Charles Wu: Design Portfolio

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Hi, I'm a problem solver that focuses on designing, developing, and building experiences.

My 7+ years of experience in designing digital products has been fuelled by my love of technology. The past several companies I've worked at have been startups, where I've used lean methodologies and workflows to maximize efficiency and impact.

Skills Summary

- **Product design**
  I've built Android, iOS, and web apps, and have experience in building new products and enhancing existing ones. My process includes conceptual planning (determining what the right problems are), solution validation (conducting user interviews, creating wireframes, prototypes), and execution (reviewing and iterating on work).

- **Development**
  I have advanced skills in developing with HTML, CSS, JS (React), and Git. Some examples of some of my work include My website, Female Funders, 100+ Accelerator, and CareerJSM.

- **Platform-agnostic design thinking**
  As a user of Windows and OSX, Android and iOS, Google Home and Alexa, Asana/Trello/Evernote and Notion, I like to try and explore as many different types of products as possible to gain a broad understanding of all platforms and technologies. These experiences influence my user-centered design methodologies and allow me to create what I believe are holistic and inclusive solutions. "*Strong opinions, weakly held"* is a mantra that accurately represents my design decisions and process.

- **User research & communication**
  Being able to understand user problems and needs is a vital part of building a great product, and I achieve that effectively with my research and communication skills. I'm able to find a compromise between various stakeholders to plan roadmaps and set long-term goals.

The following pages highlight some projects I've worked on, detailing my responsibilities, tasks, challenges, and accomplishments.

1. 100+ Accelerator Website

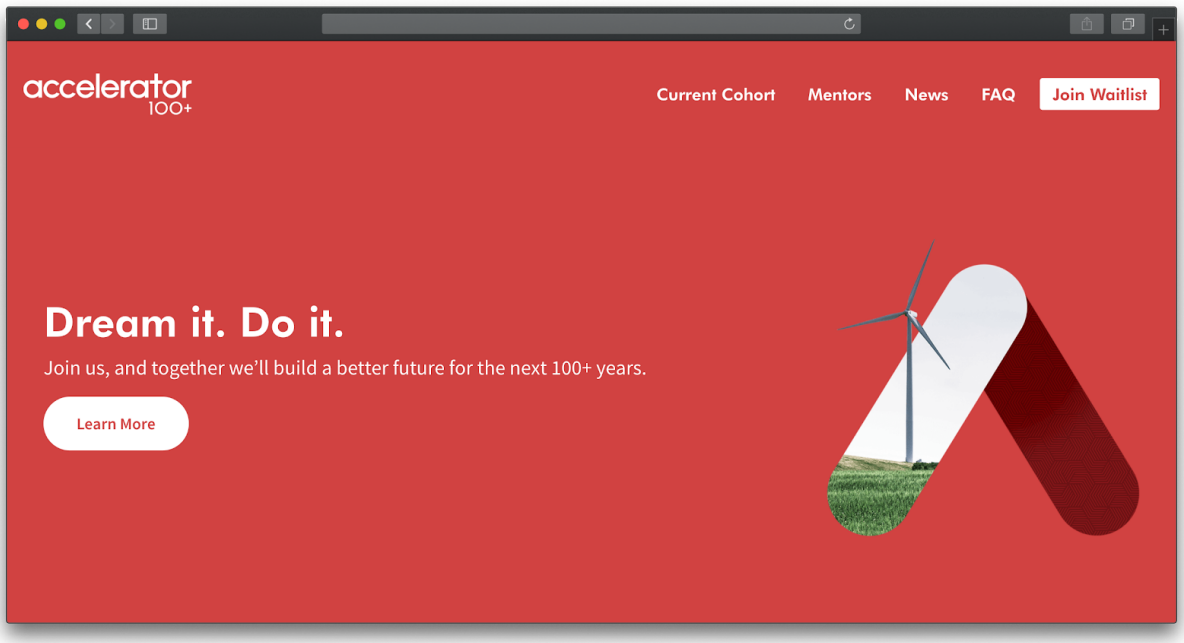
Summary

Over 4 weeks, I designed and built a website for a global accelerator program, integrating a content management system, and social media feed. The site has hundreds of monthly visitors, who can apply to the program on an accessible, mobile-friendly, and easy-to-navigate site.

View the site here.

Skills Applied

Interface design, copywriting, branding, development.



Background

The 100+ Accelerator is an accelerator program launched by AB InBev in the Fall of 2018. The program is targeted towards startups that are addressing global sustainability issues and was launched in partnership with Highline Beta. The initial website was rushed into production, right before registration opened for the first cohort, which unfortunately resulted in a site that lacked quality in terms of accessibility, transparency of information, and the ability to scale. I sought to make the site more engaging, accessible and world-class through the means of a redesign.

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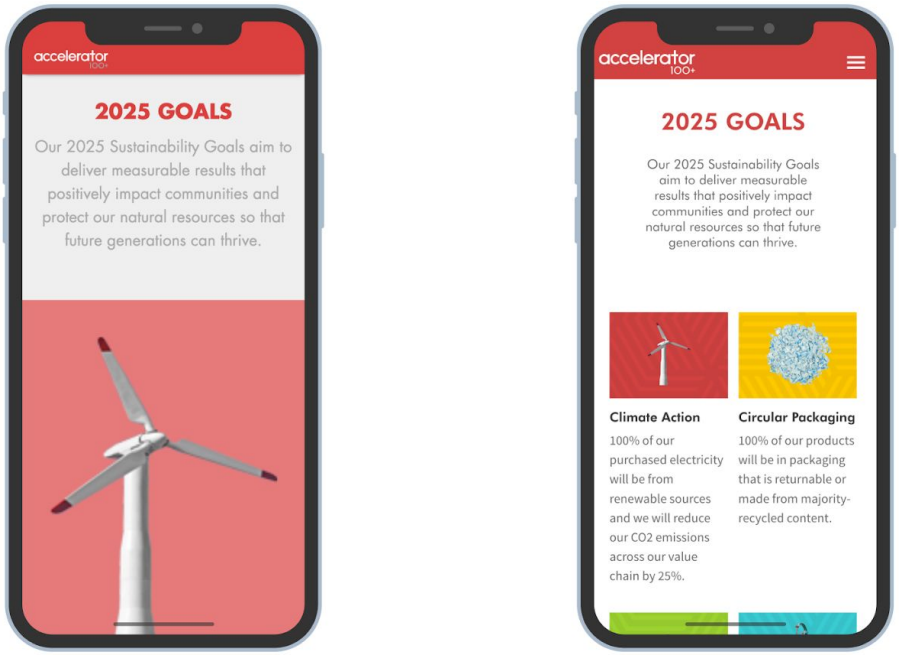
I worked with several accelerator directors and operations managers that had oversight into the program, to update the site. My task was to design and build the new website, with the goal of increasing marketing reach and to drive conversion (cohort sign-ups). Given that I was the only designer/developer working on this project and my preference for lean and agile methodologies, I opted to use a feature-driven development process for this project.

Usability problems

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

- The site was not mobile-optimized.
- The site did not meet accessibility (WCAG Level A) requirements.
- The application process linked to an external page, that required you to send an email to an address.
- The site hierarchy hid several important links about the program, such as mentors, and news.
- There was no program timeline, nor mention of the cost (it was free).
- There was no way to subscribe to a mailing list to be alerted of updates.



A before (Aug 2018) and after (Jan 2019) screenshot of part of the landing page on mobile. The original implementation lacked color contrast, a nav-bar menu, and mobile optimization.

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Requirements & constraints

I collected data, conducted a competitive analysis of other accelerator programs, and created a comparison matrix of features and site-map structures. From this, I produced a list of requirements that would bring the site "up to par"—and surpass—other accelerator program sites. I then presented this to the directors to refine the details and the scope.

The final feature requirements can be summarized in the following:

- Make the site mobile responsive.
- Make the site WCAG Level AA accessible.
- Provide a clear call to action to sign up, if applications are open—if not, provide a message/timeline on when it will open, and offer the opportunity to sign up to a mailing list to be alerted of when applications are open.
- Provide a clear mission statement on what kind of applicants the program is looking for, and the requirements that must be met. This saves both the applicant and company time.
- Provide content in a clear information hierarchy, such that no information is hidden. By highlighting the content on a single page, and providing a single level nav-bar menu, information can be easily found and accessed.
- Include a content management system (CMS) integration, so any user can go and edit copy, without needing developer assistance. It should also be able to set the registration window times and where the landing-page CTA links to (wait-list or application form).
- Include a newsletter subscription form so people that may be interested, but are not yet ready to sign up, have an opportunity to join in at a later date.
- Include the company Instagram feed to showcase cohort progress and the program's impact. The social feed was being updated by a separate team, so this provided significant value with a limited amount of work.
- Add a blog section for extra news and media content.

There were some constraints set at the start as well, some of which helped form the above requirements:

- I am the only designer/developer that will be working on the site.
- There is no copywriter, so I would have to update and add additional copy.
- There were no firm timelines set in place, so the copy needed to be vague, but not too broad to deter interested users.

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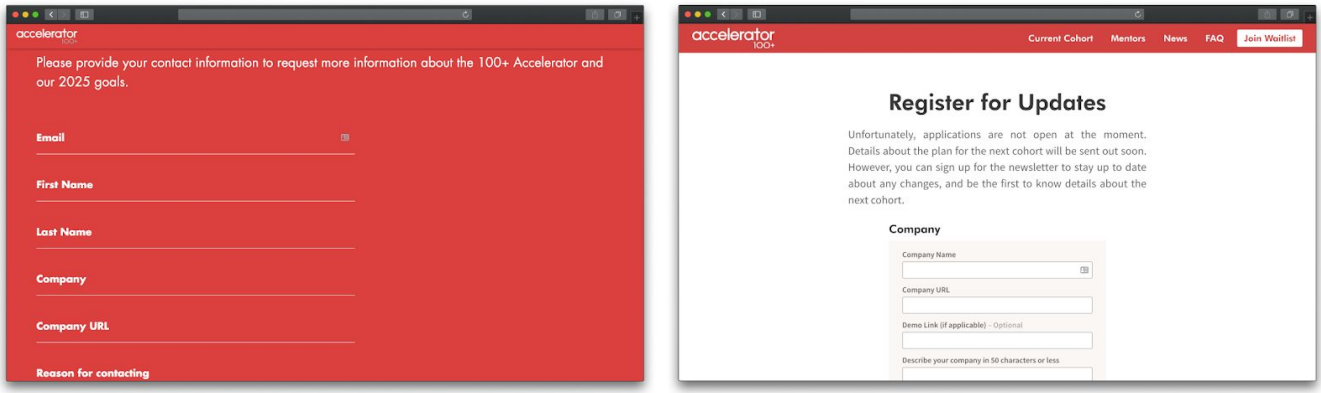


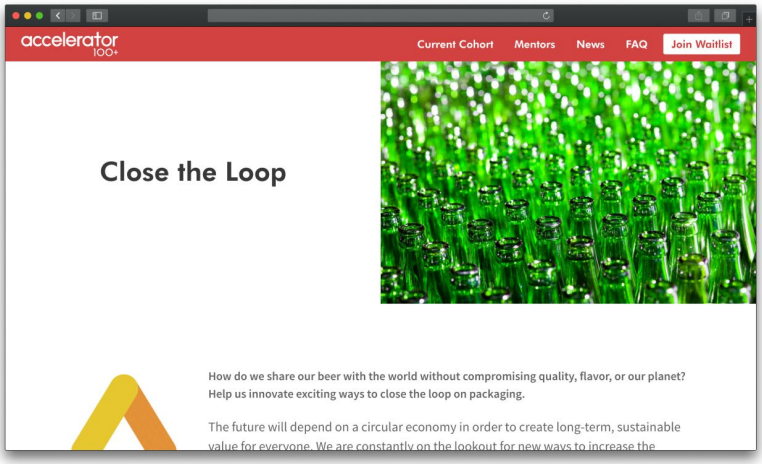
A before (Aug 2018) and after (Jan 2019) screenshot of the Request for Information Form, and the new Wait-list Form, respectively.

Design & challenges

I created the initial designs and sitemaps in Figma, utilizing the *card* metaphor for several components. While I experimented with several designs of varying colors and complexity, I ultimately ended up with something very similar to what you see in the final product.

One design challenge that arose was in the layout of all the information presented: designs quickly became convoluted and confusing, which led me to use sections with larger spaces for dividers, more heavily investing in the *Cards* metaphor, and introducing a tag component. The goal was to make the site colorful, but not overwhelming.

Some development challenges that arose from the process was the integration of the CMS software with some legacy code, which resulted in a bug that took the site offline. In response, I introduced automated integration testing to ensure that bugs are all caught before deployment, and no feature regressions are going forward.



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Development

I worked on the development of the site using HTML, CSS, and React, with a Contentful CMS integration. Netlify was used for deployment, and Figma was used as the design tool.

Results & next steps

After the weekly development cycles of building and iterating the site was completed and launched. Overall there were significant improvements to the site, as all the feature requirements were built and integrated successfully into the site.

However, there are still improvements to be made in terms of SEO, page-size, and a few accessibility upgrades. The usefulness of the analytics data was limited since applications are not set to reopen until the Fall of 2019. Once registration opens I can compare cohort analysis trends to uncover further optimization opportunities, and truly bring the site to world-class prestige.

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2. Female Funders Website

Summary

I redesigned and built a website for an 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.

View the site here.

Skills Applied

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

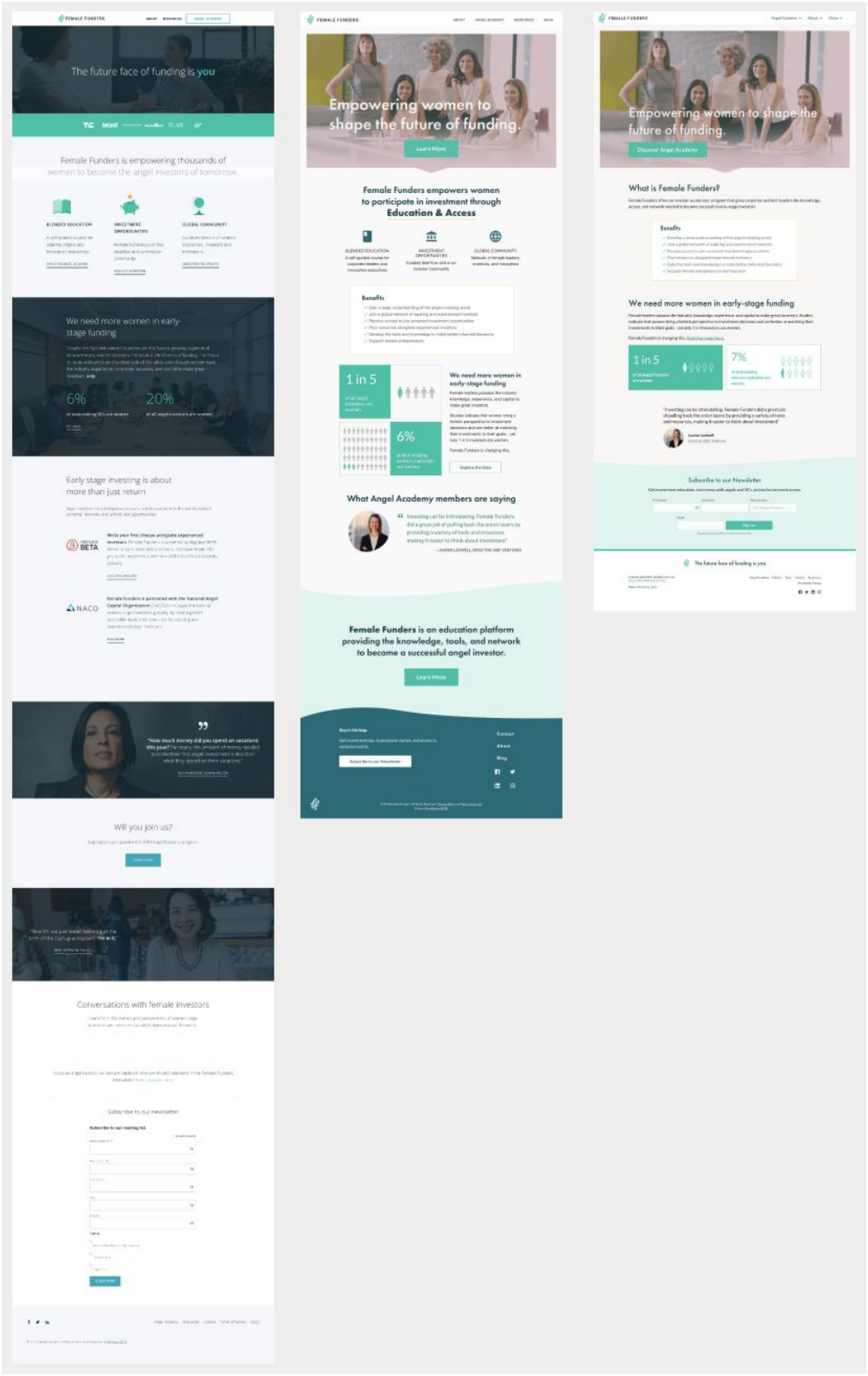
The site's Lighthouse audit score is near perfect after the site was redesigned and deployed.

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 progression of the website throughout the project. The first image on the left is from Nov 2018, with the last from May 2019. [View the higher resolution image here.]

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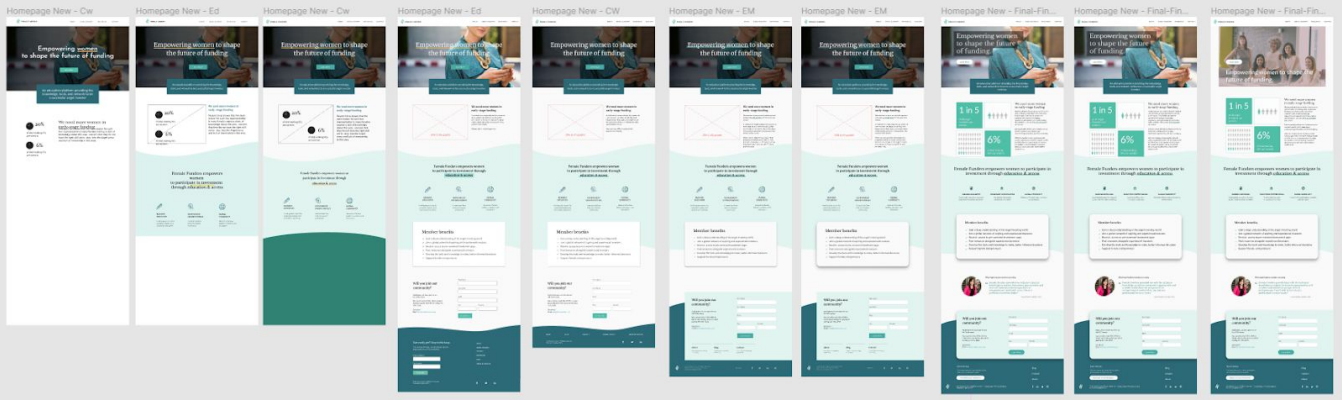
Measuring success

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

- **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.
- **Increase SEO ratings.** The site lacked certain meta tags, settings, and social media integrations.
- **Increase site speed.** Image-heavy assets and non-optimized media assets slowed the site.
- **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.
- **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.

Designs



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

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. I explored various themes and moods but ended up deciding to go with imagery that featured our

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target demographic. I added color treatment and photo-editing to compliment the rest of the site's colors.

The site's 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. As a solution, the color value was adjusted slightly and subtle text-shadows were added to emphasize the contrast. We also wanted to de-emphasize the blue, since it's traditionally known for being cold, despite it being one of the most popular brand colors. The teal was feminine and helped set a more calming mood.

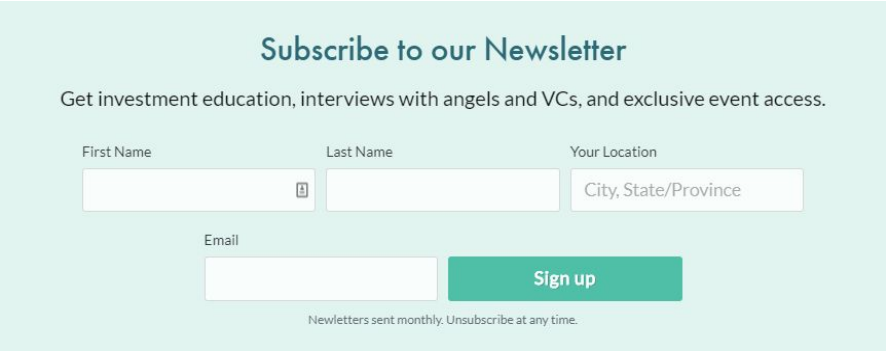
Site structure

The course, Angel Academy, was now the focus of the site, but the program's features were diluted by having competing information on the home page. I separated the content into sub-pages in order to have a more streamlined funnel of content. 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 since content became more difficult to access, but we actually found that we generated higher quality leads with a higher rate of application approval!

On each page under the Angel Academy section, the content was straight to the point and was followed up with 2 CTA's: *Apply* or *Learn More*. This was designed as a nudge, a filter, and as a data collection point. Being able to see where drop-offs occurred allows us to correct and optimize the issues.

Form optimization

For newsletter sign-ups, having fewer form inputs directly correlates to a higher completion rate, so at one point, I reduced the field inputs to only the email in order to increase the subscription count. However, like the previous section, it was more important to generate quality leads. We were receiving interest from people internationally, but our program only ran in the Americas, and we want to focus on this geographic area first. I eventually split up the form to the inputs below. This is definitely not the ideal case for all forms, but in our specific situation, it works.



After testing and optimization, the newsletter subscription form had 4 input fields.

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Development

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, and regression testing.

Results & reflections

Overall the designs underwent several iterations since we follow a lean and agile methodology at Highline Beta, 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 previous website design, the user's *Time on Page* went up by 80%, and the *Bounce Rate* decreased by 30%. Several other factors impact this data, such as traffic sources and press-releases, but it is a good start towards building better a website in this specific industry.

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3. Agile Blockchain Corp. Logistics App

Summary

I worked as a UX consultant with a blockchain startup to design an online portal for a supply-chain platform. The work was done part-time over 2 months, where I worked closely with the CEO and the project manager to create information architecture maps, wireframes, interactive prototypes, and a functioning MVP.

Skills Applied

UX research, information architecture, interface design, prototyping.

Background

Agile Blockchain Corporation is a startup that incorporates blockchain technologies into new opportunity areas. On the specific project I was working on, I needed to design a supply-chain platform that utilizes the blockchain to process industrial equipment orders. The added amount of information introduces an extra layer of complexity to an otherwise already complex logistics problem.

My responsibility was to design and help build a digital platform for suppliers, customers, (and the other facilitators) so that the users could:

- place and review orders,
- manage incoming and outgoing requests,
- visualize order history, network updates, and tracking information, and
- manage the company's respective employee roles and privileges

In order to begin design work, I conducted thorough research in the blockchain and supply chain management industries.

Research

My research began with the analysis of logistics flow and forms. Understanding how information and data flow between parties provided the foundation and context needed to create the designs. The current solution involved using paper forms, so I also needed to synthesize and digitize the data.

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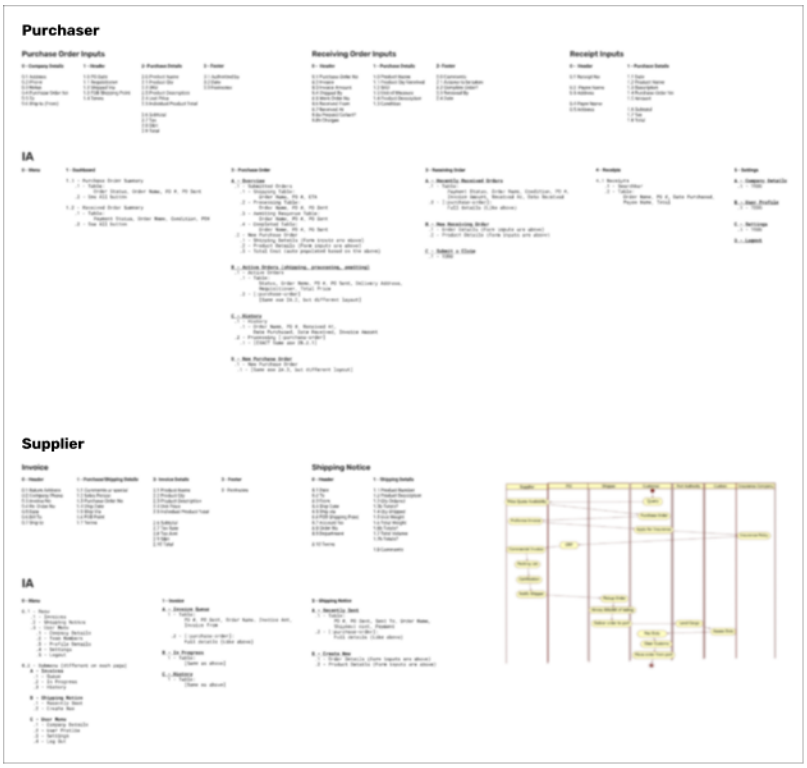
Once the information was organized and converted into usable values, I assigned each variable an ID so the development process could scale with ease. It was important to note down new features and requirements (such as GPC and UNSPSC standards integration) for development tasks.



The first iteration of the information architecture created for the project. Details are obfuscated.

Designs

I mapped the data into an information architecture map first to set the layout of the project. The information and field names were meticulously planned and recorded so that knowledge transfer and development would be easier.

I explored a few different wireframe layouts and chose one that would be able to scale in menu items easily, due to the planned addition of extra features and wide number of sub-menu options.

The elements used as many *design components* as possible, since they directly translate to reusable code components. Placing careful consideration on what could be reused allowed me to design and iterate faster, and set the stage for faster development.

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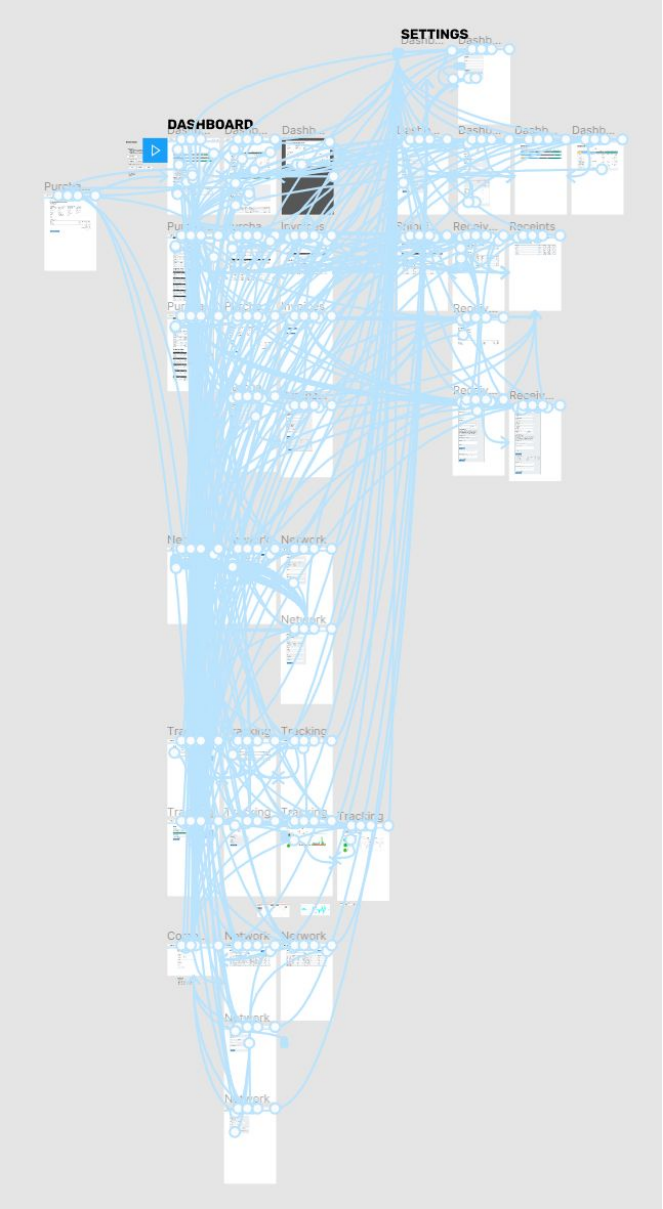
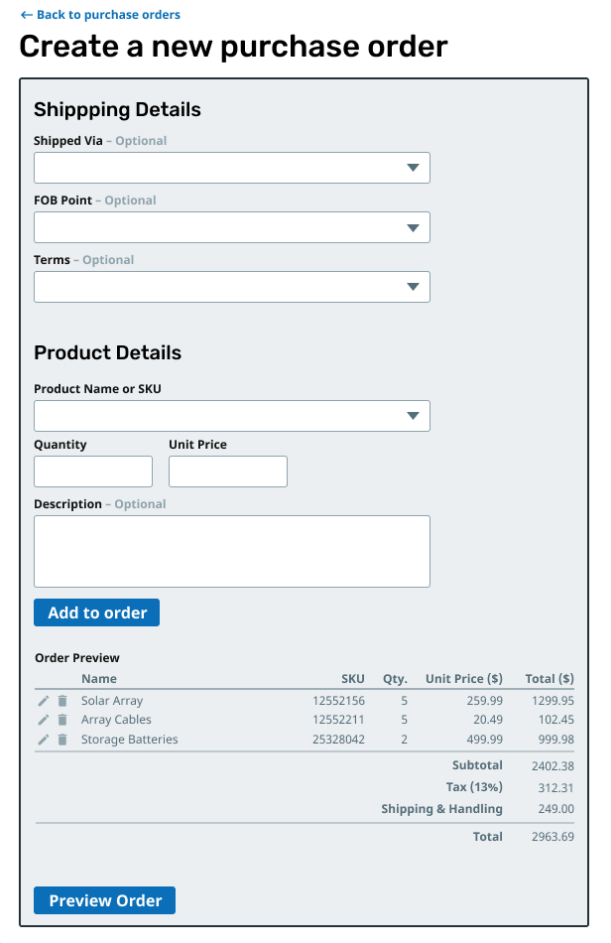
Once the wireframes were approved by the team, I created interactive prototypes to allow them better visualize the interactions.

The prototypes (shown right) also helped to reveal inconsistencies, missing designs, and edge-cases, which was good because that meant time wouldn't be wasted later revisiting these issues.

The purchase order forms were integrated with the inventory management system. Once a form is complete, it is reviewed, authorized, and then sent to the respective supplier(s).





Form design (example on the left) required significant thinking and planning due to the flow of data between various parties.

I designed them to incorporate automatic pricing, inventory, and descriptions. Completing each form now saves significant time when compared to the old paper forms.

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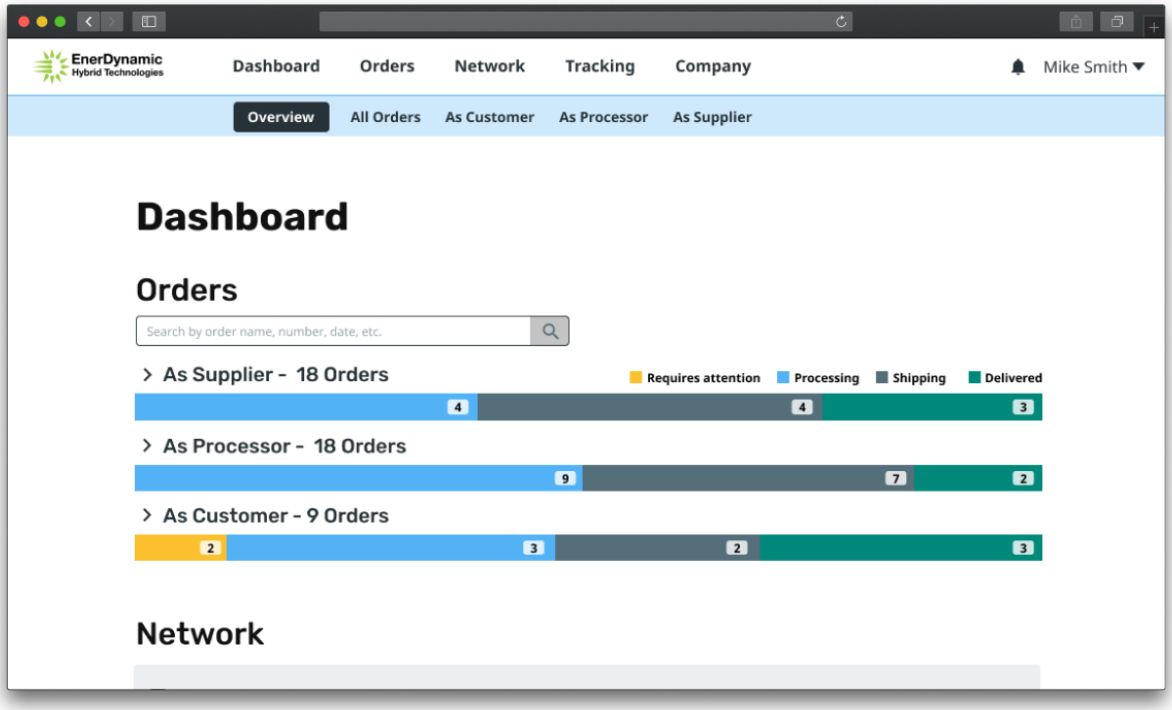

A view of the home dashboard. Each menu had several sub-menu options, with access dependant on the role of both the company and the user privileges.

Development and next steps

After meeting with the team to fine-tune the user flows and designs, I began initial development and set up an initial web prototype with React. This gave the development team a starting point, and allowed the team and their clients to see the product on their actual devices.

With the user flows and layout of the platform complete, the next steps would be to enhance the visuals and optimize for user devices and screens in their work environments. Conducting embedded interviews of users in different roles and companies would show us pain-points and hidden value. This would inevitably result in layout and structural changes to the platform, but that's the beauty of lean development!

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4. CareerJSM

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.

Skills Applied

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

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. While there are several resources online, most of them were separate one-off tools that don't account for a user's technical literacy, nor their emotional state-of-being. 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 sought to help these people out, and I was in charge of the design of the app. We partnered with outplacement agencies to learn and maximize the results and effectiveness of our services.

The Resume Builder I designed had various templates to offer the user some customization.

Measuring success

We were designing an app with a suite of tools and resources, that needed to fulfill a set of requirements:

- users with low technical literacy should be able to the app easily.
- users need to be able to manage their job search, with the tools provided offering comparable or better value than competitors.
- branding and copy needed to consider the users potential emotional and mental state.
- increase user satisfaction, engagement.

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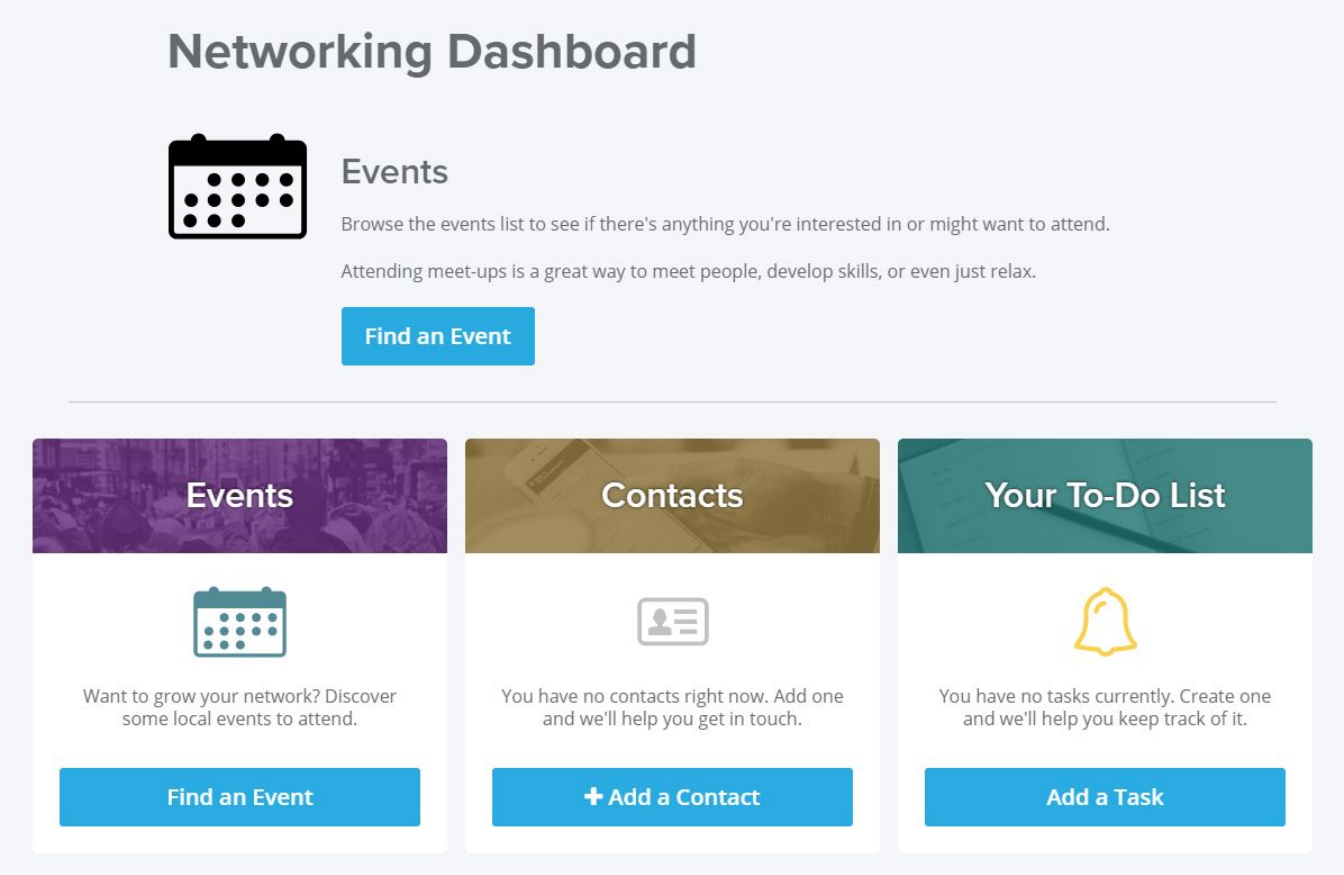
To address our user's needs, I conducted user interviews and surveys to find pain points and areas of improvement. In one case, I discovered that many users have difficulty building authentic relationships with people (i.e.: not a transactional relationship), which was not something the team had considered. After seeing the potential value of this need, I facilitated a team design sprint to address these issues and created a networking dashboard.



A blank networking dashboard that a user might see.

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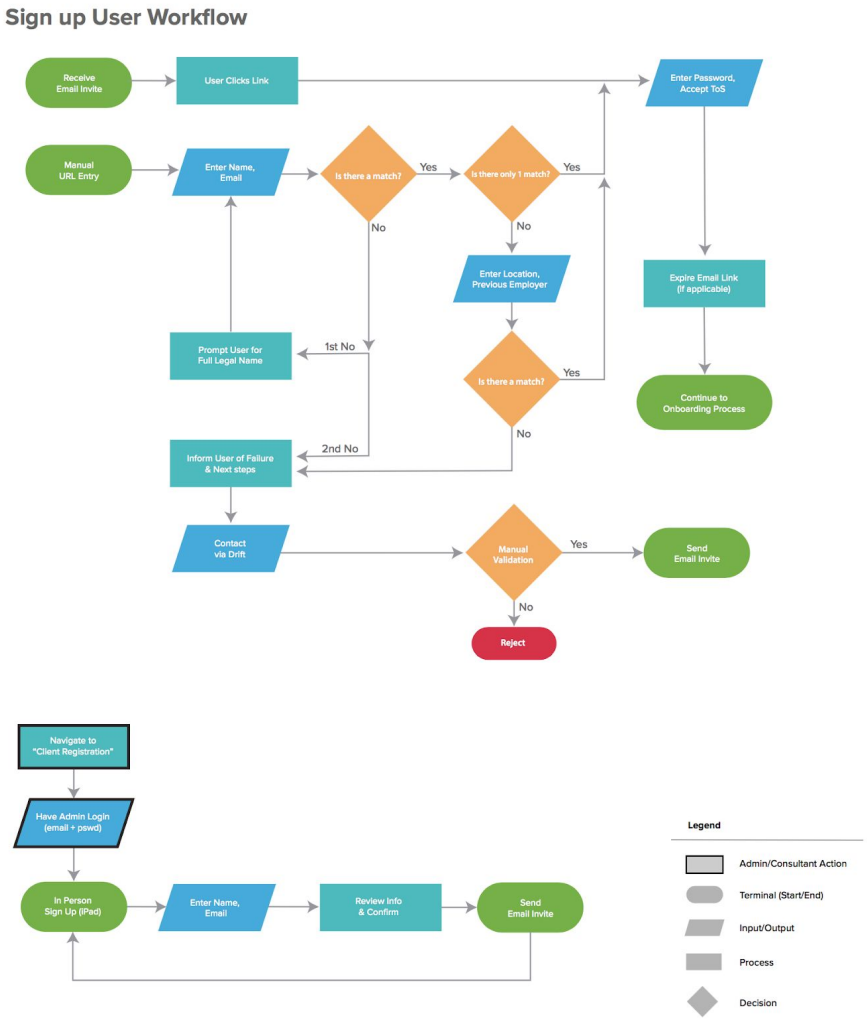
Designs

The start of any new process is registration and onboarding. While working with outplacement agencies, I created a registration user flow that would work cohesively with consultants. I used thoughtful copy, layout, and animation effects, to ease the user into the product with as little friction as possible. The resulting update increased user sign-up by close to 100%.



One of the iterations created while designing the signup interfaces.

One of the other main features I worked on was the job tracker page. I designed it as a kanban board to provide the users with a visual sense of progress as they progress in their job search. Over several iterations, I updated the copy, layout, and structure of the tool to optimize usability for users with low tech-literacy.

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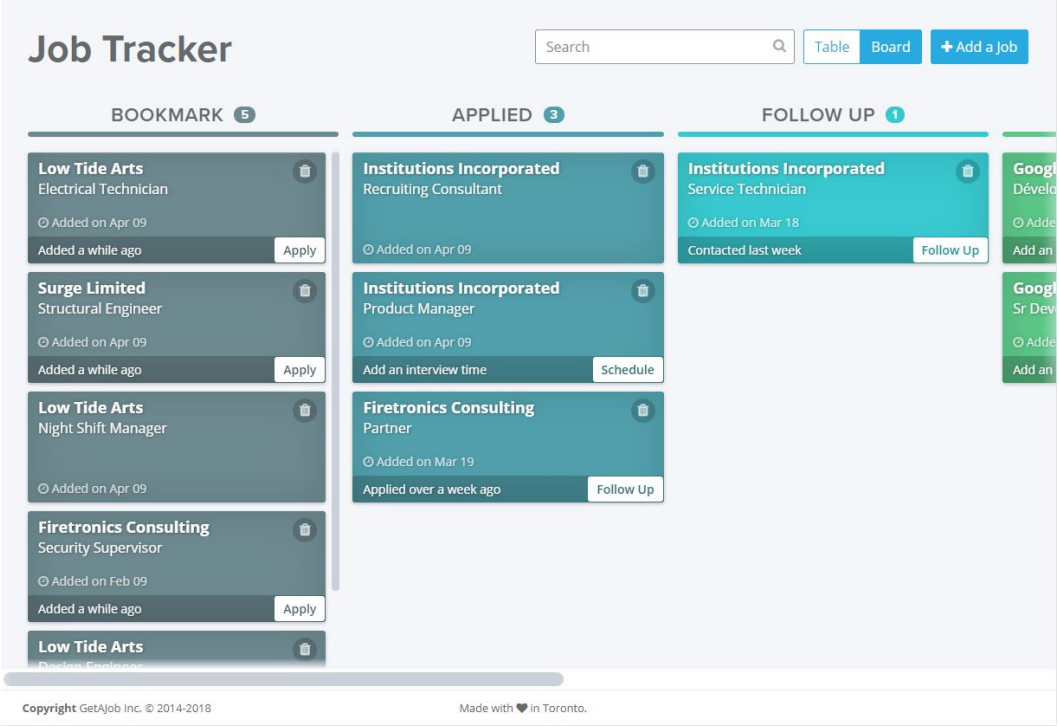

The Job Tracker page: applications are represented by cards, which you can drag to the right as you progress through the application process.

To ensure a smooth and bug-free app, I wrote and ran integration tests to ensure features were continuously working. I also manually audited the app for responsive design, web accessibility (WCAG 2.0), and localization compatibility.

Development

I worked on the development of the site using HTML, CSS, EmberJS, with a PostgreSQL backend. Most design tools used were Illustrator, Photoshop, with some After Effects.

Results

I made sure to record, gather, and analyze data to set target KPIs as we were building out the new features. Some things I looked for were user satisfaction, ease-of-use, and overall value. I combined qualitative in-person testing with quantitative survey feedback to gather as much data as possible. After analyzing the data, I presented my findings to the product team and made recommendations on how to proceed. This was an iterative cycle that I conducted every few months.

Throughout my time on this project, I helped increase sign-up rates, user-satisfaction, and set the standard for accessibility and mobile responsiveness.

5. Dive Networks

Summary

I designed an automated news feed, designed for TV mediums in corporate environments. I optimized content for readability and accessibility by conducting research and incorporating user feedback. I also designed an interactive version for individual usage on mobile/web devices.

Skills Applied

Interface/responsive/interaction design, user research, branding, development.

Background

DIVE Networks is a digital media company that displays a stream of real-time news content for companies, in order to surface relevant and insightful information. This feed was informed by trends, social posts, and news. I oversaw feature designs and widget creation from conception to delivery, ensuring that the content was accessible and delivered in a visually aesthetic way.

DIVE was responsive and compatible on various devices.

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Measuring success

In order for our customers to find value in this product, we needed to address the user needs, but several companies had two main audiences: internal employees, and external clients. Employees got more value in seeing industry insights and company news, whereas clients got value from seeing industry news and company insights.

Our newsfeed was a playlist of *widgets* that would display sequentially, and depending on the audience, different widgets would be shown. I designed each widget with this in mind, understanding that different audiences had different expectations and context. However, all designs needed to be **accessible** and **visually appealing.**

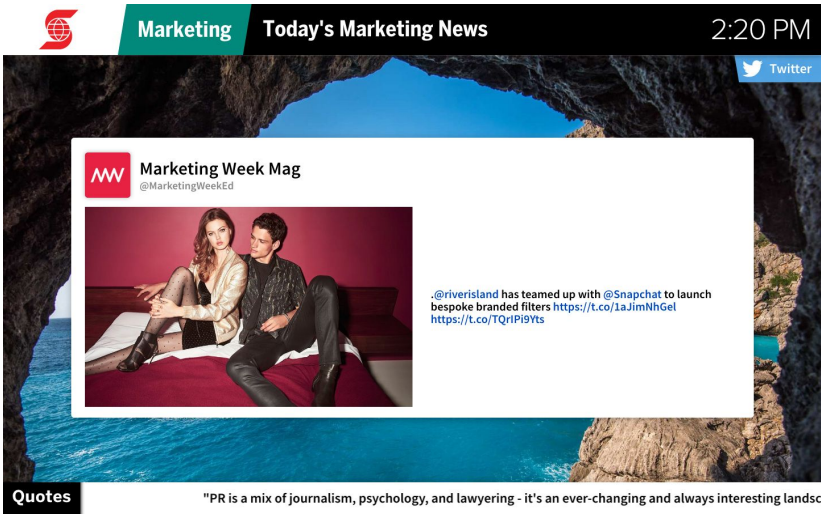
To be accessible, content needed to:

- be large enough to be seen from across the room (10 feet or more),
- fit on various monitors of varying resolutions,
- have enough contrast do be seen, compensating for poorly calibrated displays,

To be visually appealing, content needed to:

- attract the eye, but not overwhelm the viewer
- blend in cohesively with company branding

Addressing these issues involved research, testing, design exploration on my part, and ultimately resulted in what you can see below.



A screenshot of what a Twitter widget being displayed. There are several elements on the screen to provide the viewer with a variety of content.

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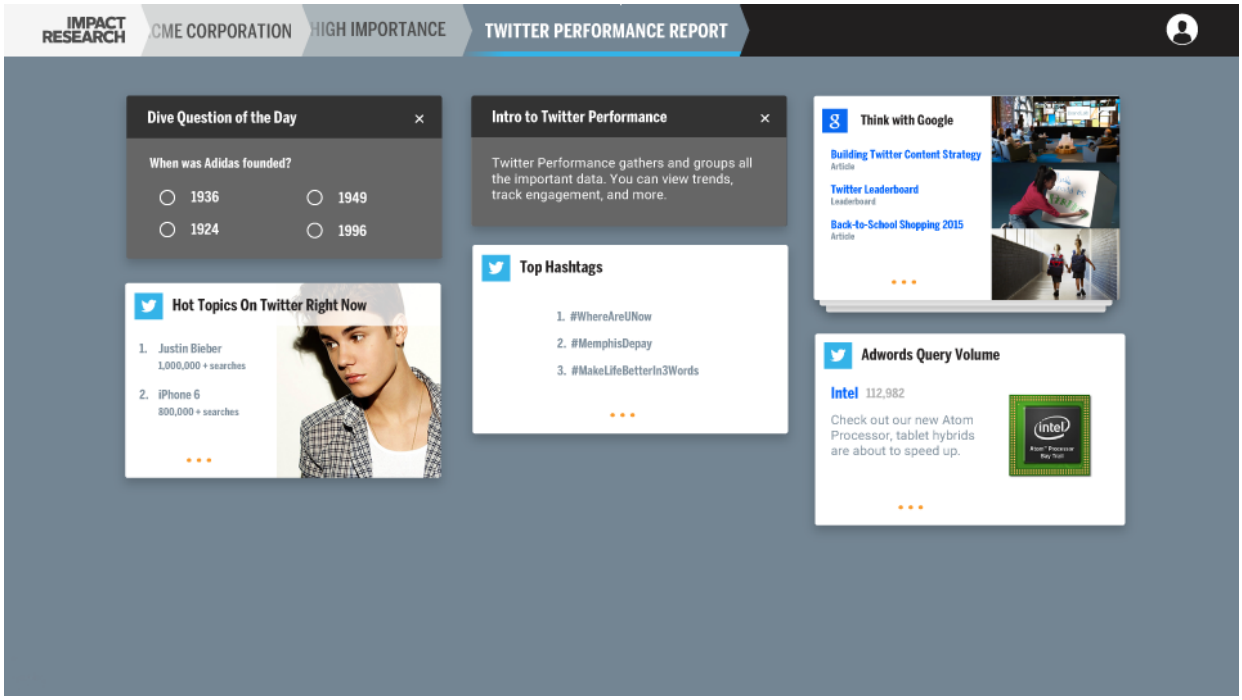
Designs

DIVE's product space is quite unique as it was a mainly visual and non-interactive consumable product. I had to conduct research and refer to industry standards when designing each of the interfaces in the news feed. Sizing, color contrast, timing, and speed, were all taken into consideration when creating new widgets. Custom animation and layouts were also used to increase visual interest, and to help users quickly differentiate between topics.

DIVE also had a sibling product called Team DIVE, which created to allow users to have an interactive experience instead of a purely visual one. It was a responsive web app that not only included the news feed mentioned above but also had the added functionality of allowing users to individually select and explore brand information available to them. I designed and helped build this project which involved: defining the project requirements and needs analysis; designing the information architecture; creating wireframes & prototypes; and building the front-end app.



The interactive desktop experience, Team DIVE.

In the market

The Dive Networks news feed brings in a lot of value for various company employees and their clients, and has been used in places like Sid Lee, Initiative, Dentsu Bos, and AOL.

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6. Crowd Curio

Summary

I helped design and build the initial layout of the app by synthesizing user research, creating wireframes, prototypes, and code. As the first designer and front-end developer for the organization, it was my responsibility to bring the idea to life.

View the site here.

Skills Applied

User research, user interviews, interface design, prototyping, development.

Background

CrowdCurio is a crowdsourced platform that allows everyday people or "citizen scientists" to contribute to scientific research. Similar to sites like Galaxy Zoo, it relies on users to help sort and catalog data that would otherwise be very difficult or impossible to do with machines. As a platform, it was meant for anyone and everyone to be able to share, conduct, and contribute to experiments across the world.

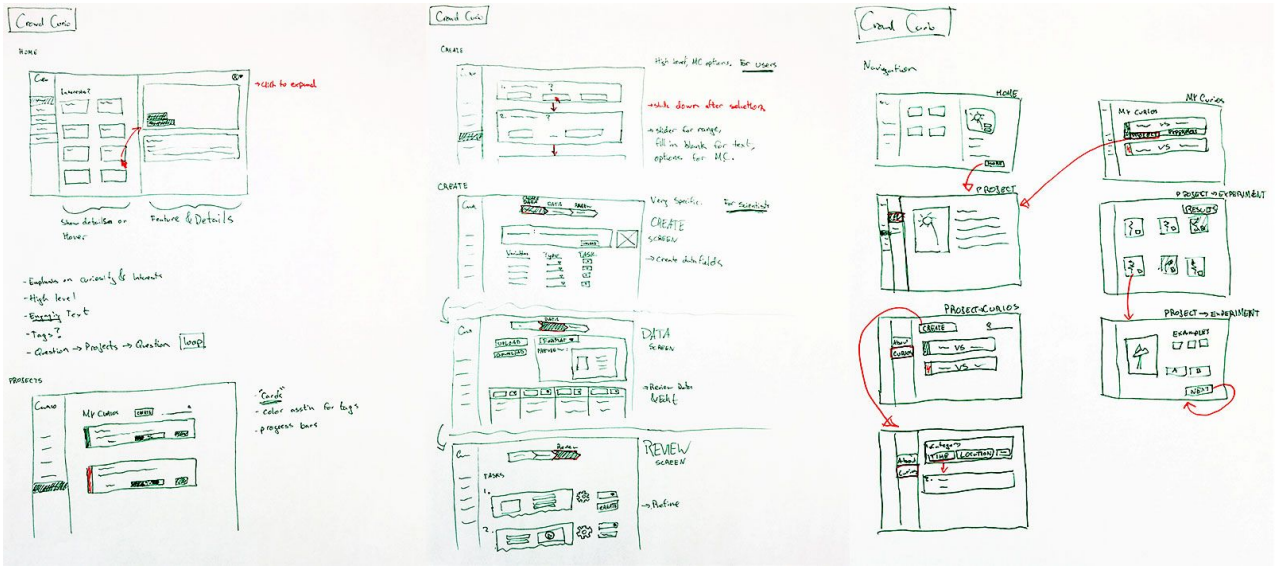
I worked with Dr. Edith Law to scope and plan out the project requirements, and helped convert user needs into tangible features.

Measuring success

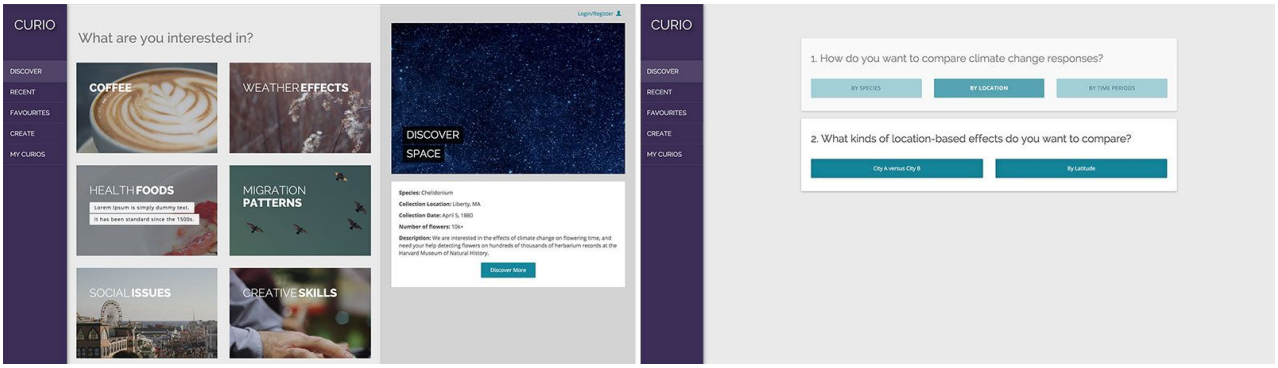
Crowd Curio initially had several goals:

- allow for the uploading & management of experiments by "scientist" users
- gamify the experiments to increase engagement
- create custom modules/interfaces for the different types of research topics
- make new experiments easily discoverable

To satisfy these needs, I started off by creating several paper wireframes and a site map. After the design iterations, I created an HTML prototype.



Wireframe designs to explore the interaction and features of the platform.

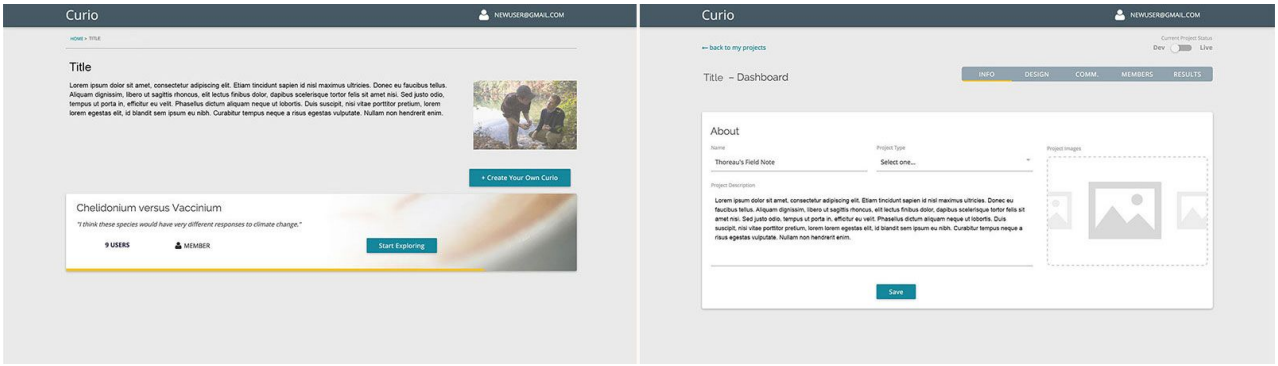


Initial prototype screenshots, Spring 2015.

Designs

The project had a fairly large scope, so a team of 2 people couldn't easily realize all the requirements in a short amount of time. We recorded down the feature requirements and started working on the low-hanging fruit.

After planning out the platform structure, I directed design and development towards one specific pilot project, with an interface optimized for that singular experiment. With user testing, I then determined the best layout, interests, and what gamification elements worked best, to make adjustments accordingly.



The finalized design implementation for Thoreau's Field Notes, *Spring 2015.*

Development

I created the prototype and the app using a combination of HTML, CSS, and Django.

Results and reflections

The platform began making progress after the launch of the MVP and began seeing traction with a few users. However, as with all platforms, they truly thrive only when the user-base grows, and having only one project meant that there wasn't much to attract recurring users besides their altruistic intentions. To grow, Crowd Curio needs to build more projects and publish results (once there is enough data) to show people the potential of citizen science.