recommendation at a hip new restaurant in town, but you've only eaten there once. The waiter admits he isn't a seafood fan so you're hesitant to take his recommendation. This is Baltimore. Seafood is what they do best. So you open *foodie*.

### Scenario #3:

You are a middle-aged woman with a picky palette. You prefer things that are low in calories, but the menu doesn't do into a lot of description. You want something yummy, but personalized for your needs. So you open *foodie*.

I tested each scenario on three users, and made real time adjustments to the app. You will see the experience gets easier as each user goes through the testing. Here is the summary of the user experiences:

### User #1:

User #1 breezed through account setup and profile settings. Needed no help with understanding the scales or action buttons. When tasked with scenario #1 and #2, the user easily navigated the quick buttons. However, user did question the icons used which lead me to swap the star and arrows accordingly to reflect "Here" and "Nearby" better. When tasked with scenario #3, user struggled to understand how he could influence a personalized recommendation.

### User #2:

User #2 was also able to figure out setup on their own but felt it took too long. I moved the final stage of food preferences out of the set up area for this reason, and made it

accessible by choice in the profile settings. User also struggled with how to get between sections, so I added “back” buttons to every screen. User found “menu” navigation easy to use and visited it often between scenarios.

#### **User #3:**

User #3 tried to skip account setup, so I created an error page that forced them to complete the basic information. Once in the app, user found the home page easy to use, and navigated through the quick buttons as expected. User suggested adding distance amounts when searching for an item in Scenario #1 to reflect how close an item was located. This influenced the slight design change for these types of results.

#### **User #4:**

User #4 set up their account with ease, and was able to use the navigation easily. This user particularly backed away whenever an open text box requesting information was presented. This informed me that I needed to add auto-fill capabilities. User was able to complete all other tasks without fail.

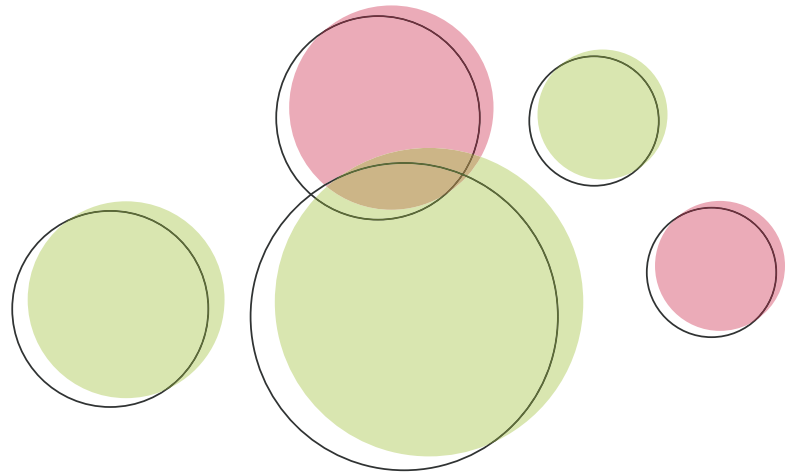
#### **User #5:**

User #5 completed the first two scenarios with ease, but struggled with where to find the detailed information for scenario #3’s picky palette. I added a preferences category in the item description page so they could plainly see all the additional information that had been collected about a dish from other users.

## **FINAL DESIGN**

The final design has specific screens to show how the user experiences each stage of the application.

**See Appendix I for final design.**



Delivery

## WEBSITE

Choosing a URL turned out to be one of the bigger challenges in this process, as “foodie” had already been purchased on many common URL extensions. This led to considering a non-profit angle. While I wanted it to be profitable, being able to give back to the local community would help draw attention and adoption. It would also add an extra edge in the competitive space. After additional research, I chose [www.imafoodie.org](http://www.imafoodie.org), and decided to refer to our users as a community to drive home the non-profit role. I ran the idea past several potential users and it drew more excitement than expected.

I chose to use SquareSpace as my website host. This program offered robust templates and the functionality I needed for my transactional donation capabilities. The hosting site allowed for very easy customization that worked well for my needs. Some challenges I encountered were related to lack of knowledge of the platform, but I was able to quickly learn how to navigate the controls to achieve what I wanted for a website design. SquareSpace also provided the opportunity to inject custom header coding, giving even more flexibility with the design. This allowed me to pull through my branded font for a seamless brand experience. The ability to set up a store provided what I needed to accept direct donations for the nonprofit aspect of *foodie*.

I also asked two users to explore the website and found a few areas that needed improvement. This included having language around the donations verifying that 100% of proceeds would benefit the organizations listed. I also added increments to the donation storefront to allow users to choose their level of investment. I used the increments of five, 25, and 50 dollars as that seemed to be the most common donation increments when I reviewed other nonprofit and fundraising sites. The store allows users to multiply increments as needed to raise the total quantity, and does not limit the amount.

Visually, I designed the website to align with the look and feel of the app, keeping it simple with all the major content on the main screen. I set up easy navigation for below the line content by using a consistent header menu at the top. The header is always present on screen not matter where you are on the page. I also added a news and Twitter feed, helping to keep my site content fresh.

Upon completion of my website, I launched it live through SquareSpace. After reviewing the site on a mobile phone, a few tweaks were made primarily to the way copy reflowed on certain pages. SquareSpace gives me the opportunity to make live updates on the fly so I will continue to do so as I receive feedback.

**See Appendix J for website design.**

## SOCIAL MEDIA

During development of the website, I realized I wanted to have a steady stream of fresh information and decided a blog and Twitter account would be the right fit. The real-time nature of these types of channels keeps a fresh spin on the site. However, I wanted these channels to serve as a connection to content being created on other sites as well, linking directly to experts in the field and actual venue content channels.

The Twitter account (@foodieBaltimore) follows and retweets content from many local restaurants and critics, showcasing new menu items, specials, and food reviews. The blog consists of reposted content from news outlets and other blogs, and is more broad in nature but still focused on dining out.

As my followers continue to grow, this will also become an outlet to plug the app once available for download.

**See Appendix K for social page design.**

## COST OF DEVELOPMENT

I estimated that the cost of development would be \$1,000-\$1,500 upon completion of the final thesis project. Here's a breakdown of actual expenses and future budgets for further development:

### Research

- Google Forms: Free
- Facebook/email distribution: Free
- Survey raffle winner: \$50

### Design

- Creative Cloud Subscription: \$30/month x 24 = \$720

### Website

- Domain registration: \$20/month
- Hosting Services: \$130/year
- Website Template: \$50

### Legal

- Trademark Application: \$225 per category
- Copyright Application: \$55

## Personal commitment

- 12 Personal Days at Work

## MAKING IT OPERATIONAL

There are two challenges to making this app operational. The first is the lack of data from restaurants. *Foodie* only focuses on one part of the dining experience—choosing the dish. There is not one place to go to find this kind of data around menu items, at least not one that's publicly accessible. That means I will need to input data from restaurants individually, making quarterly updates at a minimum to keep the content fresh especially since menus often change with the seasons.

To cover costs of this manual entry, I can charge a set-up fee based on the size of the menu. Restaurants would then be charged a monthly fee to continue on the platform and receive quarterly updates. This may speak to the need for restaurants to have access to the data entry system so they can update as they please and I would reduce the monthly charges as such.

The second challenge is monetizing it in a way that makes it valuable for restaurants to participate at a cost in order to keep it free for consumers and cover operational costs. My solution to both challenges the potential to team up with the appropriate partner.

I chose *OpenTable* because of the robust community of users and restaurants participants, as well as the operating model to create revenue. There are three main areas for building revenue that include subscriptions, reservations, and add-ons such as promotional opportunities within the app.

Subscriptions will be the easiest way to offset the cost of inputting initial menu data, and would be charged as a one-time fee for restaurants, with quarterly fees for updating and reporting.

I've incorporated a connection to *OpenTable* that allows users to continue from a dish selection directly to the restaurant's page within *OpenTable* to complete a reservation. I could charge *OpenTable* a lead generation fee for reservations completed in this manner. *OpenTable* passes through these charges to the restaurant that benefits from the reservation in the current operational model.

Lastly, promotion through the app was incorporated on the "Home" page. Each time a user logs into the app, a dish will be suggested to them on the "Home" page. Clicking this link directs the user to the item information page and a link to make a reservation, or save it for later on their "Favorites" menu. A direct fee for this advertisement would



be charged to the restaurant on a cost-per-impression basis that provides enough return on their investment. Even without a direct reservation received from the ad, the restaurant and dish will get exposure to a large pool of users providing awareness of new dishes or seasonal specialties.

## WHAT'S NEXT

I've received some interest from investor friends and colleagues, which could help me build the app technology and start it in the Baltimore area. After development, I will go to the streets, offering to waive the set-up fee for restaurants interested in participating in the first 90 days. It will mean a lot of sweat equity, but my hope is that once I get a decent amount of restaurants participating, the app will speak for itself and entice others to join for the full fee.

Another route is to team up with complimentary business models where I think I can add value with the *foodie* app. There are many other platforms that tackle items such as reviews of the restaurant and making reservations. So the community may already exist and I just need to find a way to connect it all.

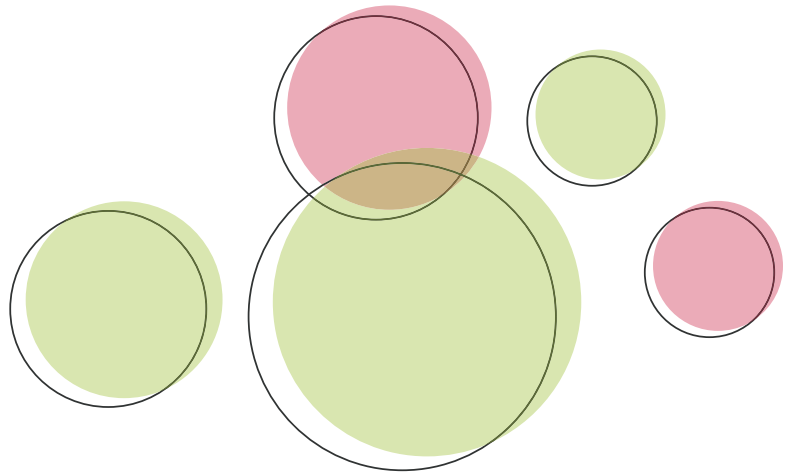
One example is teaming up with a platform that restaurants would use to standardize restaurant information including menus. *OpenMenu* is a platform that does just that, and has created a beta API for use in the development of technology like mine. Teaming up with *OpenMenu* could provide me with the back-end data feed that I need, which would also reduce the cost for restaurants to participate.

Ultimately, I'd like to work with *OpenTable* to either partner with their technology, or sell them the concept and design for incorporation into the current *OpenTable* app as added functionality. They have a very broad user base that would make for a faster go-to-market strategy.

## REFERENCES

- Appy Pie. (n.d.). Retrieved from <http://www.appypie.com/restaurant-app-maker>
- Babich, Nick. (2016). Mobile Design Best Practices. Retrieved from <https://uxplanet.org/mobile-design-best-practices-2d16d37ecfe#.j3gcdp75m>
- Chow Now. (n.d.). Retrieved from <https://www.chownow.com/>
- eZee eMenu (n.d.). Retrieved from <http://www.freeemenu.com/index.php>
- FoodiesFeed (n.d.). Images retrieved from <https://foodiesfeed.com>
- Garland, Philip. (2011). Yes, There is a Right and Wrong Way to Number Rating Scales. Retrieved from <https://www.surveymonkey.com/blog/2011/01/13/how-to-number-rating-scales/>
- Jain, Richa. (2015). 7 Best Practices for Designing a Mobile User Experience. Retrieved from <http://www.sitepoint.com/7-best-practices-designing-mobile-user-experience/>
- jQuery By Example. (2014) 10 Awesome Mobile Menu plugins and tutorials. Retrieved from <http://www.jquerybyexample.net/2014/02/mobile-menu-jquery-plugins-and-tutorial-list.html>
- Maitre'D. (n.d.) Table Service Restaurant POS Software. Retrieved from <https://www.maitredpos.com/products/restaurant-pos-software>
- Menuism (n.d.). About Menuism. Retrieved from <http://www.menuism.com/about>
- Miller, Eleanor. (2011). OPENTABLE EXPLAINED: Here's How The Company Makes Money. Retrieved from <http://www.businessinsider.com/opentable-explainer-2011-10>
- Mitroff, Stephen R. and Sharpe, Ben. (2014). Crowdsourcing with Mobile Apps Brings 'Big Data' To Psychological Research. Retrieved from <http://www.apa.org/news/press/releases/2014/12/crowdsourcing-apps.aspx>
- National Restaurant Association (2016). Facts at a Glance. Retrieved from <http://www.restaurant.org/News-Research/Research/Facts-at-a-Glance>
- OpenMenu (n.d.). About. Retrieved from <http://openmenu.org/about.php>
- OpenTable (n.d.). Retrieved from <http://www.opentable.com/about/>
- Potter, Caroline. (2010). How OpenTable Works for Restaurants. Retrieved from <http://blog.opentable.com/2010/how-opentable-works-for-restaurants/>

- Raths, David. (2015). Using Crowdsourcing, Mobile Apps to Re-Think Participants' Role in Clinical Research. Retrieved from <http://www.healthcare-informatics.com/blogs/david-raths/using-crowdsourcing-mobile-apps-re-think-participants-role-clinical-research>
- Sexton, Patrick. (2016). Use legible font sizes. Retrieved from <https://varvy.com/mobile/legible-font-size.html>
- Shadbolt, Peter (2015). There's an app that needs you: the rise of mobile crowdsourcing. Retrieved from <http://www.cnn.com/2014/11/13/tech/mobile/tomorrow-transformed-crowdsourcing-apps/>
- Spector, Nicole. (2016). When It Comes To OpenTable, the Restaurant Industry Has Few Reservations. Retrieved from <http://streetfightmag.com/2016/05/11/when-it-comes-to-opentable-the-restaurant-industry-has-few-reservations/>
- The Webby Awards. (2015). Retrieved from <http://www.webbyawards.com/winners/2015/mobile-sites-apps/features-categories/best-visual-design-aesthetic/>
- Wine & Dine, the iMenu (n.d.). Retrieved from <http://www.wine-and-dine.net/index.html>
- Yadav, Ajeet. (2015). 10 UX Design Trends You Shouldn't Overlook in 2015. Retrieved from <http://usabilitygeek.com/10-ux-design-trends-2015/>
- Yelp (n.d.). About Us. Retrieved from <http://www.yelp.com/about>
- Young, Nancy. (2014). 30 Tasty Food Mobile App Designs for Foodies. Retrieved from <http://webdesignledger.com/food-mobile-app-designs-for-foodies>



# Appendix



## APPENDIX A

### Survey data

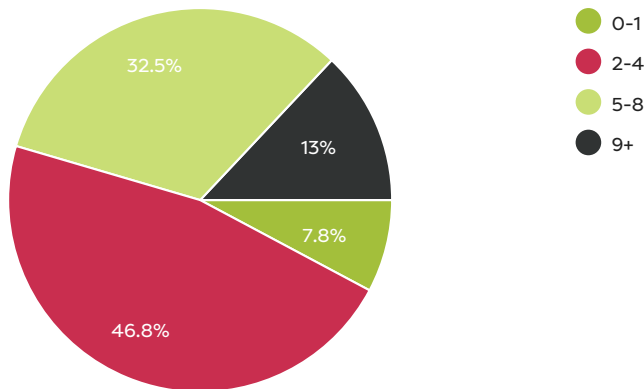
**Customer Survey:** The target audience included end users of the app with competency in using digital platforms.

Sample: 77 respondents, 25-55 year olds, mixed income/ethnicity/education

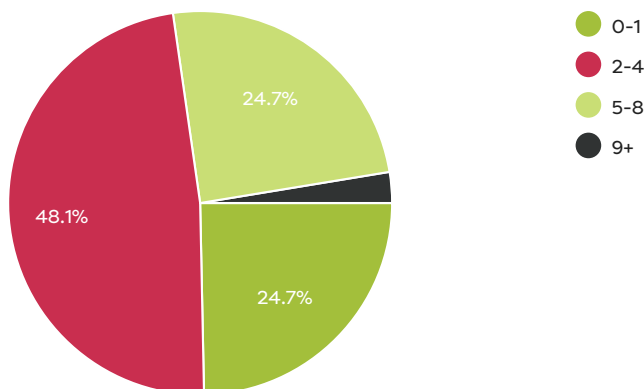
Methodology: mix of quantitative and qualitative questions, 20-25 count

Sample questions:

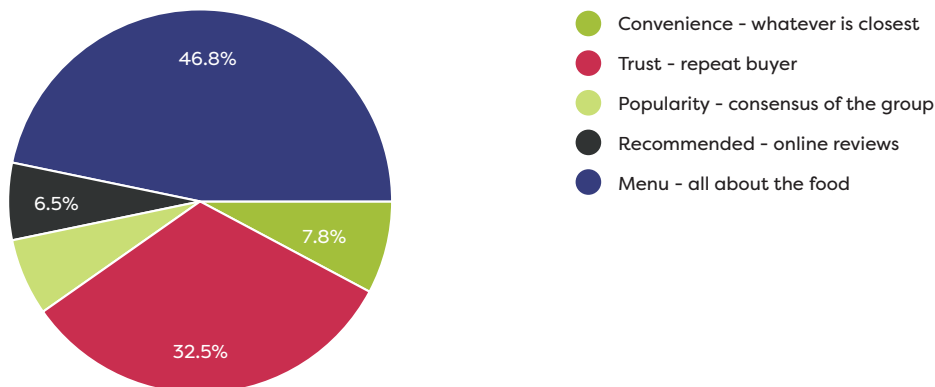
1) How often do you dine out per month?



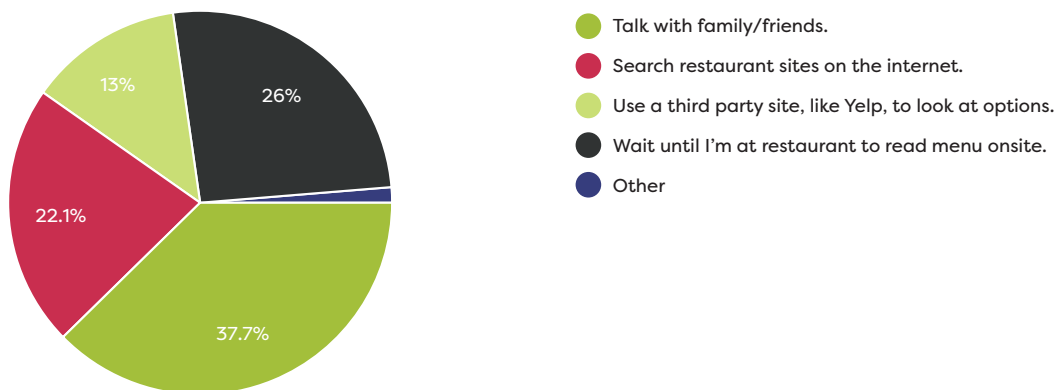
2) How often do you order delivery or takeout per month?



3) What words describe best how do you decide WHERE to eat?



4) How do you decide WHAT to eat?

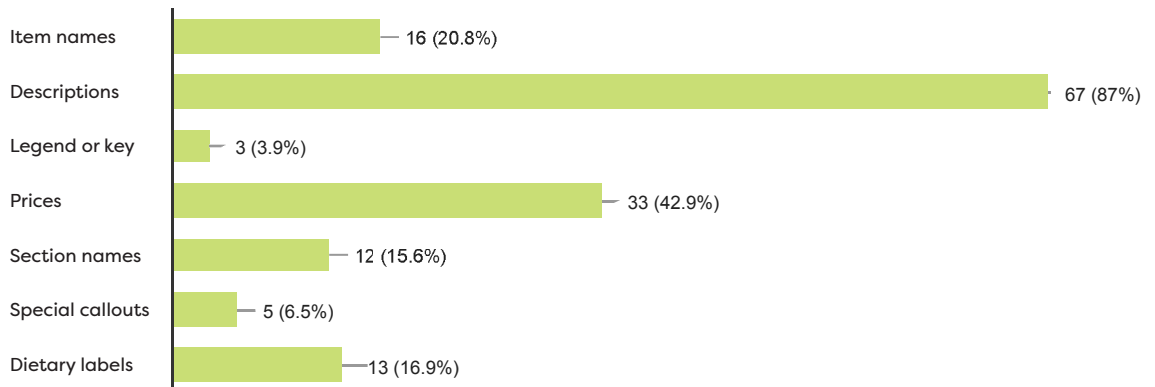


5) What ways do you think menus could be improved and/or more useful?

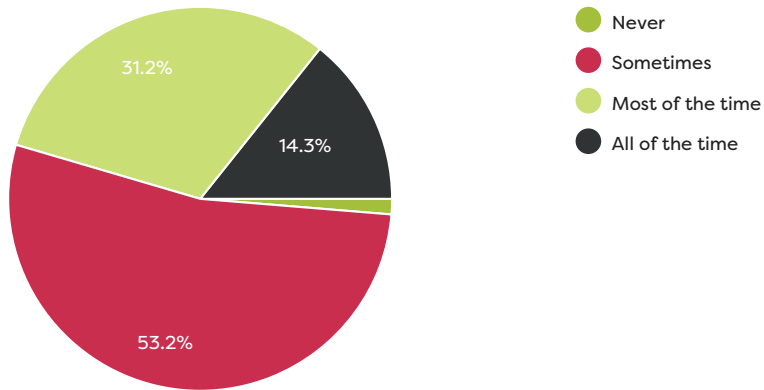
Highlight specialties of restaurant and incorporate a customer review Healthy, gluten free	More comments on quality of food. Local or organic. Etc Ingredients list	Show popular dishes
Include nutritional information	Add pictures and descriptions	Like seeing if food is prepared fresh and/ or made to order.
Including calorie counts, nutritional info on menu	More food item descriptions/ recommended dishes. Healthier options	Nutrition info
More healthy choices	Description n calories	Descriptions of dishes and way they are prepared
Descriptions is there aren't any	Shorter more descriptive	They could be organized based on prices as well as ideas.
Use great descriptions of the dish.	I like combos and specials	Update and post pictures
Descriptive food terms and techniques	More descriptions	Include ingredients, mainly allergens
	Not sure	Pictures of food
	Health facts	Show the calories of meals

Sometimes less items is better. Too many options on a menu causes my head to spin and then I can't decide	List approx calories. Pictures if exotic food.	Better descriptions
Fewer choices	Bigger prints	Descriptive language
Ingredients	Show pictures of each dish	Daily specials added
Print large enough to read	Need description	If there are words that the lay person non chef wouldn't know, define them
Customer favorites listed	Updates	Small/Large size portions
Health information with healthy options	Organized better	Have more healthy choices
Descriptions	More complete descriptions, prices on on-line menus, specials listed on the menus	Better descriptions, less options (some restaurants have TOO many things to choose from)
Lose the printed copies and go to menu on a tablet.	Accurate pricing, pics, divided by logical categories	More details
Include prices	Salad should always be included. I love me some salad!	Nutrition information for all items Can be found more readily on-line More gluten free
Add nutritional information	Nutritional info	Clearer descriptions
Dietary labels	I appreciate nutritional information when it's available.	Include more pictures of food items More pics
Simple, easy to follow categories and descriptions	Including up to date menu items, and prices	Always showing signature dishes
Offer half portions	I like descriptions	
List price n ingredients	Pricing, descriptions	
More simply stated !		

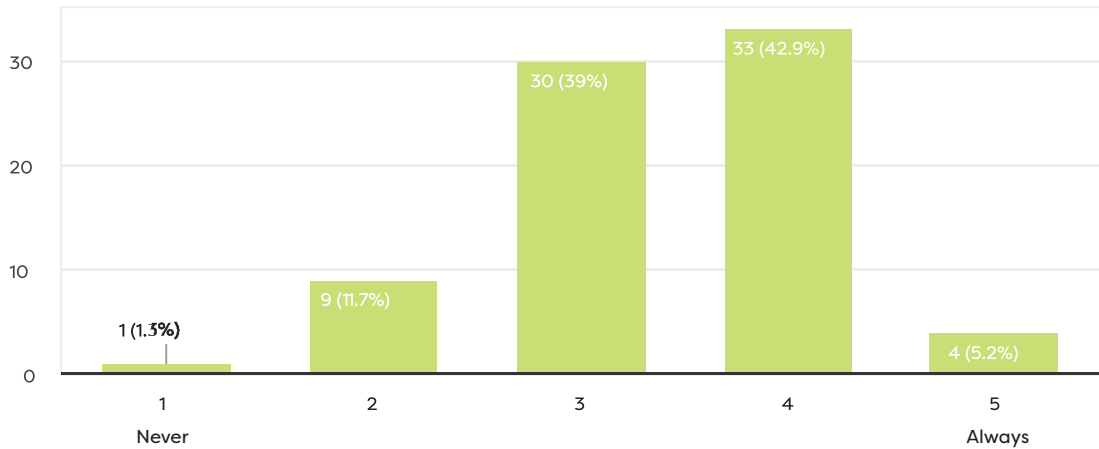
6) What is the most helpful part of a menu?



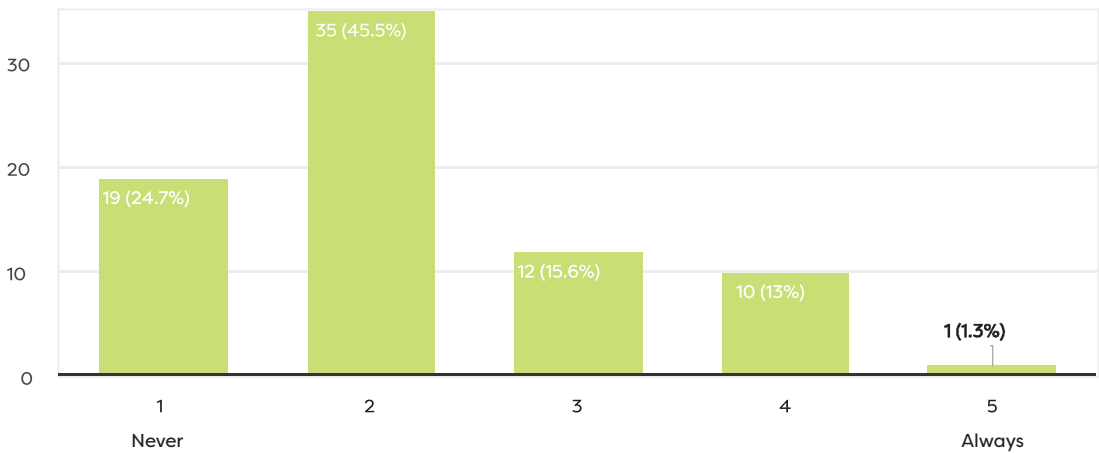
7) How often do you look for menus on the Internet?



8) How often do you find on-line menu information that is up to date?

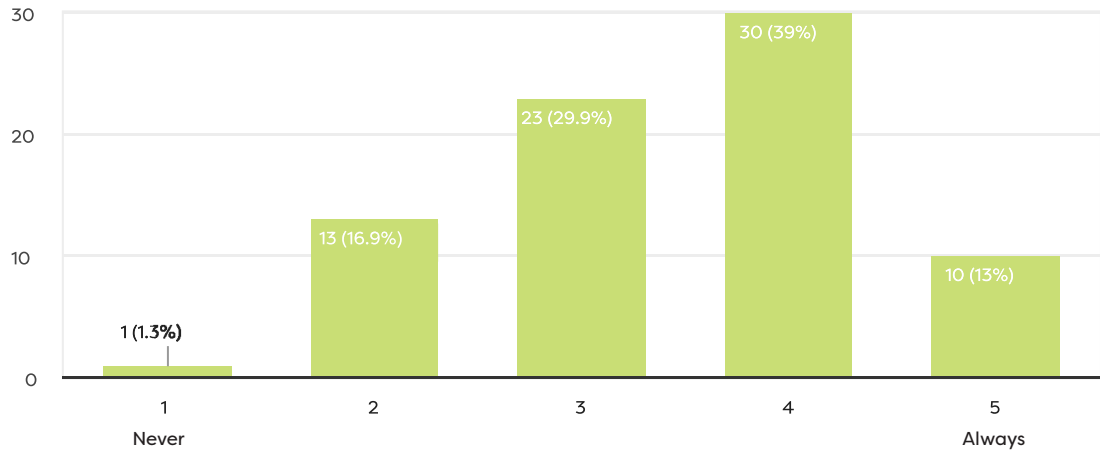


9) How often do you find on-line menu information with daily specials noted?

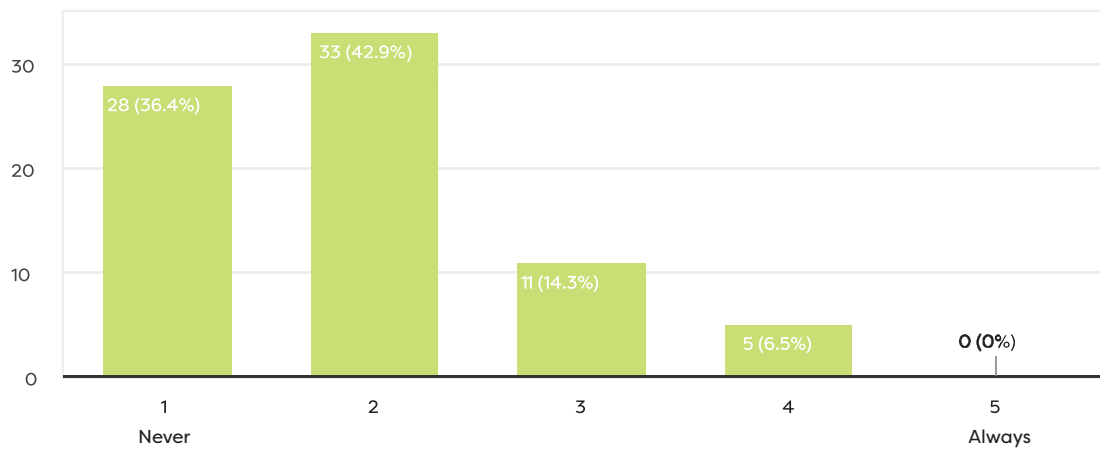




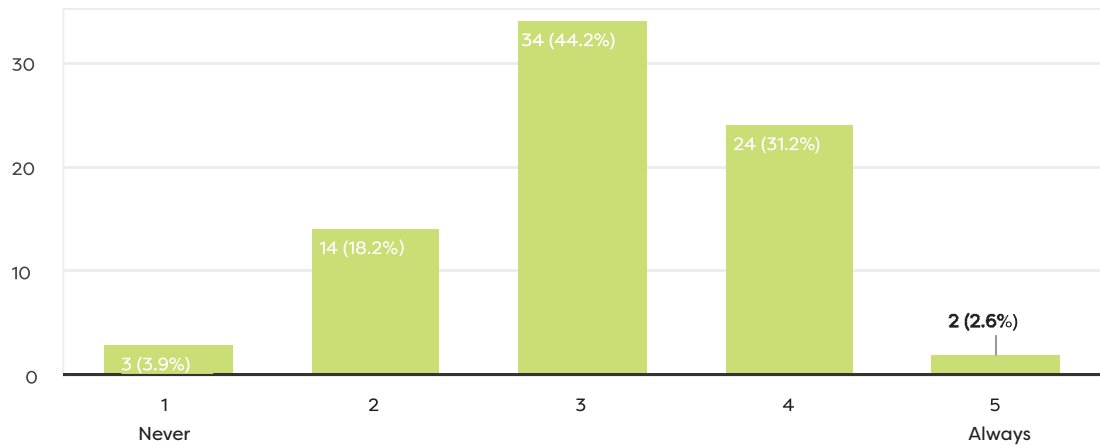
10) How often do you find on-line menu information with prices?



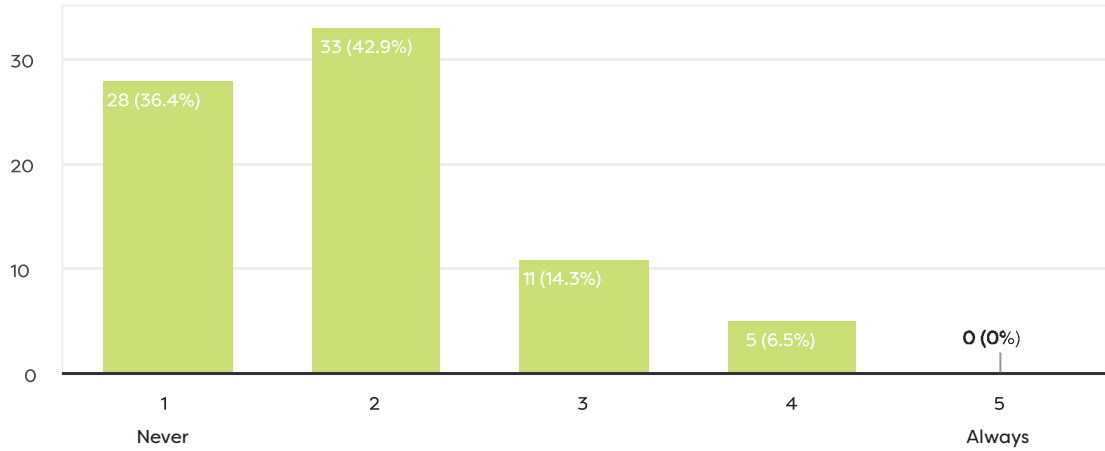
11) How often do you find on-line menu information with food item reviews?



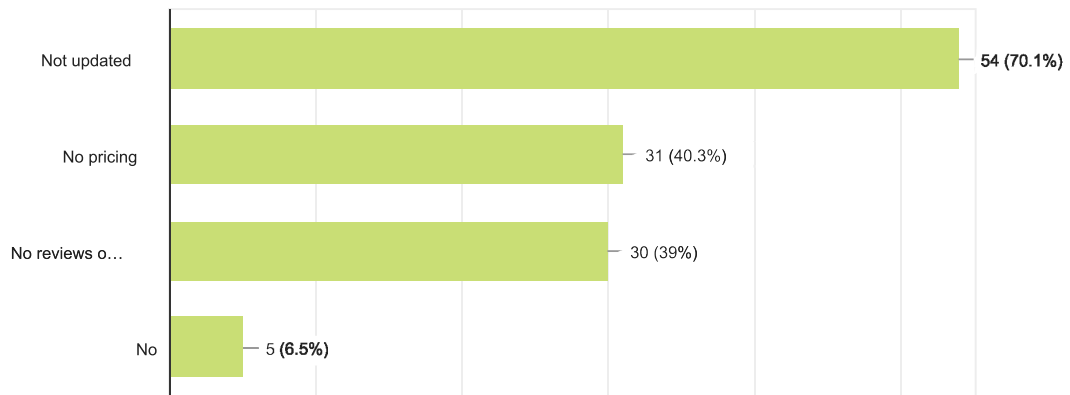
12) How often do you find on-line menu information with food item descriptions?



13) How often do you find on-line menu information with detailed menu item ingredients?



14) What do you dislike most about on-line menus?

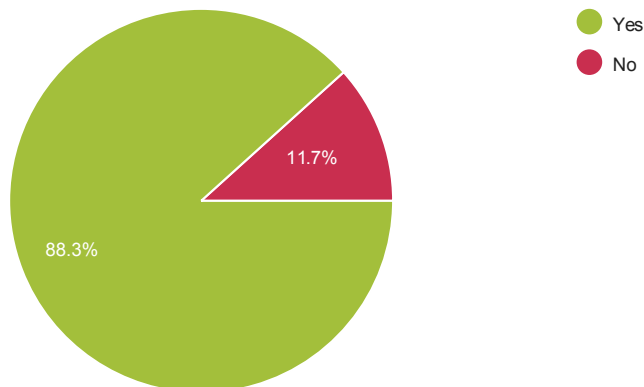


15) How could on-line menus be improved or more useful?

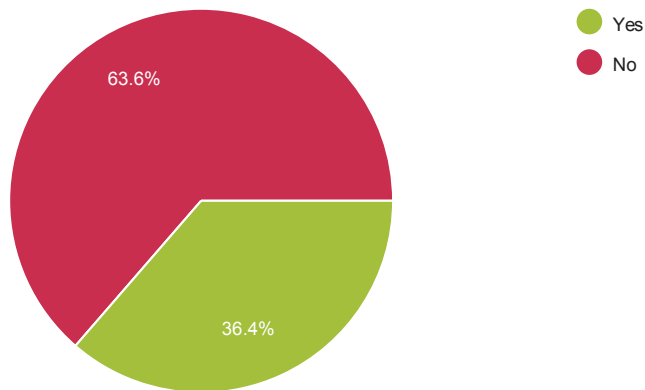
Updates	More complete descriptions, prices on on-line menus, specials listed on the menu	Staff making regular updates
Updates	Pricing/reviews	More pictures
Update	Put prices on menus	More up to date info and description of food
Update	Customer feedback on menu items	Pricing
Include prices	Show prices	Update them!!
Include prices	List more ingredients	They can be updated on a regular basis.
Prices, specials	Make sure pricing is available and the food options are current	Maybe a date when pricing or content was last updated
Keep updated		
Prices		

Updated menus	The ones that at scanned PDFs are terrible	More interactive--less use of PDF menus
Updated foods/prices		
Reviews	Some don't even have website frustrating to find on-line.	Be accurate
Updated regularly	Include descriptions	Update!!
Calories		More details
List specials	Be complete and have daily specials if that applies	Be up to date with descriptions
More interactive.	Be more accurate	Nothing to my knowledge
Full menus... real layout	They could be the same as in the restaurant.	What I picked above
Have more pictures		Easier to find and navigate
Ratings	Always have updated pricing and items.	More description of food
Not sure	Daily specials	Include ingredients, namely allergens
Include pictures of food items	Kept more up to date, include daily specials	Calorie content
Updated !		Show date when it was last updated.
More Pictures	Make them as similar to the actual menu you get/see at restaurant.	Up to date
Having a category to go into the top rated items at the establishment	More up to date	As above. Especially the updating and pricing
Standard format among all menus	Updated	Be able to click on something and list ingredients; also put where ingredients are sourced
Include pricing	Constant updating	Up to date and prices advertised
More info	Descriptions, up to date	
Make sure they are updated weekly.	Include reviews of food items.	
	Pictures	

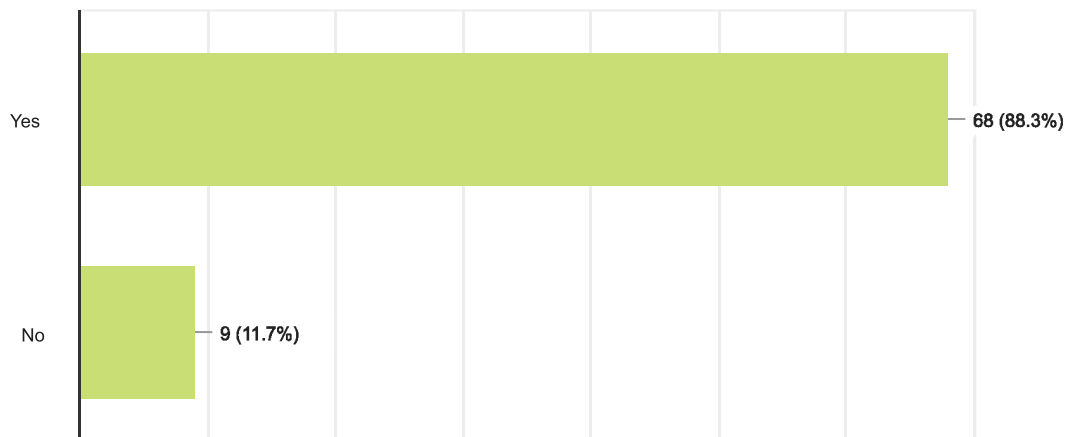
16) Do you read on-line reviews or ratings?



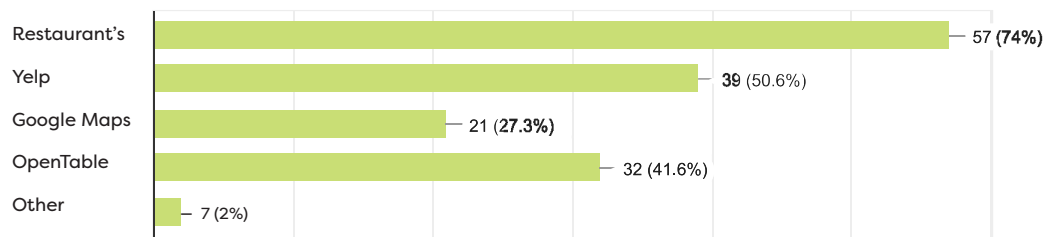
17) Do you submit on-line reviews or ratings?



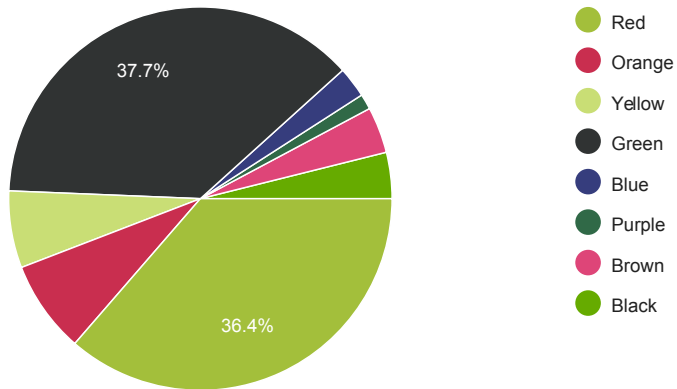
18) If menus included reviews or star ratings by item, would you find this helpful?



19) What apps or websites do you use as it relates to eating out?



20) What color do you most associate with food?



APPENDIX B

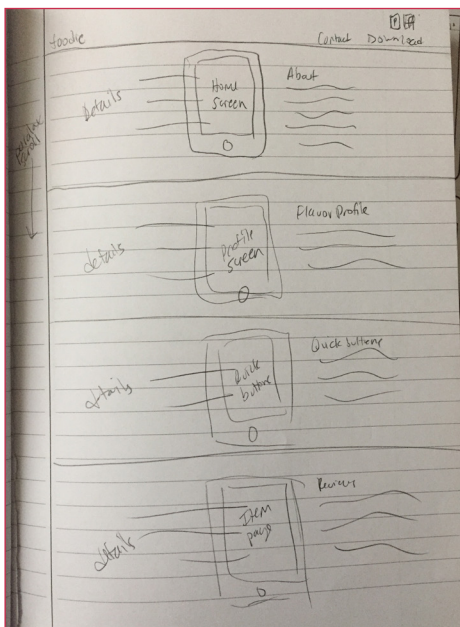
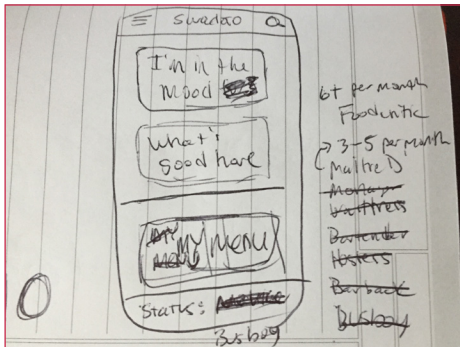
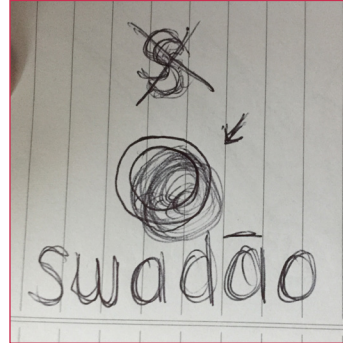
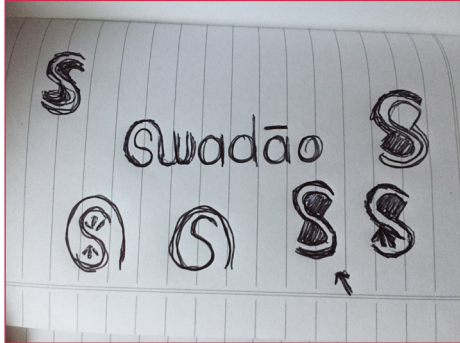
Mood board

This mood board represents the design starting point, and shows elements and styles used to build a cohesive design that delivers an organic, unique, fresh and appealing visual experience for users.



## APPENDIX C

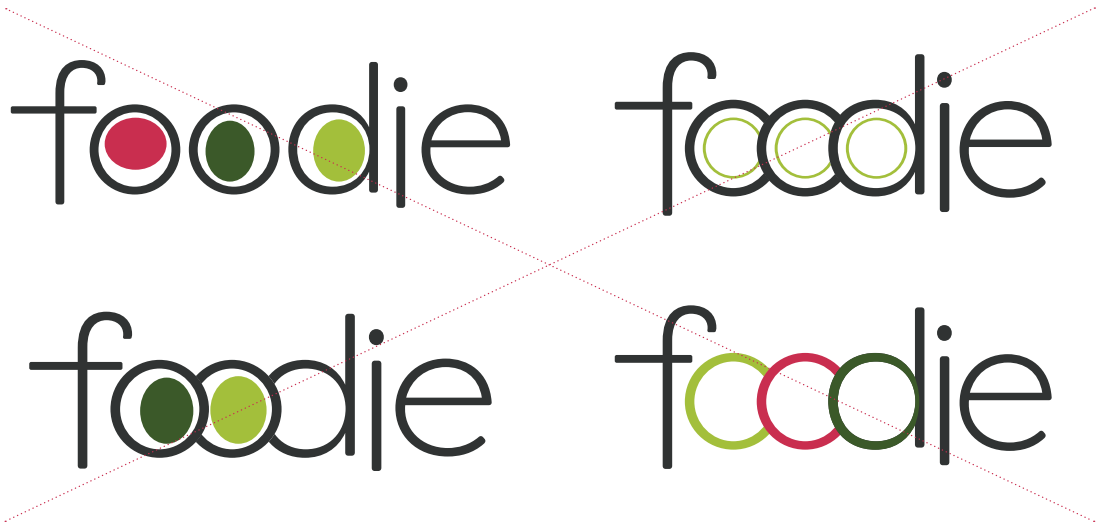
Sketching logo ideas as well as screen layouts allowed me to put my freely moving ideas to paper in a quick manner.



## APPENDIX D

### Logo

Upon finalizing a name, there were several iterations of logos developed and screened qualitatively with other designers and potential app users.





## APPENDIX E

### Brand elements

#### Logo



#### Font

**Filson Pro**  
*Filson Pro*  
**Filson Pro**  
*Filson Pro*  
**Filson Pro**  
*Filson Pro*  
Filson Pro  
*Filson Pro*

#### Colors



#### Icons & Photography



foodie

## APPENDIX F

### Personas

#### Persona #1:

##### **Jane the Social Butterfly**

Age: 56

Status: Married, Empty-nester

Occupation: Office Manager

Location: Baltimore, MD

Jane manages a busy law office in downtown Baltimore. Many people call her the boss, including her family. She's a social butterfly at work and at home – a non-stop talker. She loves hosting parties, dining out with friends, and on-the-fly overnights to NYC.

She's grown up in Baltimore, and is the go-to lady for all things related including where to eat. Colleagues and friends alike are always asking her for advice. And with her experience, she's got plenty to give. The restaurant landscape is always changing though, so Jane is not shy to trying new places either. Her favorite apps include Amazon, Yelp, and Facebook, which she accesses on a weekly basis from her iPhone 6 and her iPad. She's into reading and giving reviews on everything, especially food. She thinks restaurants should take pride in their dishes, and she's willing to help drive more customers to a place if the food measures up. But she's also not afraid to point out the bad. Her recommendations are honest and straightforward.

Jane's user delights:

- Simple user-face with quick access to saved information
- Ability to sort, find, and mark/rate items multiple ways
- Mobile design is most important as she's often on the go
- A social component to connect with others
- A way to make her voice heard above others with reviewer ratings

#### Persona #2:

##### **Steve the Workaholic**

Age: 30

Status: Single

Occupation: Corporate Business Development

Location: Baltimore, MD

Steve moved to Baltimore just two years ago. He is originally from Charleston, SC, but got an amazing new job offer that brought him to the mid-Atlantic. He loves his new job and goes out to eat 3-4 nights per week to entertain clients or mingle with his friends.

He's a tech-savvy kind of guy, with an iPhone 6s that is loaded with apps for everything. The Wallet app, Twitter, and Spotify are some of his favorites. In fact, there's not much Steve does or buys that doesn't include using his phone to research it, pay for it, or brag about it. And when it comes

to dining out, he doesn't have time or room in his work-focused brain to remember which dish he should recommend to his next big client. He wants other people to do the work for him, so he looks like a true Baltimorean even though he's only been here for a short time. If he's got game at the table, it will impress his clients – and maybe even a few ladies.

Steve's user delights:

- Simple but sophisticated design
- Detailed information about dishes, that may even include anecdotal tidbits
- A way to take his own notes about dishes
- Mobile-friendly all the way
- Auto-alerts to save him time from having to search when he enters a restaurant

Persona #3:

**Sara the Well-rounded Mom**

Age: 42

Status: Married, Mother of 3

Occupation: Compliance Manager

Location: Baltimore, MD

Sara is the woman everyone wants to be like. Smart, beautiful, and able to manage a successful career as well as a loving home. On the surface, she's got her act together. Underneath, it's only with the help of her iPhone and iPad, and a little OCD, that helps her keep everything in order. She loves apps like Amazon, Key Ring, Cozi, and Gilt that are easy to use and help her stay prepared for whatever the calendar has in store for the day.

She's trendy and a true foodie. While she may not go out more than once a week, when she does it better be worth it. Trying new places and new foods is a hobby of hers, and she's often out with her husband of twelve years and their other foodie friends. They sometimes even try to replicate dishes at home when they can't get out. Her palate is refined and she's sometimes skeptical of what others may recommend.

Sara's user delights:

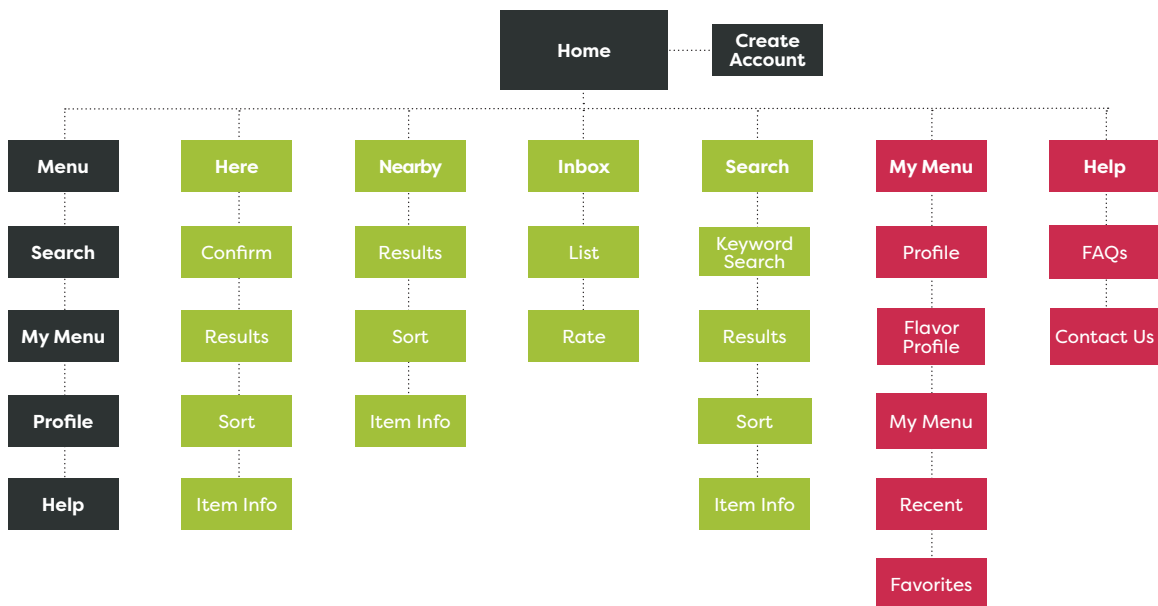
- User-friendly design for mobile or tablet
- Easy navigation and ability to quickly search or input information
- Ratings and reviews that can be easily scanned
- Details on dishes like ingredients and specialty spices so she can try to replicate or stray away from flavor she knows she won't like
- Updated information, especially related to specials and chef's picks
- Personalized just for her

## APPENDIX G

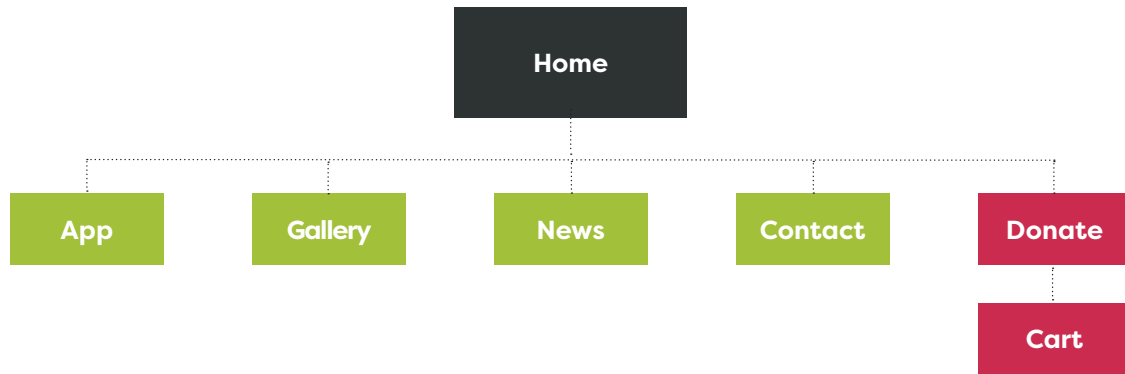
### Site maps

#### App info architecture

- Home
- Search
  - Sort/results
  - Item info: details, rating, previously tried, restaurant link, favorite marker
  - Restaurant info: details, YELP rating, Open Table reservations, previously visit count, restaurant location/directions, recommendations, favorite marker
  - Apply filters
- Browse - here or nearby
  - List sort
  - Item info
- Profile
  - Settings
  - Flavor profile and user rating
  - Favorites/wish list
  - Past reviews/items
- Inbox
  - Reviews needed



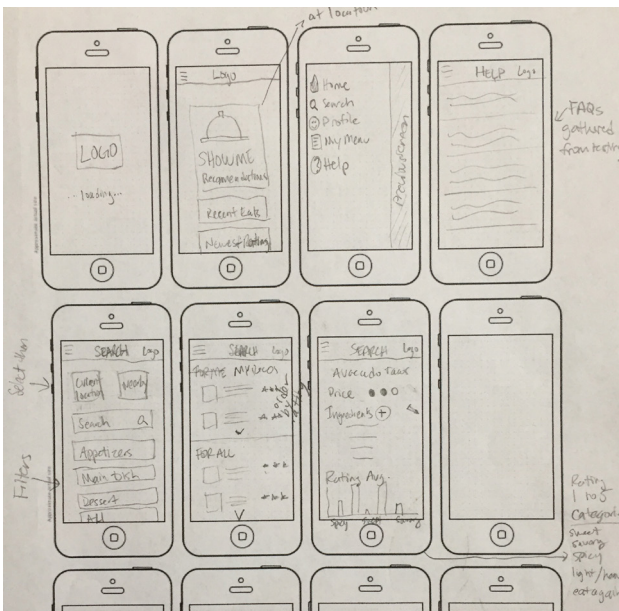
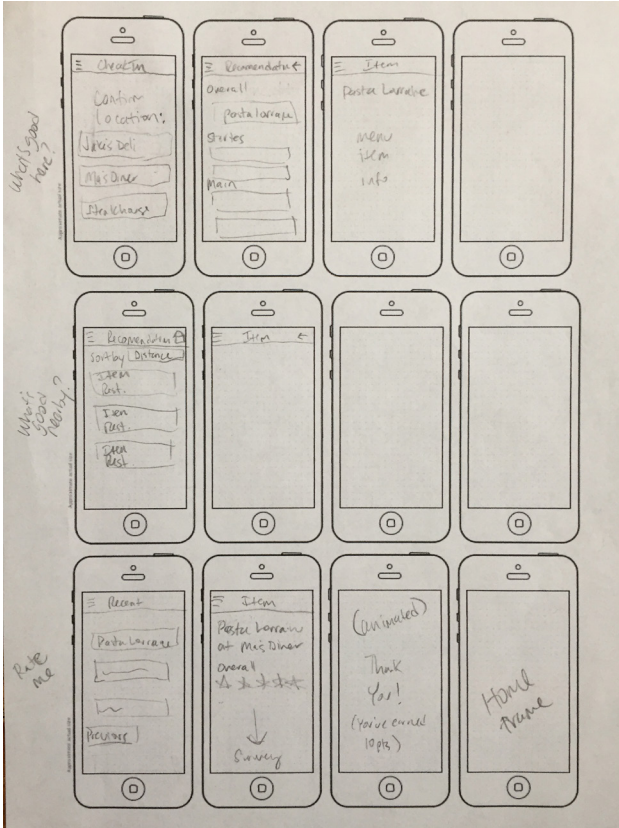
## Website information architecture



Social links and copyright contained in footer.

# APPENDIX H

## App paper prototype sketches



# APPENDIX I

## App digital prototype



foodie

Enter account info:


Username

Password

SIGN IN

foodie

Welcome, Amy!  
Try this:




Here Nearby

SEARCH

Sign In

foodie

Welcome!



Create Account

foodie

Welcome, Xxxxxx!  
Try this:

- Home
- My Menu
- Search
- Profile
- Help

Here Nearby

SEARCH

Legal disclaimers

foodie

Join the community:

Email

Username

Password

Re-enter password

NEXT

foodie


Join the community:

amy.pointer@ubalt.edu

Amy

Password

Re-enter password



foodie

Join the community:

amy.pointer@ubalt.edu

Amy

\*\*\*\*\*

\*\*\*\*\*

NEXT

foodie

Set your Flavor Profile.  
Select your taste preferences:

Not Very

Sweet

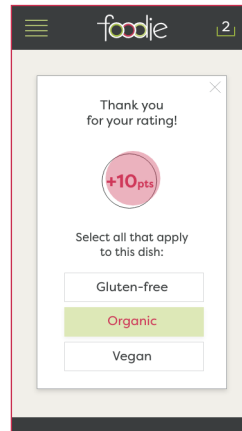
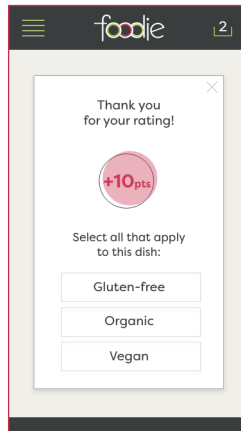
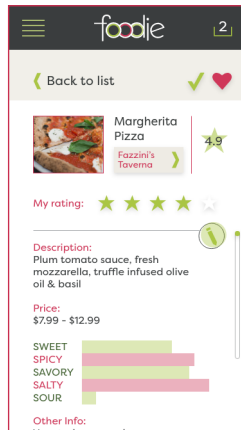
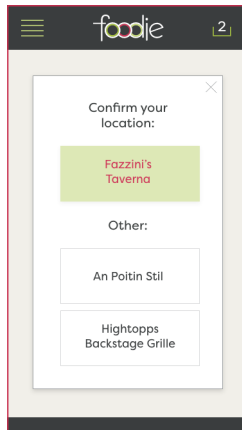
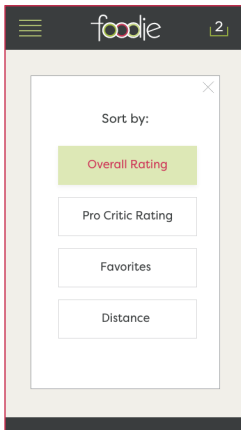
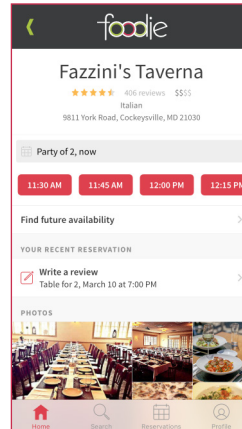
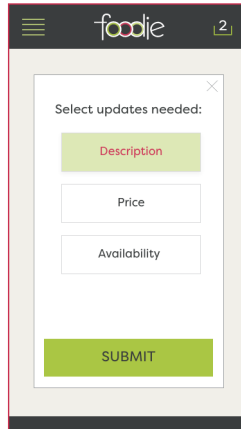
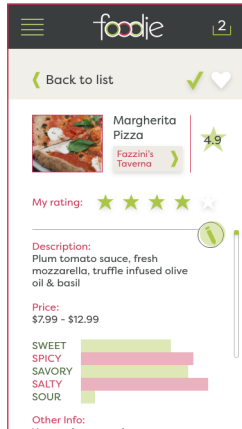
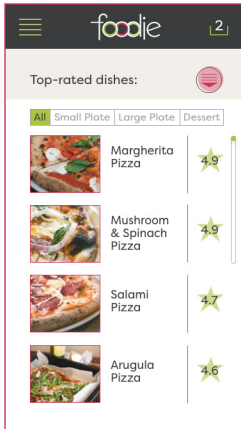
Spicy

Savory

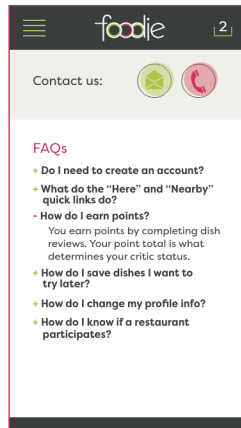
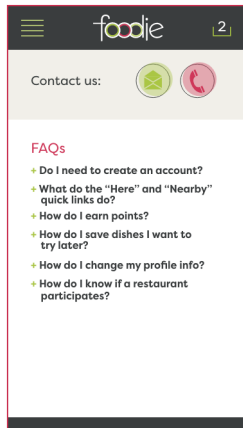
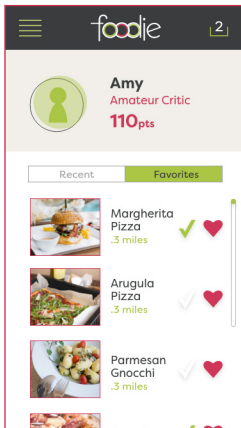
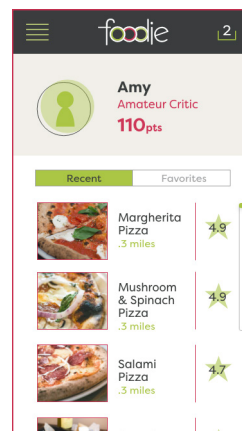
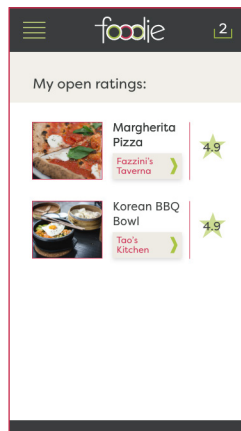
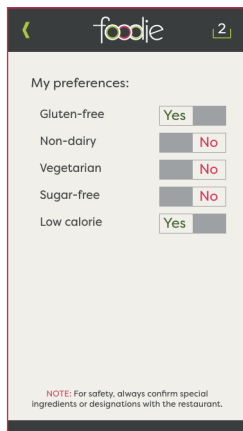
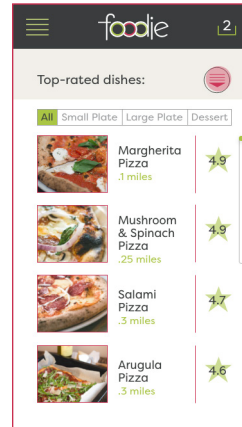
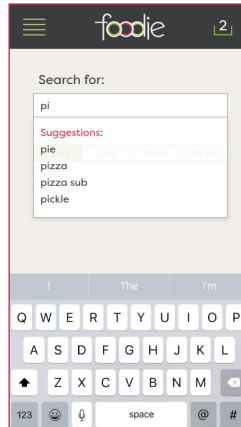
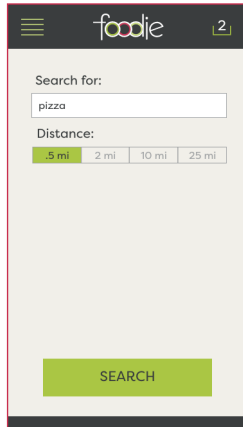
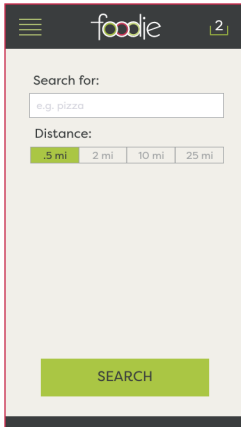
Salty

Sour

DONE

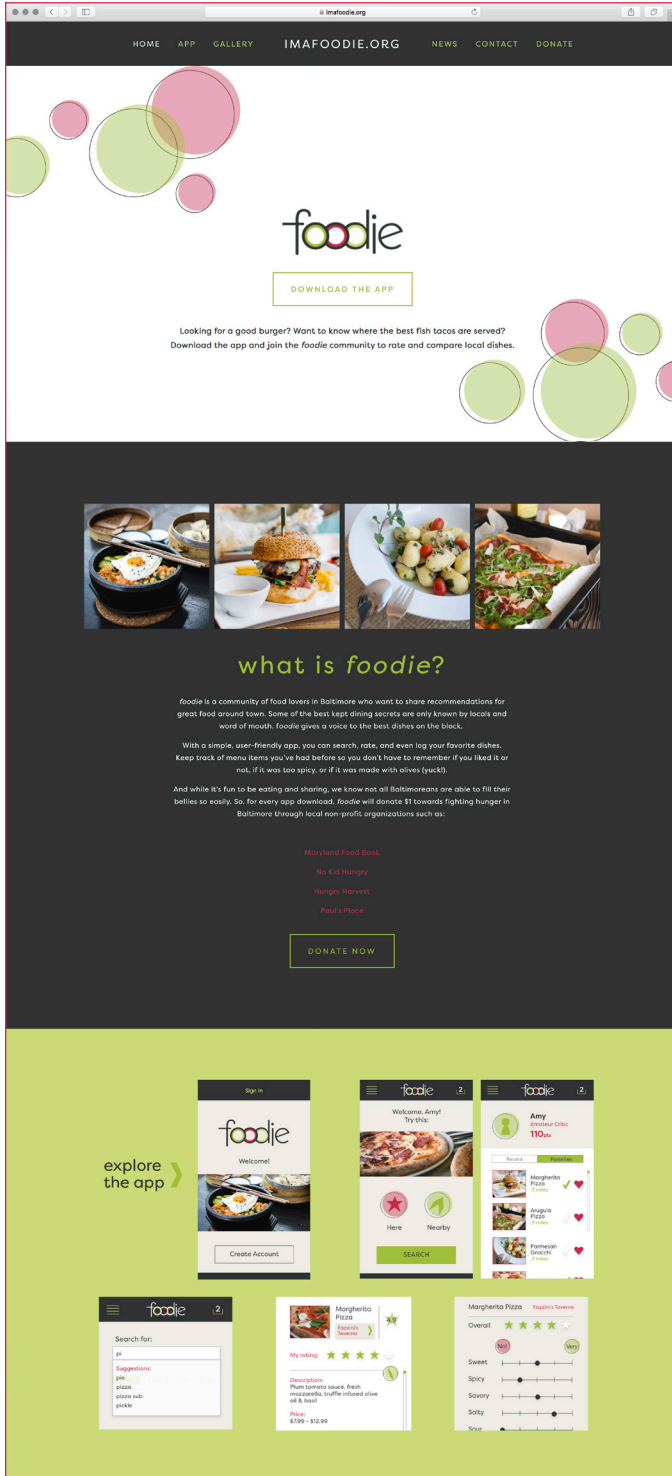






# APPENDIX J

## Website design



## Website design - cont'd

### news & info

MAR 26, 2017

#### NYC Native Comes To Fells Point Kitchen

[Read More →](#)

MAR 26, 2017

#### Spotlight On Late Night Dining

[Read More →](#)

### twitter

RT @Baltimore: Join us for #BaltimoreBrunch at our new Saturday, April 8 with Charlie Bezilla. View our new Brunch menu...  
<https://lov3ap7rhv10h>  
4 months ago

RT @Baltimore: This weekend's dessert special at #BaltimoreBrunch: Buttermilk Shortcake, Gooseberry Jam, Vanilla Bean Ice Cream & F...  
<https://lov3brudlx4r>  
4 months ago

RT @Baltimore: We've covered 4/16 starting at 12pm w/o! be serving lunch PLUS a handful of Brunch dishes AND Resurrection!...  
<https://lov3gqmp2m92>  
4 months ago

[Follow @Baltimore](#)

### contact us

Have questions about the app or our foodie community efforts? Want to be a participating restaurant? Reach out. We will reply...seriously.

Name \*

<input type="text"/>	<input type="text"/>
----------------------	----------------------


First Name Last Name

Email Address \*

Subject \*

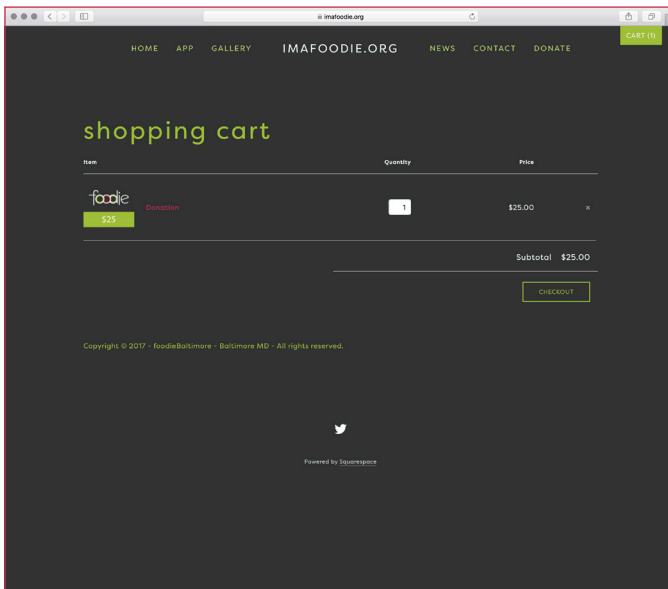
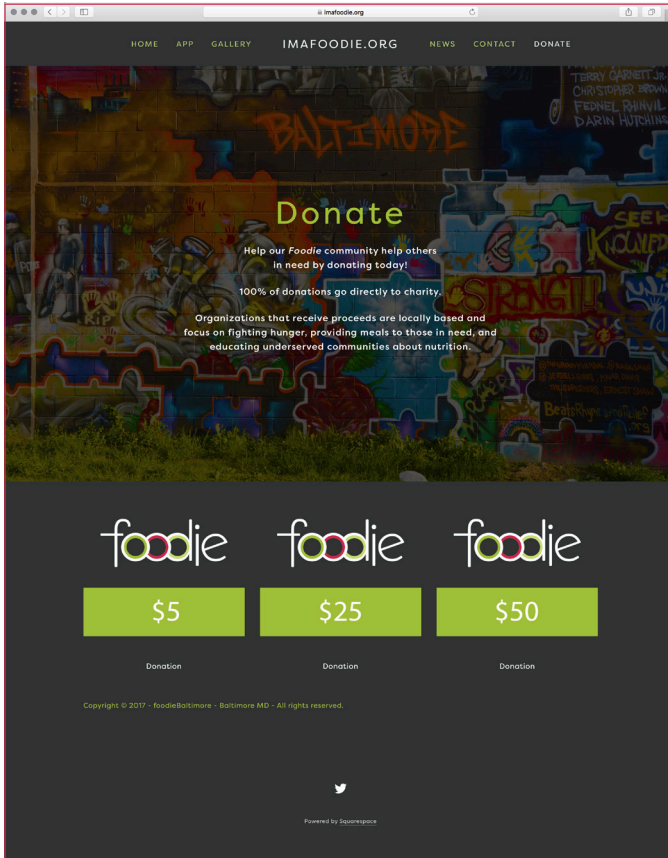
Message \*

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Powered by [SourceSpace](#)

## Website design - cont'd



# APPENDIX K

## Twitter page

The screenshot shows the Twitter profile for @foodiebaltimore. The header features the 'foodie' logo in a stylized font with green and red accents, set against a background of overlapping circles in shades of green and pink. Below the header, the profile name 'foodieBaltimore' and handle '@foodiebaltimore' are displayed, along with the bio 'Because it's all about that dish...'. Location information for Baltimore, MD and the website 'imafoodie.org' are also visible.

The main content area shows a list of tweets. The top tweet is a retweet from 'Kali's Restaurants @kalisgroup' dated April 8, featuring a photo of food with the text 'Join us for #SaturdayBrunch #LiveMusic Saturday, April 8 with Charlie Bezilla. View our new Brunch menu: fellspointavern.com/brunch/'. Below it is another retweet from 'Azumi Restaurant @AzumiBaltimore' dated April 7, featuring a photo of a dessert with the text 'This weekend's dessert special at #AzumiBaltimore: Buttermilk Shortcake, Gooseberry Jam, Vanilla Bean Ice Cream & Fresh Fruit - at Azumi'.

On the right side, there is a 'Who to follow' section with three suggestions: 'UnisysLifeSci&Health @...', 'DJGQue @BdotSanderson', and 'Terra @Ms\_Marshall'. Below this is a 'Baltimore Trends' section listing various topics and hashtags such as '#RaganHealthCare', '#LicenseToDiscriminate', and '#WednesdayWisdom'.