

Charles Wu

Design Technologist

Portfolio of Work

Summary



Back when I was an engineering student, I first learned how products used to be designed for the “average” user. The problem with that was no one is truly average on all accounts—so engineers used research, measurements, and insights to build better products: clothing had multiple sizes, equipment had adjustable levers, and the science of ergonomics evolved. What used to be designed for the non-existent average, was now be designed with tolerances for actual human beings.

The techniques I learned back then regarding user-centered design and human factors introduced me to the world of user experience and successively, digital product design. It taught me to look at problems & solutions through data-driven evidence, which brought me to the realization that all problems are unique.

Knowing frameworks and methods can help towards creating a solution, but nothing delivers more impact than experience, intuition, and the thirst for finding answers to the never-ending question: “Why?” My drive to find that answer is why I love technology and product design.

Charles Wu

About me



Engineer

- Waterloo grad, previously Android/iOS/Web developer

Traveler

- Admirer of international cultures, patterns, and architecture

Civic Tech enthusiast

- Active member and advocate for Civic Tech Toronto

Climber of rocks and walls

- I get to work on physical and mental problem-solving skills

Aspiring CSS-Master

- W3C member and contributor, technology experimenter

Companies I've worked for



Highline Beta

McKinsey
& Company



Portfolio Overview

1. CareerJSM

Job Search Web Application



2. SimplyMade

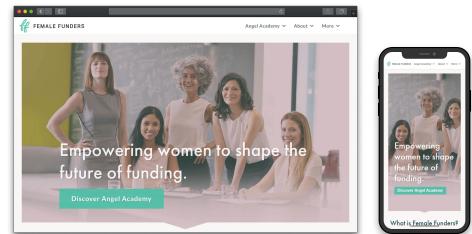
Meal-kit venture



SIMPLYMADE

3. Female Funders

Angel Investing Education Platform



1. CareerJSM: Job Tracker

CareerJS: Job Tracker

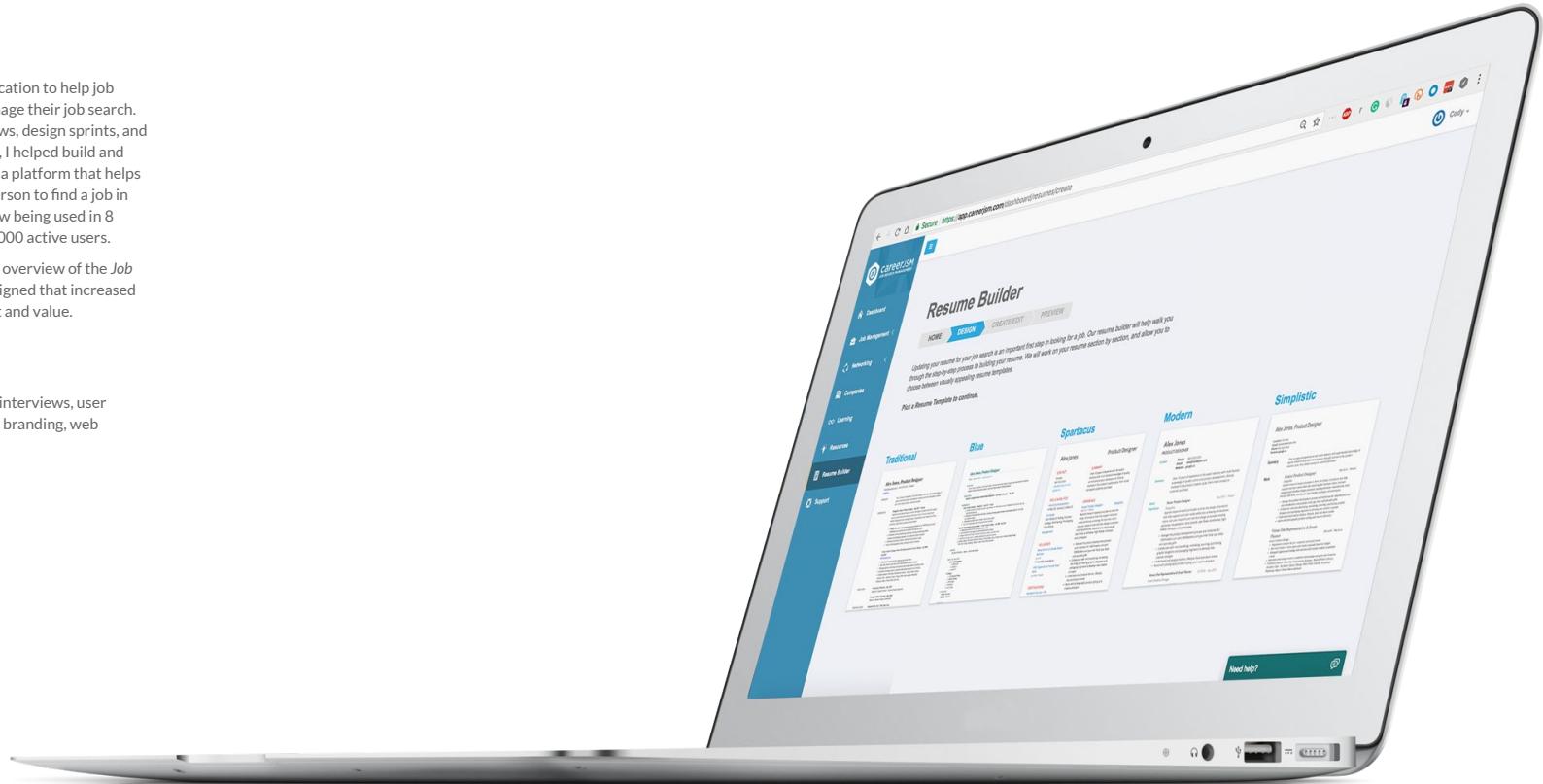
Summary

I designed a web application to help job seekers track and manage their job search. Through user interviews, design sprints, and iterative deployments, I helped build and pivot the product into a platform that helps train and coach any person to find a job in today's market. It's now being used in 8 countries, with over 6000 active users.

The following gives an overview of the *Job Tracker* feature I redesigned that increased customer engagement and value.

Skills Applied

Interface design, user interviews, user research, copywriting, branding, web development.



CareerJSM: Job Tracker

Background

Job-seekers have a lot to worry about. Sometimes, they've been out of the job hunt for a while and need to refresh their skills to compete. If they've just lost a job, they can be in a sensitive emotional state so it's important to be empathetic and nurturing through their difficult time. CareerJSM was a small ~10 person startup that sought to help these people out by offering tools and education to help them find their next job.

I was in charge of the user experience of the app, so I was responsible for defining product features, creating designs, as well as assisting the engineering team with front-end development. Although I designed several features for the app, this case study will focus on a single feature: the *Job Tracker*.

Job Tracker					
Status	Position	Company	Location	Added On	Job Board
Offer Made	Design Engineer	Institutions Incorporated	Toronto, Ontario	2018/04/09	
Bookmark	Design Engineer	Low Tide Arts	Toronto, Ontario	2018/04/09	
Interview	Développeur	Google		2018/04/11	
Interview	Electrical Technician	Low Tide Arts	Toronto, Ontario	2018/04/09	
Bookmark	Night Shift Manager	Low Tide Arts	Toronto, Ontario	2018/04/09	
Applied	Partner	Firetronics Consulting	Toronto, Ontario	2018/04/09	
Applied	Product Manager	Institutions Incorporated	Toronto, Ontario	2018/04/09	Indeed
Applied	Recruiting Consultant	Institutions Incorporated	Toronto, Ontario	2018/04/09	
Bookmark	Security Supervisor	Firetronics Consulting	Toronto, Ontario	2018/04/09	

The Job Tracker's original layout. The data were dense and hard to interact with.

The Need for a Better Job Tracker

To address our user's needs, I conducted user interviews and surveys to find pain points and areas of improvement. One common problem that I discovered was that the Job Tracker didn't provide any insights or actionable steps. User engagement was low, the navigation was tedious, and the information display was very dense.

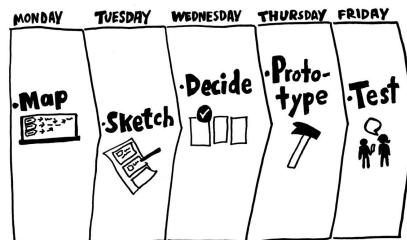
I decided take a week to do a Design Sprint with the product team to explore and test new ideas. The team—composed of developers and business/ops roles—was familiar with the concept as I had used it in designing another feature, so I knew this would be a good choice.

Measuring Success

Based off of the data I found after interviewing users, I set a baseline goal that I wanted the update to meet:

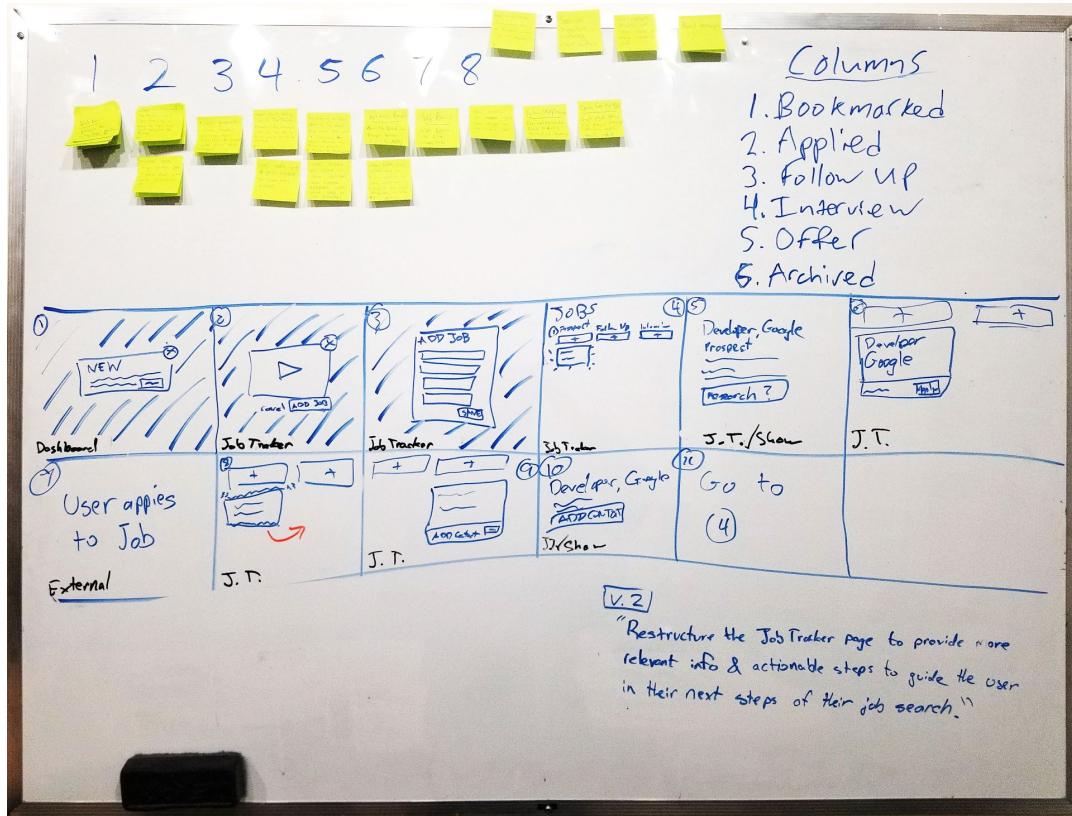
1. Increase engagement (+50% usage rates)
2. Increase usability metrics (\uparrow customer satisfaction, \downarrow task time)

Having set preliminary goals, I went on to prepare for the week-long Design Sprint, creating slides, documentation, and examples for the engineers and business/operations roles to work collaboratively.



The schedule for the week, from Jake Knapp's Design Sprint. 3 days are spent on ideation, with the latter 2 days spent on prototyping and testing.

CareerJS: Job Tracker



Design Sprint

I facilitated the sprint with the team to search for better solutions. After much discussion, sketches, and deliberation over 3 days, we ended up with a rough storyboard outline for how the new feature would work, function, and feel. The functional goal was defined to be **"restructure the Job Tracker page to provide relevant info and actionable steps, to guide the user in the next steps of their job search"**. This was the mantra that I repeated as I guided the team in collaborating and brainstorming ideas.

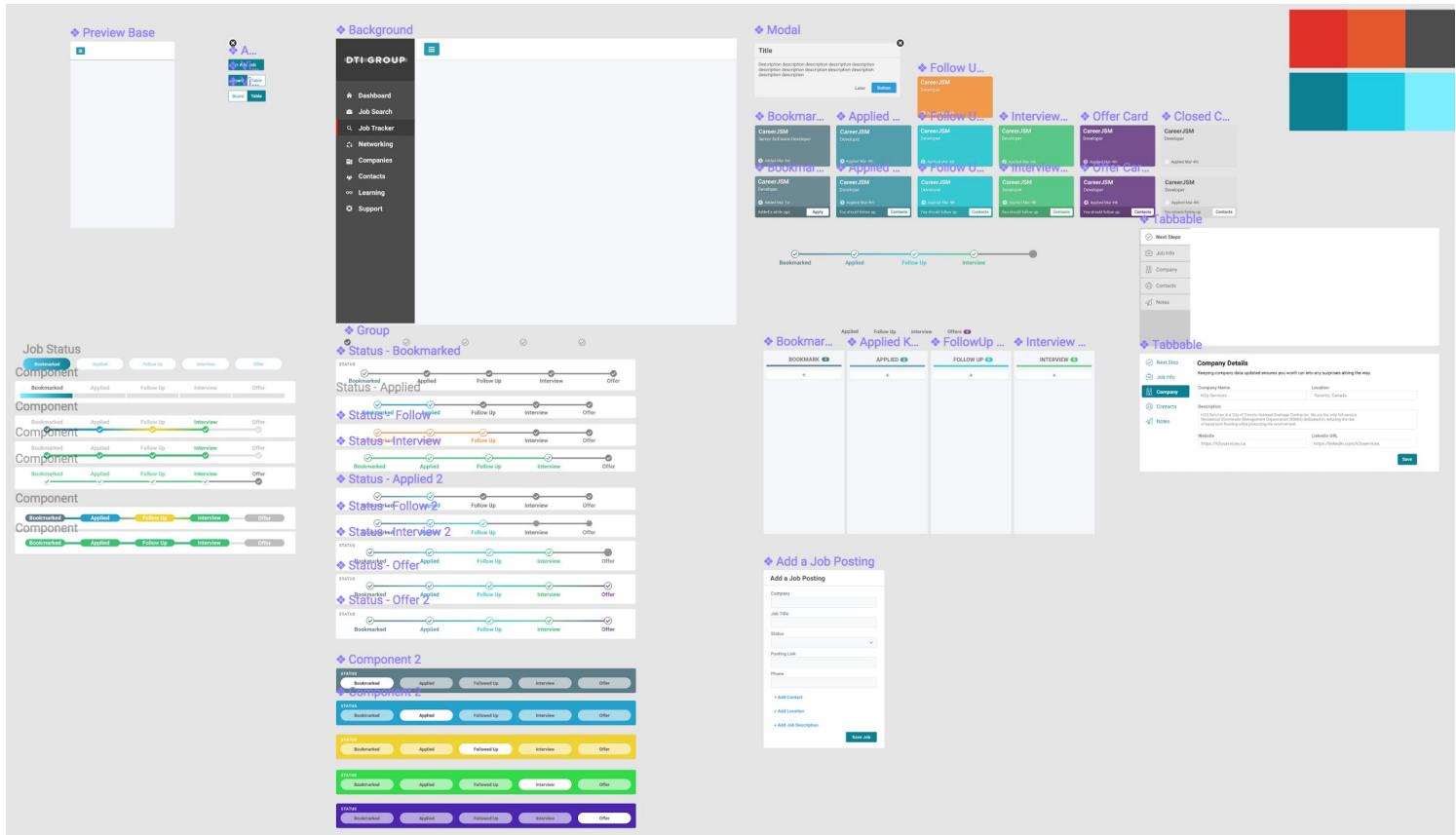
For the new design, the kanban style board was chosen because of its interactive nature and its visual component relating to job-search progress, but I had reservations about how users with low technical literacy would interact with it. I wanted to ensure that the feature wouldn't require advanced training so I came up with the idea to integrate an interactive onboarding feature with dummy data. Another valuable feature I introduced was adding contextual action buttons on the cards, which would surface insights about each job.

I kept that in mind as I created a simple design system and organized the components together to form a cohesive interactive prototype. Once this was done, I drafted the user-testing script and questionnaire, double-checking with the prototype to ensure tests would run smoothly.

The storyboard the team created on Day 3 for testing the new feature. It included an onboarding modal, demo data, and a feature list for recurring themes and problems we wanted to address.

CareerJSM: Job Tracker

The design components and system I created in Figma, which was used to develop the prototype.



CareerJSM: Job Tracker

The Job Tracker interactive prototype interface features a header with a search bar, 'Board' (selected), 'Table', and '+ Add Job' buttons. Below is a grid of four columns: 'BOOKMARK' (2 items), 'APPLIED' (2 items), 'FOLLOW UP' (0 items), and 'INTERVIEW' (0 items). Each column has a '+' button at the top.

- BOOKMARK (2)**
 - CareerJSM**
Senior Software Developer
Added Mar 1st
Added a while ago.
[Apply](#)
- APPLIED (2)**
 - H2o Services**
Sales Person
Applied Mar 9th
 - Berkeley Group**
Senior Software Developer
Applied Mar 9th
[Follow up!](#) [Contacts](#)
- FOLLOW UP (0)**
 - Castle Marketing**
Sales Person
Applied Mar 4th
- INTERVIEW (0)**

Left: The Job Tracker interactive prototype. This was tested with real users on Day 5.

Below: The detail page for a job, built for the prototype.

Go back to Job Tracker

H2o Services

Sales Person

STATUS

Bookmarked Applied Follow Up Interview Offer

Next Step

[Job Info](#) [Company](#) [Contacts](#) [Notes](#)

Research Opportunity
Great! You found an exciting role! Let's do some research to see if it is a good fit for you.

Complete Company Profile
Learning more about a company is a good first step. Use our automated lookup to help get some more details.

[Lookup H2o Services](#)

CareerJS: Job Tracker

The screenshot shows the 'Job Tracker' page with a dark sidebar menu on the left. The menu includes links for Dashboard, Job Search, Job Tracker (which is highlighted with a red bar), Networking, Companies, Contacts, Learning, and Support. The main content area has a header 'Job Tracker' with a search bar and tabs for 'Table' and 'Board'. Below are three sections: 'BOOKMARK' (3 items), 'APPLIED' (3 items), and 'FOLLOW UP' (1 item). Each item card includes a company name, position, status, and a timestamp. A '+' button is at the bottom right of the main area.

Left: The released Job Tracker page, updated and polished after incorporating feedback.

Below: The released job-details page. The status bar was updated, and the tab design was updated to match the rest of the application.

The screenshot shows the 'Low Tide Arts' job details page. At the top, it says 'Job Tracker > Job Opportunity' and the job title 'Low Tide Arts Electrical Technician'. Below is a 'STATUS' timeline with five stages: Bookmark, Applied (which is checked), Follow Up, Interview, and Offer Made. To the right is a 'Job Posting Details' section with tabs for 'Job Posting', 'Company', 'Contacts', and 'Notes'. The 'Job Posting' tab is selected, showing details like Company (Low Tide Arts), Position (Electrical Technician), Status (Applied), and Location (Toronto, Ontario). Other tabs show the description (Quo quisquam id exercitatem commodi facere.) and salary (\$4000-72000(CAD)).

CareerJS: Job Tracker

Development and Tools

I helped develop this feature using HTML, CSS, and EmberJS.

For design, I used mainly Figma, with some Illustrator.

User Testing

On the last day of the design sprint, I conducted user testing at a local cafe, making sure to recruit users from various demographic groups. The results yielded positive feedback, as well as constructive criticism (since the prototype was built in one day, there were bound to be problems). The main takeaways I gathered were from how the users interacted with the dashboard and what they expected to see.

After testing, I analyzed the results, packaged up the raw data into useful insights (e.g. users understood the kanban board concept, it was easier to use than the original layout, some people had reservations about horizontal scrolling, among others), and presented it to the team by the end of the day. Since the outcome was so positive, everyone agreed to focus on implementing the feature in the next development cycle.

I drafted up product requirements and added tasks to our project tracker tool, addressing weaknesses and concerns, and then worked adding polish and consistency to the designs.

Results & Next Steps

After releasing the feature, I recorded the following improvements over the next few weeks:

- Unique user engagement more than doubled
- Usability improved
 - Subjective user satisfaction went from *Satisfied* to *Very Satisfied*
 - Task completion time to move job statuses went from ~8 seconds to ~1 second, a significant improvement

Unfortunately, the contextual buttons proved to be more difficult to implement due to handling all the edge cases, so the implementation of that feature was deferred to a later date.

The integration of the *Job Tracker* widget was a success, and future improvements would include integrating other tools from the app (like the Resume Builder, or the Events Finder) into it to create a more immersive environment.

2. SimplyMade

SimplyMade

Summary

Simply Made is new venture focused on frozen meal kit delivery, created by Kraft Heinz Company in partnership with Highline Beta. I conducted early validation work and contributed to the design and development of the site.

Skills Applied

User testing/interviews, research, problem validation, copywriting, branding, web development.

The image shows the SimplyMade website and its mobile application side-by-side. The website is displayed in a desktop browser window, featuring a large banner with a pressure cooker and various ingredients like a lemon, garlic, and herbs. A callout box highlights "PRESSURE COOKING. NO PRESSURE." and "Meet our ready-to-cook, chef-inspired meal kits, designed specifically for your pressure cooker." Below this is a "SHOP OUR MENU" button. The mobile app interface on the right shows a similar layout with a banner, a "PICK UP" button, and sections for "WHY SIMPLYMADE?" and "SIMPLYMADE". Both interfaces include navigation bars at the top with links like "HOW IT WORKS", "OUR MENU", "OUR STORY", "GET \$20", "FAQ", "NEWSLETTER SIGN-UP", and "CART". A search icon and user profile icon are also present in the top right of the desktop header.

SimplyMade

KraftHeinz

evolv
ventures

HB Highline Beta

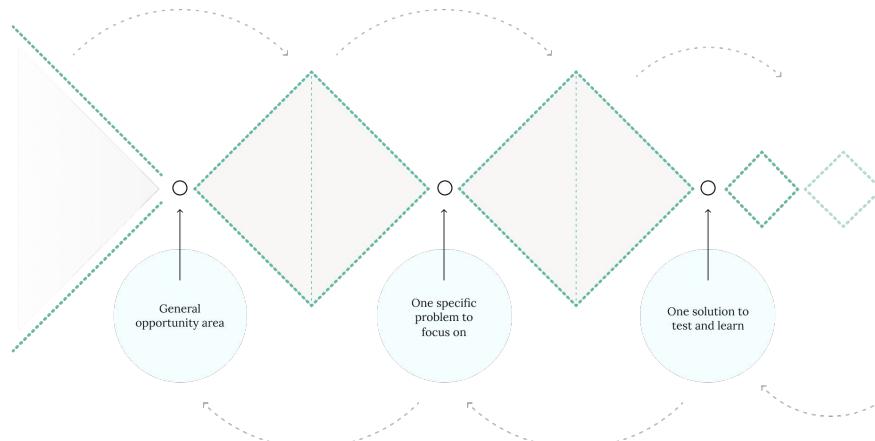
Background

SimplyMade was a new product, started by Evolv (Kraft-Heinz's venture branch), which was focused on a new vertical: frozen, meal-kit delivery for the Instant Pot. Highline Beta partnered with Evolv to help with the product validation and execution of the new venture.

On this project, I worked with a small team of managers and partners at Evolv, along with another designer and researcher at Highline Beta for 4 months.

Objective

As a UX Engineer with Highline Beta, I was tasked with validating the problem space, and if it proved to be lucrative, then help with building the product. To measure success, the team set an initial goal of validating the market demand and creating a growing & sustainable customer base. However, since it was a new venture, there was a possibility that the venture would fail; regardless there would be lessons to be learned, which could be used to pivot or create a new venture.



To validate the problem & solution areas, I used a modified Double Diamond framework. We worked in a flexible weekly design cycle to quickly iterate and make adjustments as necessary.

SimplyMade

Problem Validation

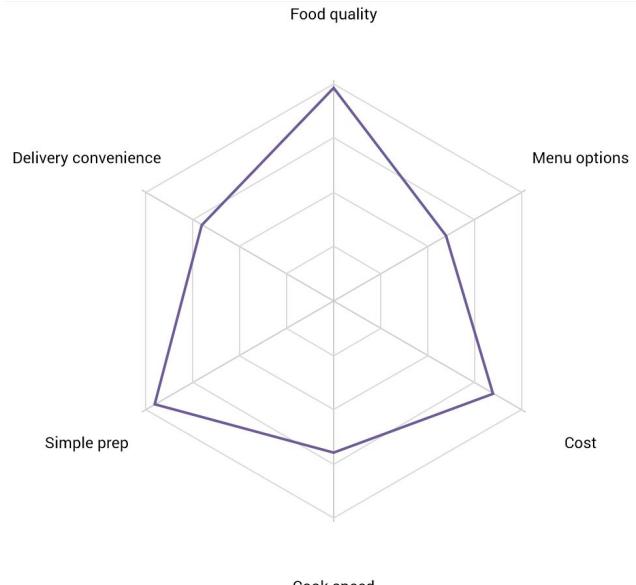
Evolv had previously done market research with another consulting firm and found that frozen meal-kit delivery was a market opportunity to be exploited, but unfortunately, they did not have access to the raw data. Rather than take their word for it, I conducted some user tests and interviews to re-validate the problem, and see if any adjustments needed to be made.

I created questionnaires to get a rough idea of what customers wanted, and conducted user interviews to get qualitative insights on use cases and expectations. Different customers prioritized different things, but prevailing themes were good food quality and easy food preparation. Fortunately, the research data supported the original hypothesis, so my next task was to plan the user journey, design an interface, and help plan the logistics.

Designs

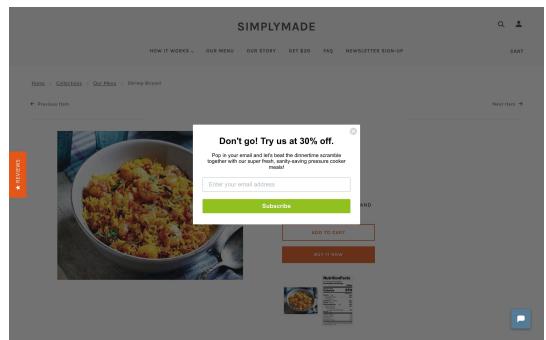
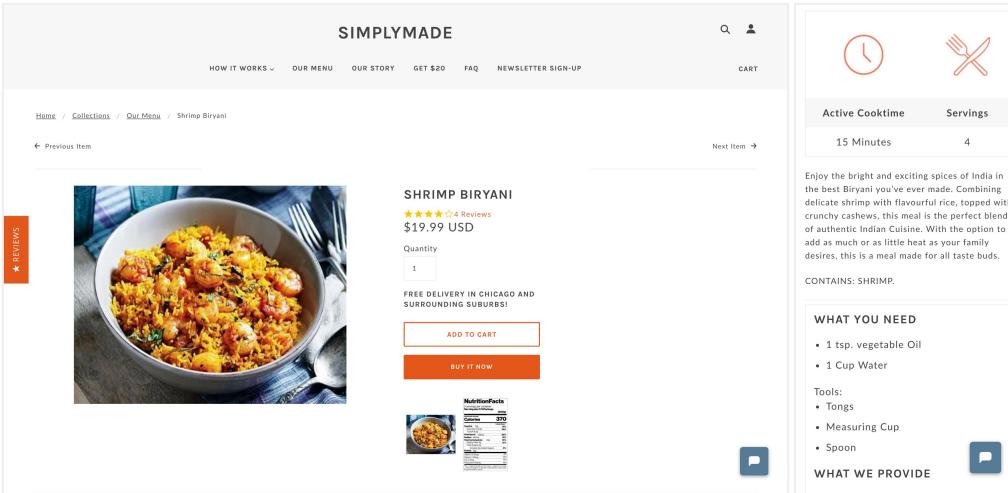
After researching e-commerce site hosting, I decided the best option to go with was Shopify. The goal of iterating fast was key here, as building a custom solution would take too long.

I created a style guide and page designs for SimplyMade in a day, knowing the caveat that once the designs were imported over to Shopify's platform, the layout could look significantly different. Speed and iterative testing took priority over pixel perfection, as the goal of the site was to learn and improve, rather than agonize over details that would change in a week.



A radar chart of prioritized customer values.

SimplyMade



Above: A screenshot of a product page, built using Shopify. The mobile version is to the right.

Left: A popup on the same page that appeared after some time with a promotional offer. Promo codes helped drive the majority of the sales.

SimplyMade

Development and Tools

I used a combination of UserTesting.com, video, and in-person interviews for gathering data and research.

Figma was used to design the site map and layouts, as well as to organize the data collected from user interviews.

Shopify was used for site deployment and CMS changes.

Problems & Results

Over the first few weeks, the team saw slow user growth. I tried to address that problem with user interviews and various e-commerce tools/tactics like promo codes, referrals, and A/B Testing various types of ads and keywords. The results from this lead to a steady increase (double) of monthly customers, every month for 4 months.

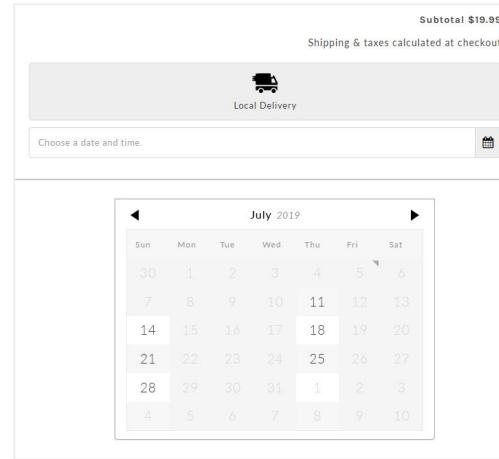
Another issue was the logistics of delivery. The Evolv team needed to hand-deliver the goods, so their availability windows were a limiting factor. I built a custom time-picker into the Shopify store to make the customer experience better.

Consumer trust was also an issue since people are hesitant to buy food online from an unknown source. Although SimplyMade was technically owned by Kraft Heinz, they do not have the best reputation for healthy foods and wanted to distance themselves from that imagery. I addressed this issue by adding an "Our Story" section, to surface the intention of creating healthy, fast, family-oriented meals.

Next Steps

One problem was the available menu choices. Customers wanted more vegetarian, ketogenic, and low-calorie options, but since it took time to create and package the foods, it was something that couldn't be addressed in the short term. It should be a priority to expand on the offerings to cater to a wider audience.

Investing in a scalable delivery solution, such as hiring delivery people, would open up the potential customer base as well since many people aren't available at specified delivery times. Improving on the packaging would also allow the food to be stored for longer, meaning less priority would be put on delivery speed.



The delivery window time picker built into the checkout page.

3. Female Funders

Female Funders

Summary

I redesigned and built a website for an angel-investing educational platform, increasing SEO, accessibility, and conversion rates. This was a long-term project where I collaborated with other designers, directors, and marketers. I learned a lot about web strategy, site optimization, how to build scalable sites, and as well as many SEO methods. The resulting product had major performance and usability improvements, which generated leads and conversions.

Skills Applied

Information architecture, accessibility/responsive design, branding, SEO, web development.

The image shows the Female Funders website and its mobile application. The desktop version features a large banner image of five diverse women in professional attire. Overlaid on the banner is the tagline "Empowering women to shape the future of funding." Below the banner is a teal call-to-action button with the text "Discover Angel Academy". At the top of the page is a navigation bar with links for "Angel Academy", "About", and "More". The mobile application shows a smaller version of the same banner and tagline, also with a "Discover Angel Academy" button. At the bottom right of the mobile screen, there is a link labeled "What is Female Funders?"

Female Funders

Background

Female Funders is an educational platform that empowers females to get into angel investing. After undergoing a relaunch in the Spring of 2018, the program has rapidly evolved, changing education material, networking events, and marketing strategies.

As a result of the changing needs, I worked closely with the program director to help shape and redesign the site, with the goal of improving the company brand and site performance.

We conducted research on our target audience and discovered potential customers were abandoning the site because they were feeling inadequate. Something as abstract as a user's feelings was hard to quantify, but it was important to address; we wanted the site to be more warm and welcoming.



The site's Lighthouse audit score is near perfect after the site was redesigned and deployed.

Measuring Success

There were a few issues that necessitated the need for this project:

1. **Improve the site branding.** The related quantifiable metrics were:
 - a. Increase Time on Page by 50%. The existing average was less than 30 seconds.
 - b. Decrease bounce rates by 50%. There was an overwhelming amount of information, which made it difficult to understand what we were offering, and what the next steps were.
2. **Increase SEO ratings.** The site lacked certain meta tags, settings, and social media integrations.
3. **Increase site speed.** Image-heavy assets and non-optimized media assets slowed the site.
4. **Make the site accessible and mobile-responsive.** While the site could work on mobile and met most WCAG 2.0 (A) requirements, there were still improvements to be made, especially with buttons and form design.
5. **Empower users to make informed decisions.** One large page of text and data was intimidating and made it difficult to track user flow since there was only one page. By splitting the content, and offering multiple chances to *Learn More*, we could gather more metrics.

Female Funders

Problems & Iterations

Visual identity

The key theme centered around empowering women, and there was a lot of effort put into finding the right imagery to set the tone to help visitors resonate with the site before reading a single word. Through research, I found that several prospective users left the site because they were intimidated and felt under-qualified, so I wanted to address this problem through the right designs.

I explored various themes and moods but ended up deciding to go with imagery that featured our target demographic. I added color treatment and photo-editing to compliment the rest of the site's colors. The colors were also chosen with care: while the teal hue was associated with the original branding, it caused a few problems with accessibility due to how light it was. To correct this, I adjusted the color value slightly and added subtle text-shadows to emphasize contrast. I also wanted to de-emphasize the blue, since it's traditionally known for being cold. The teal was feminine and helped set a more calming mood.

Site structure

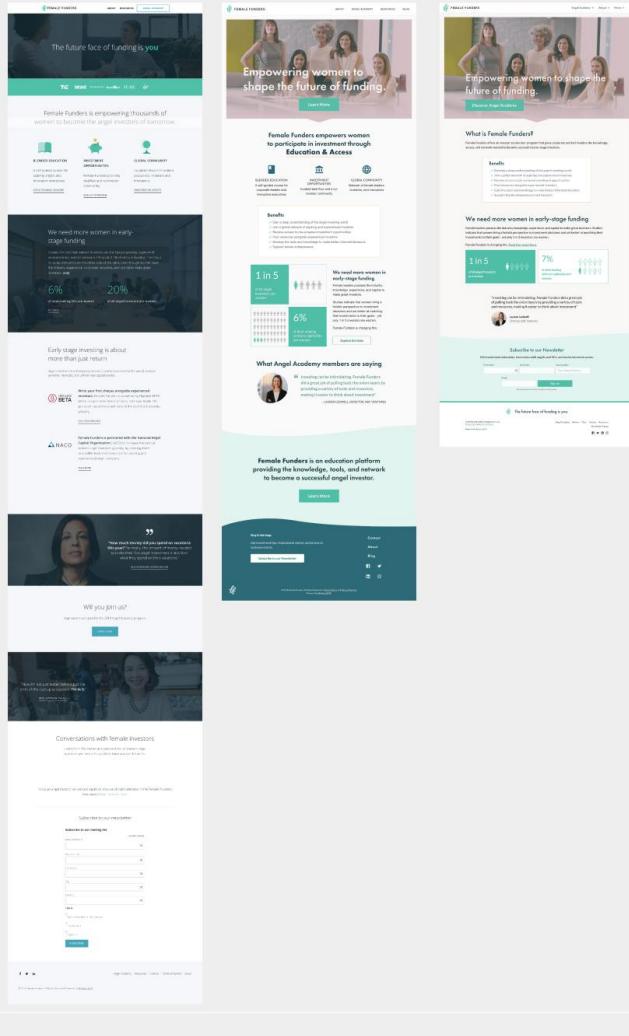
The Angel Academy course was the focus of the site, but the features were diluted by having too much competing information on the home page. With a relatively high bounce rate, it was difficult to isolate what the problem was specifically. I opted to test out a new layout by rearranging the site into more 'bite-size' chunks and separated the content into sub-pages to have a more streamlined funnel of content. By analyzing behavior flow, I saw where users were dropping off, and that way I would be able to address those issues specifically.

The initial goal was to get visitors to learn more about Angel Academy, not increase the raw number of sign-ups. This seems counter-intuitive at first, because content became more difficult to access, but I found that it generated more quality leads with a higher rate of application approval!



A comparison of the old and new site layout.

The progression of the website throughout the project. The first image on the left is from Nov 2018, with the last from May 2019.



Female Funders

Problems & Iterations (Continued)

Form optimization

Throughout the design evolution, the monthly mailing list subscriptions increased, but the information gathered was hard to action on by the outreach team. While form best-practice indicates that fewer inputs is better, there were problems with reaching out to the users, as each candidate is vetted before engagement. We only operated in North America, but we were getting interest internationally which led to difficulties in researching individuals. Adding extra fields gave us the extra information to save time and make more efficient decisions.

Like the previous section, it was more important to generate quality leads.

The image shows two side-by-side newsletter subscription forms. The left form, titled 'Join the Female Funders community', has a dark teal background and contains three input fields: 'Email Address' (with placeholder 'Email'), 'First Name' (with placeholder 'First Name'), and 'Subscribe' (a green button). The right form, titled 'Subscribe to our Newsletter', has a light teal background and contains four input fields: 'First Name' (with placeholder 'First Name'), 'Last Name' (with placeholder 'Last Name'), 'Your Location' (with placeholder 'City, State/Province'), and 'Email' (with placeholder 'Email'). Below these fields is a green 'Sign up' button. At the bottom of the right form, a small note reads 'Newsletters sent monthly. Unsubscribe at any time.'

Before (left) and after (right) of the Newsletter Subscription form. After testing & optimization, I determined that having 4 input fields was more effective.

Female Funders

Development and Tools

For designing the site, I used Figma and Photoshop. Data analytics were gathered from Google Analytics.

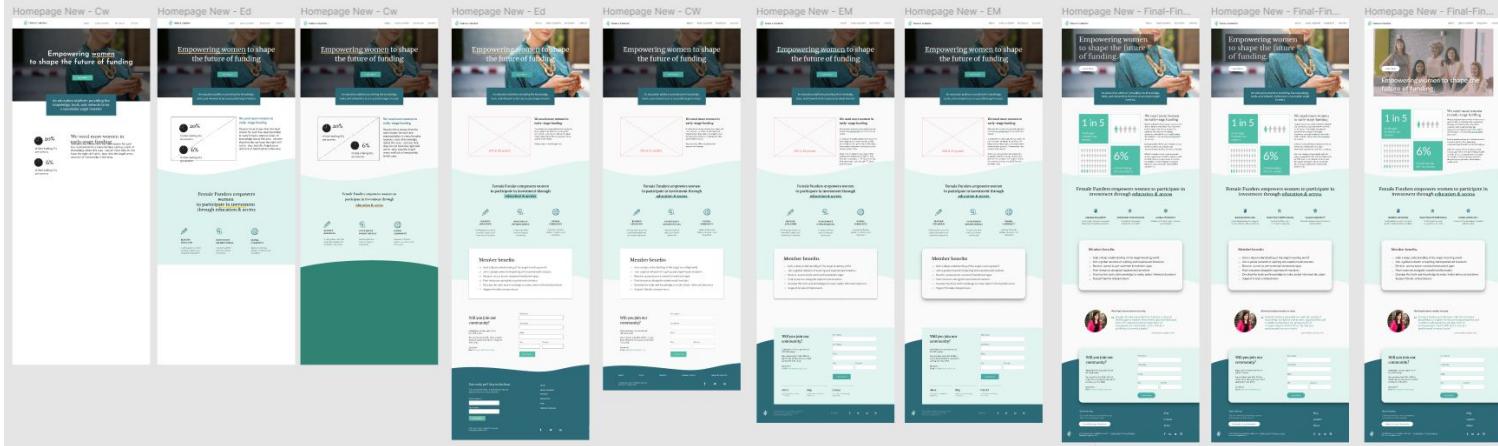
I built most of the site by myself on React, with Contentful as a CMS tool for the copy and blog updates, combined with Netlify for deployment, and Zapier for workflow automation.

I also used Cypress for integration testing, which was especially useful for testing the Angel Academy Learn More funnel.

Results & Reflections

Overall the designs underwent several iterations, but each iteration provided opportunities to learn and improve. By making well-informed hypotheses and adjusting based on the new data, the site update was a relative success.

Compared with the original design, the site was made fully WCAG 2.0 accessible, responsive, and had several SEO improvements. The user's *Time on Page* went up by 80%, and the *Bounce Rate* decreased by 30%. Other factors may have impacted this data such as news and press-releases, but it is a good start towards building better a website in this specific industry.



Figma artboards showing part of the design process for redesigning the home page. I worked with another designer and "ping-ponged" design iterations.

Questions?