

DGMD E-598
Digital Media Design
Capstone Final Proposal
Fall 2018

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1. Project Scope

1.1 Tentative Project Title

What title would you like to give your project?

The Web Design Codex

1.2. Project Goal

What is the goal of your capstone project? Depending on your project, you might answer one of the following sub-questions: What need are you trying to address? What problem are you trying to solve? What message are you trying to convey?

The Web Design Codex is an online resource guide to help junior-level designers and developers move up to mid-level and senior level positions.

Think of the codex as your handbook to get you your next job. The Codex is packed with resources – everything from listings of online courses to teach you new skills, references to the best industry books, a list of master's degree programs, an industry terms glossary, and once you're ready for that promotion, job listings.

But why is the codex necessary? The facts add up – senior level designers make much more than juniors do, seniors' job satisfaction rating is much higher, and seniors are more likely to have higher education training and access to education reimbursement than juniors do.

According to the AIGA and Google Design Census of 2016, just 6% of junior designers earn over \$75,000 annually, in comparison to over 40% of senior designers (Design Census 2016, 2018). The same census also reports that just 69% of junior designers are happy with their job positions in comparison to over 90% of those in leadership positions. Also within the same pool of surveyed designers, its reported that just 12% of junior designers have been educated with either a master's or doctorate degree, in comparison to 28% of those in leadership positions.

So it has been established that senior position levels pay more and generally have higher job satisfaction ratings. But how does a junior advance up into those positions? The proposed solution is to provide an online resource guide filled with information, tools and advice to help make junior designers stronger candidates for top positions. The solution is designed to be an informative, comprehensive career-building

experience. Hundreds of online resources will be compiled into a single accessible location which is streamlined for designers' career goals and current experience in the industry.

With the online resource guide, users will have access to:

- An extensive and categorical list of quick self-help resources.
- An educational glossary of industry terms.
- A listing of books written by industry leaders.
- A listing of online and on-demand, self-paced courses.
- A directory of higher education schools offering certifications and degrees in both design and development.
- A listing of top designs of the day from designers worldwide for inspiration.
- A calendar of nearby industry events, from networking events to skill-building workshops.
- A catalog of job listings.
- A personality-based placement test to help those new to the industry narrow down their field scope from technology in general into specific fields such as UI design, app development, or backend development.

My final end goal is to make it simple for designers and developers to find all of the resources they need to advance in their careers.

1.3. Learning Goals

What skills are you planning to develop during the completion of your project?

What new approaches or technologies are you planning to learn?

I am planning to develop skills in dealing with large data sets, working with a multitude of APIs, managing multiple custom post types and their listings, and further enhancing my UI design techniques. I have not used many of the APIs I plan on proposing to use, including the ones provided by Behance, Google Books, Authentic Jobs, and Meetup.com. I also have never compiled together such a large compilation of data sets together on a single site.

1.4. Target Audience

Who is the target audience? Describe the audience as thoroughly as possible, including demographics, technologies used to access the project, desires, frustrations, and goals. If you have personas, include them.

I have segmented my audience into four potential users.

The first and primary user is junior designers and developers in the industry. They are currently working full time, 40 hours a week in their current roles, and have learned all they could for their current job position. They currently have no available resources to move forward and upwards in their careers and are without access to educational resources or further on-the-job training provided by their employer. They'll be using the site to search for resources that teach them the skills required to obtain higher level positions, and to look for resources that expand and hone their current skill sets.

The next potential user group I expect is made up of current college students or recent graduates. These are users with traditionally academic and collegiate training in the field, but little to no actual professional in-field experience. They will be using the site to learn more about new skills that are prerequisites to many entry-level job positions that are currently not taught in school. They will be using the site to search for resources that teach them about the skill requirements of positions they want, and help them get their foot in the door to the industry. They could also use the site to help supplement what they have learned in school, learn topics related to a university project, or to expand their education above the limits of a weekly 3-hour seminar course on industry subjects.

Another set of users I also want to consider in my main target audience pool are current senior-level designers and developers. Just because someone has attained a senior position does not mean they are done learning. I envision them using this site to keep up with the new industry knowledge that recent college graduates and new hires already know, but they themselves have not had the time to master because of the limitations of their busy schedules. Another aspect of a senior level employee's job requirements is to onboard or mentor those in lower positions. Because of this, I envision this user group using the site as an onboarding or supplementary training tool for newer and entry-level employees, thereby using the site to suggest learning resources that better assist new hires and those in lower positions.

The last set of users I want to consider are people who are completely new to the industry. They have no previous higher education degrees related to the industry, nor any on-the-job training. They are coming to the site to get a feel of the industry, and to teach themselves the basics in order to get a sense of their interest in pursuing a full career. Because of this user, I wanted to provide a placement test to help them find which path in the industry they would like to follow, and suggestions of which resources they would use first. I also understand that this user may not necessarily be tech-savvy. This means that I will be developing content that is easily understandable to those new

to the industry, as well as developing the site's code for users that may not necessarily have the latest technologies on their viewing devices, including possibly outdated browsers.

1.5. Elevator Pitch

How would you describe in 3 sentences the significance of your capstone project? What is the impact of your project compared to what already exists? The elevator pitch (or value proposition) should be brief, persuasive, and mention your goals and the skills you bring to the project.

The Web Design Codex's end goal is to help junior designers and developers that currently don't have access to educational resources or further on-the-job-training free and open access to resources that prepare them for higher-level job positions.

The impact of this project is huge - it is the only solution to provide access to self help resources, educational certifications, events, books, design portfolio examples, and job postings in an all in one location. It is the only solution to provide access to the highest variety of resources, the widest variation of resources, and the most up-to-date content in a single location for free.

1.6. Metrics

How do you know your project is successful? Metrics should be SMART: specific, measurable, achievable, relevant, and time-bound.

The outcomes of this project will at first be measured by the number of unique users on the site. I want to know that my site is actually known in the industry and being used to serve its purpose. I will achieve this by using reporting tools from Google Analytics, which displays the number of unique visitors as well as location and demographic data of the users.

Once the audience size is a large enough amount to gather enough data from, I plan to focus more on minute measurable outcome data, such as the amount of time spent on pages, and number of clicks each page receives, in order to see which features and pages are more frequented and/or favored by site users.

Heat map recordings of the site will be implemented with SEMRush to observe the areas that users are clicking, which call to actions work, which ones don't, and at what points in the scroll map users start to disengage.

In order to find this project successful at launch, I will be mostly considering the number of unique page visitors at first. But post-launch, to measure a quantifiable behavior change, I will be looking at the number of new versus returning users to determine how many users found the data useful, and came back to further interact with the site's features.

To measure the developmental levels of success of the project, I have broke it up into three main levels of success.

Under the first level of success, all content features function as proposed. Users will be able to see an extensive and categorical list of quick self-help resources, an educational glossary of industry terms, a listing of books written by industry leaders, a listing of online and on-demand, self-paced courses, a directory of higher education schools offering certifications and degrees in both design and development, a calendar of nearby industry events, from networking events to skill-building workshops, and a catalog of job listings. That would meet full functionality requirements. There would also be a few dozen new users to the site, with at least one user that has clicked on a resource. If just one user benefits from using this site, I have done my job and met the basic requirements for the site.

In level two of success, not only do all the content features work, but they are accompanied by very in-depth filters that enhance the content listings, allowing users to search and filter through the content based on their user journeys. For example, if a user interface designer is looking for an entry level job position, they should be able to find that directly on the jobs listing page with ease, within an above-the-fold perspective, without having to scroll and sort through dozens of irrelevant listings. Apart from users getting specialized content based on their needs, I would also like to see new user counts to be in the hundreds, and returning users' rates of at least 25% coming back to reuse the site.

To exceed above and beyond functionality, I would love this project to reach an audience in the thousands for the third level of success. Not only would user counts greatly increase, but I would want to maintain a steady stream of returning users of at least 35% at this point. I would also love for it to be shared by other designers and developers on Twitter as an exemplary resource, especially by those with thousands of followers. There are now hundreds of resources types documented and added to the site beyond initial site launch, including some aggregated from community input. The site also has a large social media presence that stays active on a biweekly basis, to spread the word and get more users involved.

The figure below summarizes the criteria for the levels of success of this project.

Criteria	Level of Success		
	Level 1	Level 2	Level 3
All content displayed on site (<i>list of resources, glossary, books, online and on-demand courses, higher education certifications, events, and job listings</i>)	✓	✓	✓
All content is filterable by field	✗	✓	✓
Site is shared by other designers on social media	✗	✗	✓
Minimum number of unique users	10	100	1,000+
Minimum number of returning users	10%	25%	35%+
Minimum number of resources clicked on	1	50	100+

Figure 1: The table above illustrates the criteria requirements for the three levels of success for this project.

1.7. Life of the project beyond capstone

Does this project exist beyond completing the capstone course? Will it help you get a job, get a promotion, create a portfolio, or launch a business? Will your capstone be used or experienced by your target audience after this class?

I believe this project will exist well past the capstone course. I have plans to set up social media content calendars for year-long promotion of the site with pre-planned and pre-scheduled posts for each targeted social media channel to keep users interested in the site.

Apart from my efforts to keep promoting and spreading awareness of the site's existence, another major reason why I know this project will exist beyond the course, is that the site still has a lot of potential growth that needs to be built out past the constraints of a single-semester capstone project. I have so many more features I want to build and implement past initial site launch, including but not limited to: a mentorship sign-up program, a portfolio critique feature, a mock interview feature, a community messaging board, and more. I know the potential this site has, and it definitely extends beyond the constraints of a semester.

To keep the site alive, I also need to keep my users coming back. The site doesn't help anyone if no one is viewing it. By using APIs to load the bulk of the site's data, I am minimizing the amount of manual content entry that needs to be consistently updated. It will help keep the site updating with fresh content more often so that the content on the site is not outdated (*which is one of the major pain points of competitor sites*), consequently extending the site's longevity past the initial site launch, by increasing the number of returning users of the site who return for new content.

For me, the purpose of this capstone project is not to help me. I don't expect to get a job or promotion, nor a portfolio addition or an entire business launch. The purpose of my capstone project is to assist my site users in obtaining a new job or promotion. That is my main primary goal.

On the business end, there may be potential for advertising on the site, or for creating partnerships with businesses by promoting their software or job postings whose revenue I can use to continue to further develop the site and give back to its development.

If this project can't reach its target audience, then I don't see it as a successful product. The entire purpose of this project is to help designers and developers move forward in their careers. I really want the target audience of this project to be able to find and

actually use the product. Because of this, I will be sharing it on as many applicable platforms as I could. I will first be sharing the UI design on Dribbble and Behance, to entice current designers on those platforms to view my site. I will then be going to local community meetups to bring awareness to as many creatives in my field. These meetups include Dribbble Orlando, AIGA Orlando, WordPress Orlando, and Code for America – all groups that have national chapters with even more members that could be potential site users.

2. Competitor Review

Identify 3 similar pieces of work created by other people. These pieces of work might have been developed for the same goal as your project's goal, or for a different goal but are similar in nature. It could also be a piece of work from a different field, which can bring some inspiration for your project or parts of your project.

For technology projects, this may include other websites, other applications, or similar technologies. For film projects, this could be other films, or it could be a similar story in other formats (book, article, cartoon, etc.). For instructional design, this could be other online courses, courses in other formats, or books, YouTube videos, and other methods of instruction.

Reference #1: [The Web Field Manual](#)

The Web Field manual is an online manual for designers and developers. It hosts an extensive list of design links and resources that designers and developers can use to enhance their skills and workflow. The links are organized into grouped topics like CSS, performance, grids and typography, accessibility, animation, and more.



Figure 2: Screenshot from the Web Field Manual depicting an example of how their design links are listed and displayed by category as of August 18, 2018.

Although its current list of resources is very extensive, their only manner of assisting designers and developers is just that – a simple list of links. There is no way of directing users towards real people via an event listing. There is also no way of showing users their potential job opportunities through a job listing board.

Another downside to the Web Field Manual is that it does not embed any information directly on their site. In order for users to get detailed information on the categorical links, the site currently relies on users having to click links, leave the site, and read information on an external page.

For example, for users to get design inspiration, they have to find the inspiration category on the site, click a link, get redirected to an external page, search by their desired design field category, and finally be able to see a listing of design inspiration examples.

My project proposes to simplify that process by displaying design inspiration directly on the site, minimizing the amount of work for the user. I will also be listing code examples, job postings, and higher educational degree options directly on the site to make it easier for the user to obtain the information they need.

This competitive review not just illustrates the superior features of my competitor's sites, but also the potential audience size of my users. When looking at comparative sites like [The Web Field Manual](#), an SEMRush traffic analytics reports from August 2018 reports they alone had over 8,000 users in the month of July alone, showing me that there is a need for a product like this on the market.

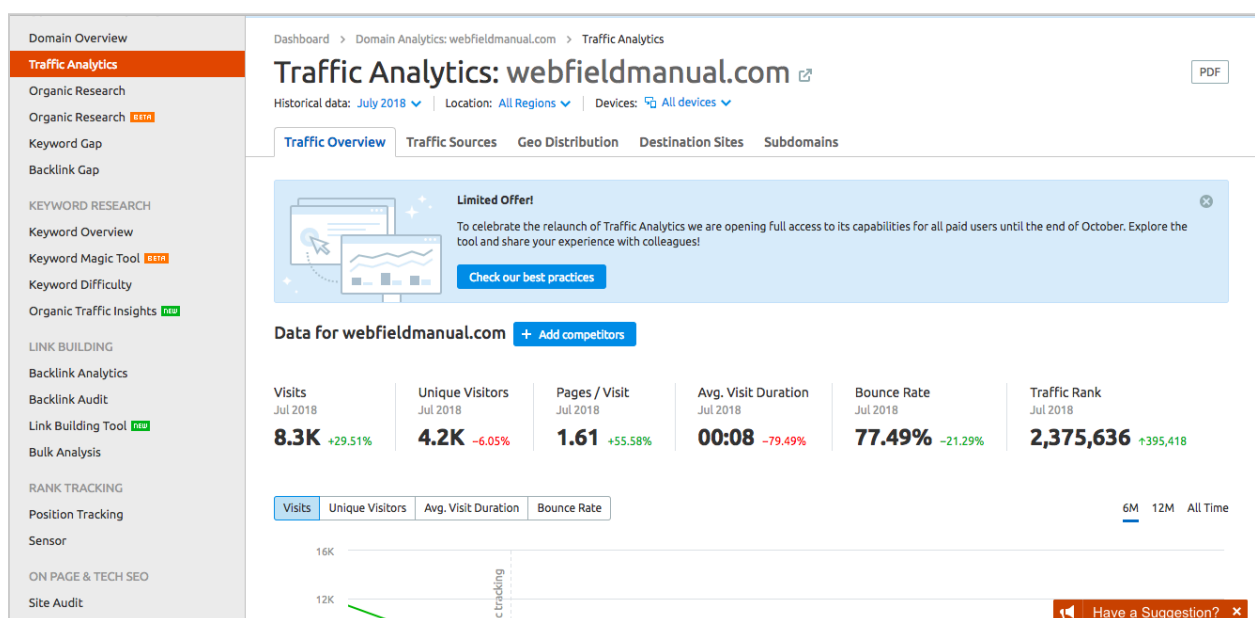


Figure 3: Screenshot from SEMRush detailing a traffic analytics report of *webfieldmanual.com*

Reference #2: [Ladies, Wine, and Design](#)

Ladies, Wine, and Design (LWD) is a site dedicated to ‘empowering creative ladies’. The site gives its users access to mentorship circles, portfolio reviews, talks, and creative meetups in over 180 cities worldwide (*Ladies, Wine, and Design, n.d.*). The way it does this is by providing users with lists of LWD sponsored events that host the previously aforementioned resources. The site also hosts recorded interviews with female designers, and sells merchandise that can possibly help market their cause.

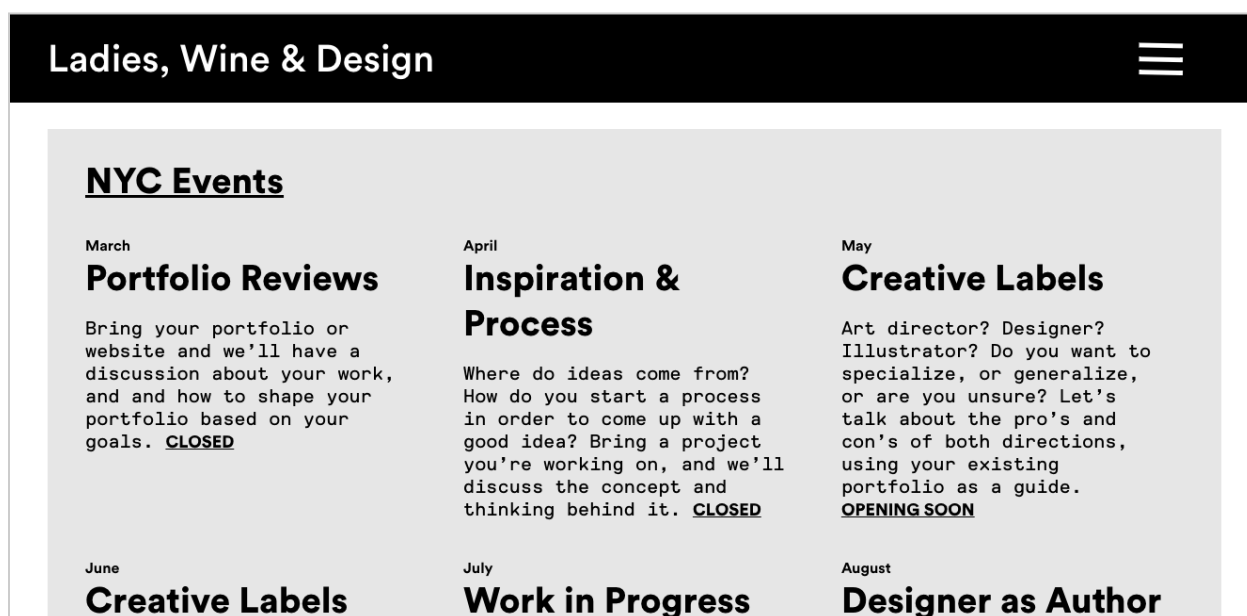


Figure 4: Screenshot on August 18, 2018 of the Ladies, Wine, and Design site depicting an example of their events listing with descriptions of how each event helps designers, including: portfolio reviews, project ideation and process workflow, and deciding on a design specialty.

The site is very tailored to their proposed audience. All imagery on the site is of women. None of the event imagery has any men pictured in attendance. The five featured events on the site all refer to women or ladies. The only interviews on the site are all of women designers. The merchandise promoted on the site is covered in lipstick and floral designs that adorn items like crop tops, women's tanks, and pink phone covers.

However, by marketing the site towards a strictly female audience, it narrows down the scope to only female designers, minimizing the number of users this site. According to the [2017 Design Census](#) supported by Google and the American Institute of Graphic Arts, 53.5% of designers identified themselves as female, 44.8% identified themselves

and male (*Design Census 2017, n.d.*). This is why I have chosen to market my project for both genders, allowing me to almost double LWD's audience, while consequently allowing me to reach more junior designers and developers in the field.

Another downfall of Ladies, Wine, and Design is that it does not offer references to other modes of assistance for designers and developers. The only resources they promote on the site are LWD sponsored events, LWD interviews, and LWD merchandise. With the use of APIs such as Behance, Codepen, and Meetup, my project will be exposing my site's users to more external data resources, and eliminating the potential of a single brand from becoming the only educational authority for my audience.

Reference #3: [TSH](#)

TSH provides help to other designers by hosting a listing of industry advice quotes from veteran designers like Tobias Van Schneider, Jessica Walsh, and John Contino. It also lists links to design events nationwide, in addition to listing information for a TSH yearly conference hosting speakers from Google, Wolff Olins, and Salesforce.

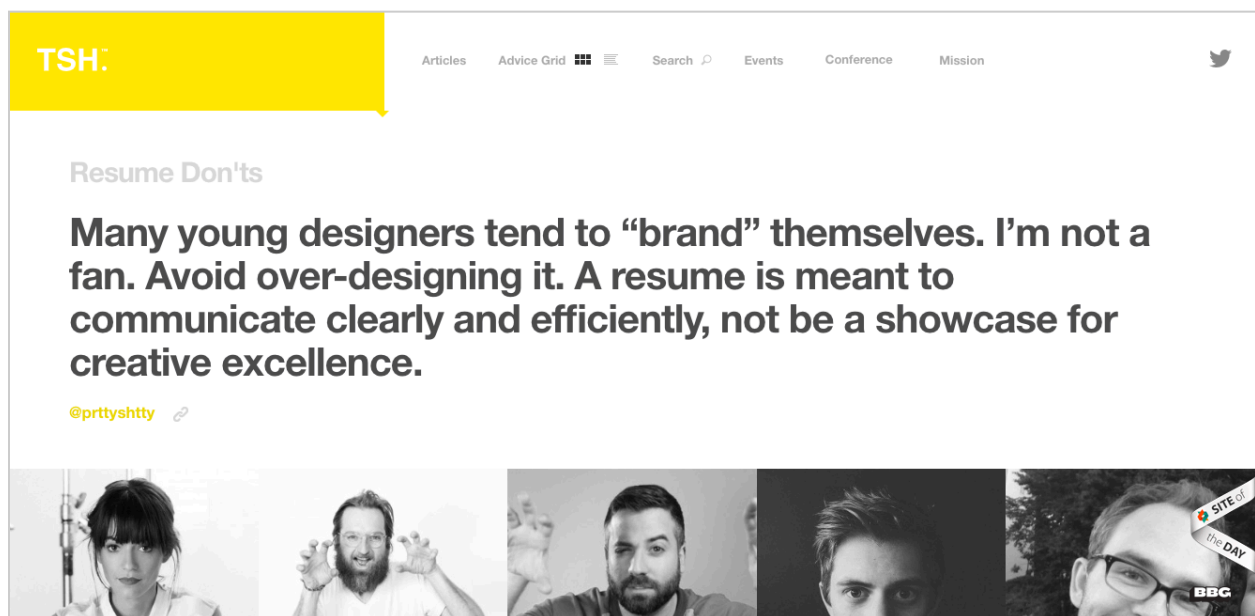


Figure 5: A screenshot of the TSH site displaying the advice grid feature that shows advice quotes from industry leaders. Taken on August 18, 2018.

Although the advice feature in the site is full of content from a long-list of top designers in the field, the events section of the site is currently lacking. Only 22 events were ever

posted, with only 12 of those postings even having links to an event registration page. Events without registration links did not even feature necessary information like the location of the event, just the general city it was hosted in. (*TSH - Solutions To Help You Go Pro, n.d.*)

The events feature (*as of August 2018*) cannot be of actual use to current designers. The most recent event listed on the site occurred back in 2016, and the TSH conference page has data from three years ago, as the conference hasn't recurred since 2015. (*TSH - Solutions To Help You Go Pro, n.d.*)

To summarize the competitor comparisons, Figure 8 below displays a full tabular organization of the top features across all three sites, and a comparative checklist of what features are and aren't supported by The Web Field Manual, Learn TSH, and Ladies Wine and Design, in order to illustrate both the complexities levels of each site, and how many resources the site features for the user's benefit.

Figure 6: Competitor Feature Comparison

Feature Criteria	Competitor			
	The Web Field Manual	Ladies, Wine, and Design	Learn TSH	My Capstone
Listing of resources for designers	✓	✗	✗	✓
Events Listing	✗	✓	✓	✓
Careers Listing	✗	✗	✓	✓
Visual listing of top industry designs	✗	✗	✗	✓
Recommended Books	✓	✗	✗	✓
Interviews with Industry Leaders	✗	✓	✓	✗
E-commerce for branded merchandise	✗	✓	✗	✗
Facts on Current Industry Standards	✗	✓	✗	✓
Updated Content	✓	✓	✗	✓
Organization of content by type and field	✓	✗	✗	✓

3. Technology Requirements

All projects: Identify the different technologies you will need to complete your project and how they will be used in your project. Map each technology to a course you took, to your professional experience, or indicate that this is a technology that you are learning on your own.

Technology projects: Identify alternative technology choices that might be used to complete this project. Why did you decide against these approaches? Explore the approaches taken by your competitors and the technologies they selected. Why is your approach better for your project?

Technology #1:

[Atom Text Editor](#)

Reason:

The Atom text editor will allow me to edit all of the HTML, CSS, SCSS, PHP, JSON and JavaScript code needed to create this project. This editor features color coded syntax for all of the languages used for my project, and will also give me the ability to find and replace code snippets amongst hundreds of files within the project, as well as assist in the debugging process with syntax error highlighting.

Atom also boasts a multitude of extensions for the text editor (*also referred to as packages*) that will contribute to the streamlining of my production workflow process. The following packages will be used:

1. [To-Do Show](#)
 - a. The to-do show package will be used to assist in keeping track of project progress from one day to the next. I will be able to write an @TODO notated comment at the end of every work day that instructs me on the next to do list item I have to tackle per page. This package will display a pane with the full list of project todo list items at all times, essentially assisting as a reminder to ensure all project details are solved before final project deployment.
2. [Auto-Close HTML](#)

- a. This package will enter a closing HTML tag for every tag I open, minimizing the amount of typing I have to do per open-close tag by 50%.
3. [Atom-Beautify](#)
 - a. This package will assist in auto indenting and cleaning up the code structure, keeping the structure consistent and clean for any developers working on the code base post launch.

I have used Atom before in my previous professional experience.

Technology #2:

[GitHub](#)

Reason:

GitHub will be used to save stages of code base progress using version control. With every new project milestone, I will use GitHub's branching features to create a new branch deviation of code. If the branch renders fully functional for the final project, I can commit that branch with a pull request that merges it up to the main project code base. If I decide to not use the code, I can easily stash the current changes and start a new branch without interfering with the original master code base.

Using GitHub will also allow this project to easily scale and be maintained by multiple developers in the future. By keeping this repository public, other developers can create branches from the master repository and submit pull requests to either implement new features or progressively enhance the current code base. I have used GitHub before in Harvard Extension School courses like CSCI E-39 Modular Design Patterns with React.

Technology #3:

[NPM Packages](#)

Reason:

NPM Packages will be used to improve the production workflow by minifying SCSS, CSS, and JS files, refreshing preview browsers on code changes, and more. I have used some NPM packages professionally and also in Harvard Extension School courses like CSCI E-31 Introduction to Web Application Development using Node.JS.

1. [Gulp](#)
 - a. The gulp npm package will render SCSS code as browser-readable CSS and also minify the CSS code for better performance.

2. [Browsersync](#)

- a. Browsersync executes live browser refreshes on every change in a code-related file within the main project directory. This will be used to minimize the amount of production time used switching between the text editor to the browser, and eliminating the need to refresh the browser every time I want to see the effects of my code changes.

Technology #4:

Wordpress.org Content Management System

Reason:

I have chosen to work with a content management system (CMS) in order to add more dynamic content entry and editing features to my site.

As of August 22, 2018 the WordPress CMS powered over 31% of all websites, and accounted for 60% of all websites that are built with content management systems. Other popular content management systems (*like Drupal and Joomla*) only powered about 1-2% of the world wide web, according to W3Techs. (*Usage Statistics and Market Share of Content Management Systems for Websites, August 2018, n.d.*).

With so many users of the CMS, and the number of extensive documentation manuals, tutorials, and training courses, I felt more comfortable creating a project of this scale on a CMS like WordPress. If I had to hand off the project post launch to other developers or content editors, the likelihood of those administrative users being exposed to a CMS like WordPress is much greater than any other CMS on the market.

Since this site will be created with the WordPress CMS, all of the pages will be created via custom PHP page templates, and feature custom fields per page that allow users in the administrative end to easily edit content in the dashboard interface without having to change any content found inside hard-coded PHP code.

In future iterations of this project, I plan to extend the content approval process to more than just one administrative site owner. WordPress's default installation comes with the ability to aggregate multiple levels of admin users with differentiating levels of editing and publishing privilege access.

Upon initial installation, WordPress only comes with two content types: pages and posts. I will be developing a custom plugin for this site that adds the functionality to add

custom post types for the site's resources, glossary items, book listings, online courses, and educational degrees listing.

As part of the plugin functionality, I can also create quick-access shortcuts for these post types by pinning them to the Wordpress administrative dashboard, making it easier for new content aggregators of the site to find where to edit content.

By default these custom post types already come with CRUD (create, read, update, and delete) functionality, which is another plus to using a CMS like WordPress.

In consideration of theming and front-end site development, there are already thousands of WordPress themes on the market that I could use, including the default Twenty Seventeen theme that comes with every WordPress installation. However, I will not be using any of those pre-created themes. I will be developing my own theme from scratch to match the UI design I create using Sketch App during Milestone 3, allowing for more personalized customizations of the user interface design.

During the Harvard Extension course DGMD E-25 Introduction to Web Content Management Systems Site Development, I was exposed to creating sites and theming practices for Wordpress, Drupal, and Joomla, but for reasons above, chose WordPress as the final CMS choice.

Technology #5:

[WordPress ACF Plugin](#)

Reason:

An out-of-the-box WordPress installation only comes with two post types: pages and posts. Those two post types also host only a single entry point for content: a simple WYSIWYG editor.

However, this project needs multiple custom post types (*such as design resources, online courses, and glossary items*) that each need their own custom fields to aggregate data. These are unique fields like glossary terms and descriptions that don't currently exist in out-of-the-box WordPress installations.

This is where Wordpress Advanced Custom Fields (ACF) plugin becomes of use to this project. With ACF, I can create custom field groups that can be attached to any and all of the custom post types I create. The variety of field types currently supported by ACF (*including but not limited to text fields, select fields, true/false fields, image fields, and*

video embeds) also completely fulfill the needs of the types of data entry needed for all of the custom post type data for this project. I learned about the ACF plugin professionally, but had not yet implemented its usage on my own projects.

Technology #6:

[Meetup.com API](#)

Reason:

For this website, I wanted to provide users with a listing of nearby industry events to facilitate the meeting of the site's users with other professionals currently in their field.

My solution was to use the Meetup.com API to display a listing of design events within a specific mile-radius based proximity of the user. The events will guide users towards local meetings where they can find speaking engagements to teach them about the industry, give them the opportunity to network with professionals in the field, and possibly have the ability to speak with recruiters at events.

I chose Meetup.com because of the large network of events it offers in the design community. On meetup.com, a simple keyword search for 'design' in August of 2018 resulted in over 273 related meetups within a 10-mile radius of Boston, Massachusetts. (*Find Your People | Meetup.com, n.d.*)

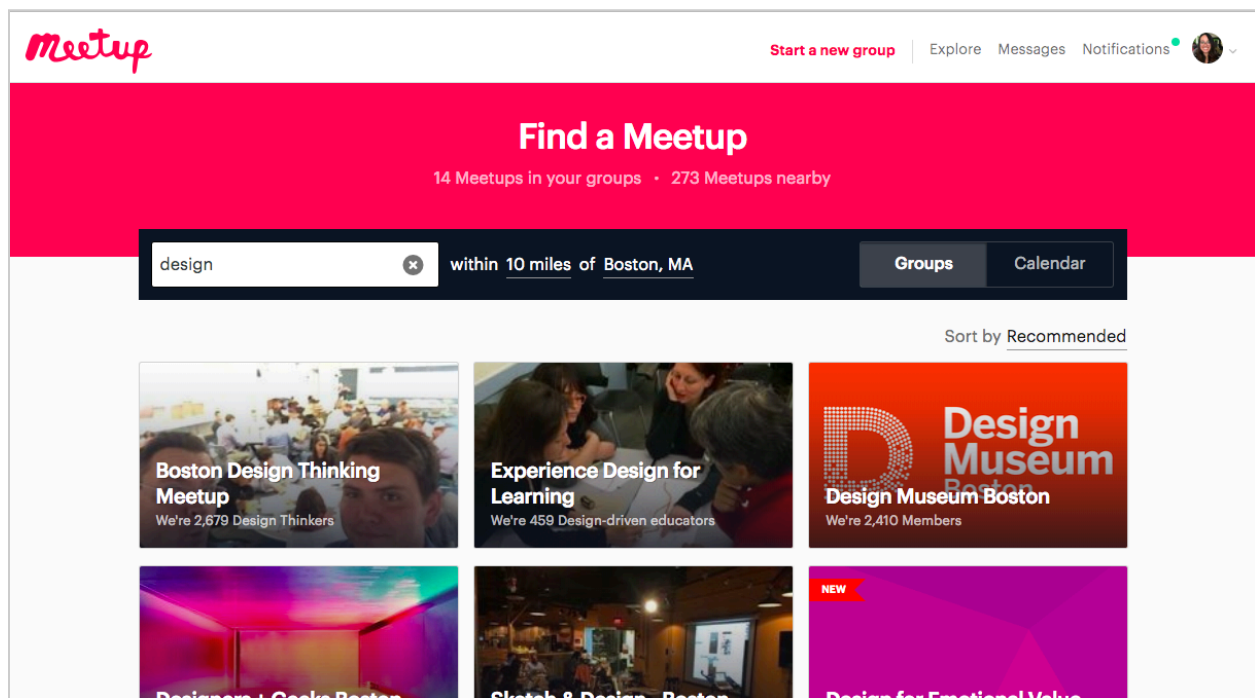


Figure 7: A screenshot of a search results for design meetups within 10 miles of Boston,

Massachusetts resulting in over 200 meetups.

To implement the API, I will create a get request using the API's built-in parameters that filters event listings by the user's location, and receive the data results in JSON format. I parse through the JSON data with JavaScript, and display the parsed data on a WordPress PHP page template. I have not used the Meetup API before and will be learning it for the first time during this project.

Technology #7:

[Behance.net API](https://behance.net)

Reason:

I wanted to find a way to provide users with concrete examples of what other professionals in their field regard as high quality work. Behance.net is one of the largest online repositories of design work, easily making it a top choice resource for requesting designs from industry designers. As of August 11, 2018, Behance boasted over 93 million project views in the previous 30-day period. (*About :: Behance, n.d.*)



Figure 8: Screenshot from Behance.net on August 11, 2018

When it comes to implementation, Behance's API features a variety of query parameters that provide just what this project requires to function to spec, and more. The API's query requests allow me to list designs by professionals worldwide, sort

designs by most popular, filter requests by creative field, filter to specific time ranges, limit the number of results to reduce load time, and also sort results by number of appreciations. In respects to scalability, the API is currently free to use for 150 requests per hour, with options to upgrade to premium API usage after that threshold. (*Behance Developer Documentation :: Overview, n.d.*)

Another option considered to achieve a listing of designs was [Dribbble.com's API](#). Dribbble is another widely used repository of design work with many examples of popular industry designs for my site's users. As of August 11, 2018 their website reported over one billion pixels dribbbled. (*Shots – Dribbble – Dribbble, n.d.*)

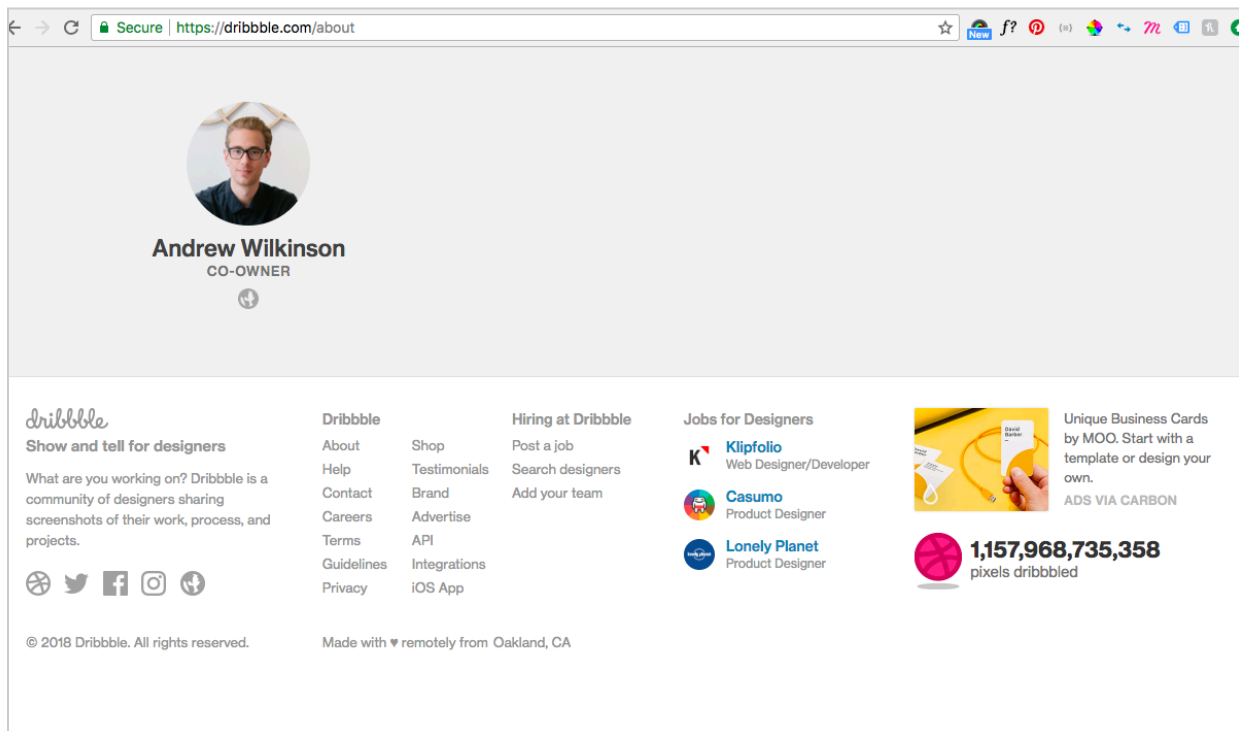


Figure 9: Screenshot from Dribbble.com on August 11, 2018

However, since their latest V2 API update, Dribbble no longer supports API calls that request categorical listings of work by category without approval (*Changes | Dribbble API, n.d.*), nor API usage on projects that builds “a community or social network for designers.” (*Terms | Dribbble API, n.d.*) Because of these restrictions, and Behance’s already feature-rich implementation, Behance became the logical source of API calls for this project. I have not used the Behance API before and will be learning it for the first time during this project.

Technology #8: [Google Books API](#)

Reason:

I needed to find a way to list a collection of design and development books on the site, and keep the book's data automatically updated. I did not want to worry about keeping track of product purchasing links or current sale prices for an ever-growing list of books. To solve this problem, I will be using the Google Books API. The Google Books API returns JSON data for books that encompasses everything from titles and authors to purchase links and prices, which is exactly what I need to display for this project. I have not used the Google Books API before and will be learning it for the first time during this project.

Technology #9: [Authentic Jobs API](#)

Reason:

I needed to display a listing of current job opportunities for designers and developers. Since job postings change so frequently and data varies so widely from one source to another, manually entering that data on the site seemed unfeasible. Instead, I wanted to display job posting data that was pulled directly from a large job posting company's API.

I took into consideration most large company API sources for this project.

[The LinkedIn API](#) does not offer access to their job listings. The API only provides features to share content to LinkedIn, sign in with LinkedIn accounts, manage company pages, and add-to-profile features to update professional certifications. (*Home | LinkedIn Developer Network, n.d.*)

[Glassdoor](#) no longer offers free access to their API, and registration for API Keys is currently closed and only available to API Partner (*Glassdoor API | Glassdoor, n.d.*) as witnessed on the site on August 18, 2018.

[SimplyHired's API](#) is no longer maintained and hasn't been updated since 2015 (*GitHub - jobapis/jobs-simplyhired: THIS PACKAGE IS NO LONGER MAINTAINED, n.d.*).

[Career Builder's API](#) only displays data for a single job per request (*CareerBuilder, n.d.*), not a listing of full job search results. Reddit no longer offer access to their APIs (*Reddit API, n.d.*). [Indeed](#) and [Ziprecruiter](#) do not offer free and open access to their API data (*Indeed Publisher Program | Indeed.com, n.d.*), and require a publisher application

(*Partner, Publisher, and Affiliate Job API Programs | ZipRecruiter, n.d.*) to gain access. Although I applied, neither company accepted my application for access.

With so many failed attempts to retrieve data I finally found an alternative solution with [Authentic Jobs](#). Authentic Jobs is a 'job board for designers, hackers, and creative pros' as their website header implicates (*Authentic Jobs: Web, Design, Freelance, and Tech Jobs, n.d.*). They also offer a free open-source API that provides access to their job listings and returns data in either XML, JSON or PHP.

Because Authentic Jobs is so specifically catered to the design industry, I not only have access to job listings, but also posting details that typically aren't openly available data fields in other job search API engines. Unique data fields include:

- Job category: I can filter through job listing results in different categories, including but not limited to: front-end engineering, apps, and design and user experience. No other job search API engine that I encountered grouped design positions in this manner. Many offer keyword-only searches that create too many keyword variations to properly group into categories.
- Company type: I can inform users if the company they are applying to is a startup, studio, educational institution, or non-profit before they even apply to the job. Typically, a job seeker would have to search a company's name in a search engine, find their website, and eventually look through their content to decipher that type of information. This type of data is highly valuable and definitely a time saver for users.

I have not used the Authentic Jobs API before and will be learning it for the first time during this project.

Technology #9:

[Typeform](#)

Reason:

I will be using Typeform to create the field placement test for those new to the industry that want guidance and need assistance before they start learning the many facets of the web design industry. Typeform allows me to create themed quizzes that can be styled to match the UI of my site. It allows for displaying results based on a user's input, as seen in this example [here](#). Typeform is also compatible with my CMS, and can be implemented via an embed or via their WordPress plugin. I have not implemented Typeforms on a WordPress site before, and will be learning it for the first time during this project.

4. Design Workflow

Technology projects: Broadly describe how the product will work. What is this thing you're building? Refer to your elevator pitch and possibly elaborate. Use diagrams, screenshots, or mockups if these are helpful. Describe your product in general, as well as some features in detail.

The following is an illustrated sitemap of the proposed page breakdown of the site, as well as a breakdown of the features and details of each page.

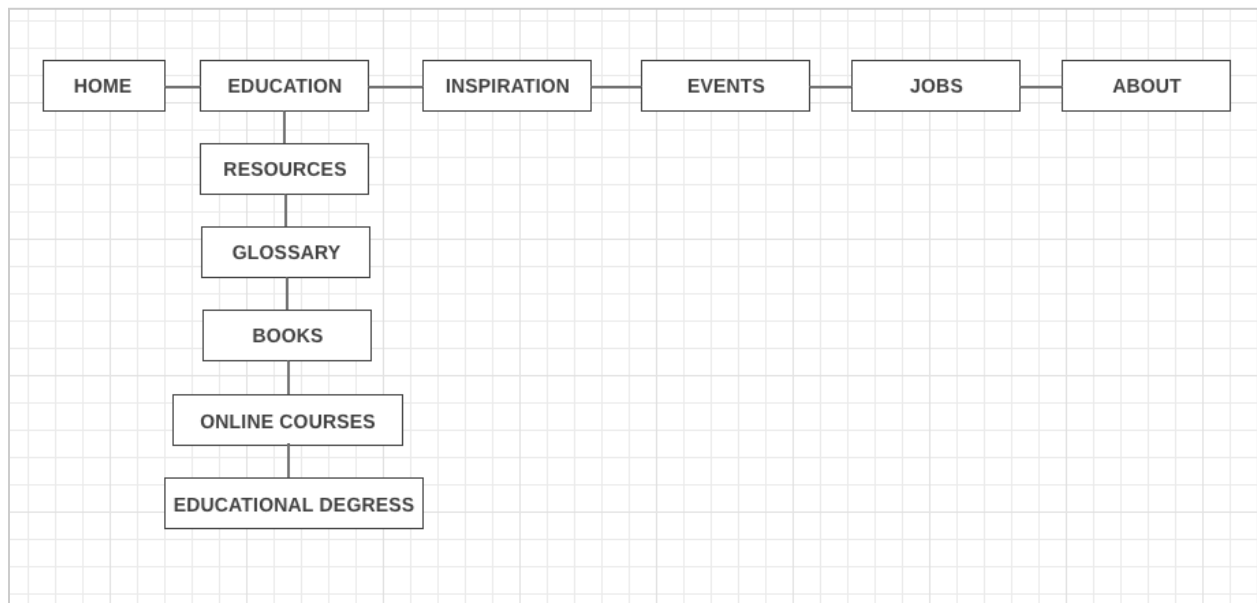


Figure 10: A proposed sitemap of the capstone project.

01. Home Page

Feature: access to field placement test.

The home page will display information about the website and its purpose via text and images. It will display featured resources of the week to show users new content when they return. If users are not interested in the featured resources, they can use the filter sections, which hosts drop down filters that redirect users to the specific type of resources they're looking for.

A mockup of a home page filter form. It features three dropdown menus stacked vertically. The first dropdown is labeled 'I am a' and has 'UI Designer' selected. The second dropdown is labeled 'at the' and has 'beginner' selected. The third dropdown is labeled 'level, and I am looking for' and has 'book resources' selected. Below the dropdowns is a grey button with the text 'SHOW ME CONTENT'.

Figure 11: A sample mockup of the home page filter that redirects users to the type of content they are looking for.

For new users that are also new to the industry, they will have access to a field placement test to help them decided which technological field they'd like to focus on first, with a list of suggested resources. The test will be created through the usage of a form created via [Typeform](#) that is embedded on the site.

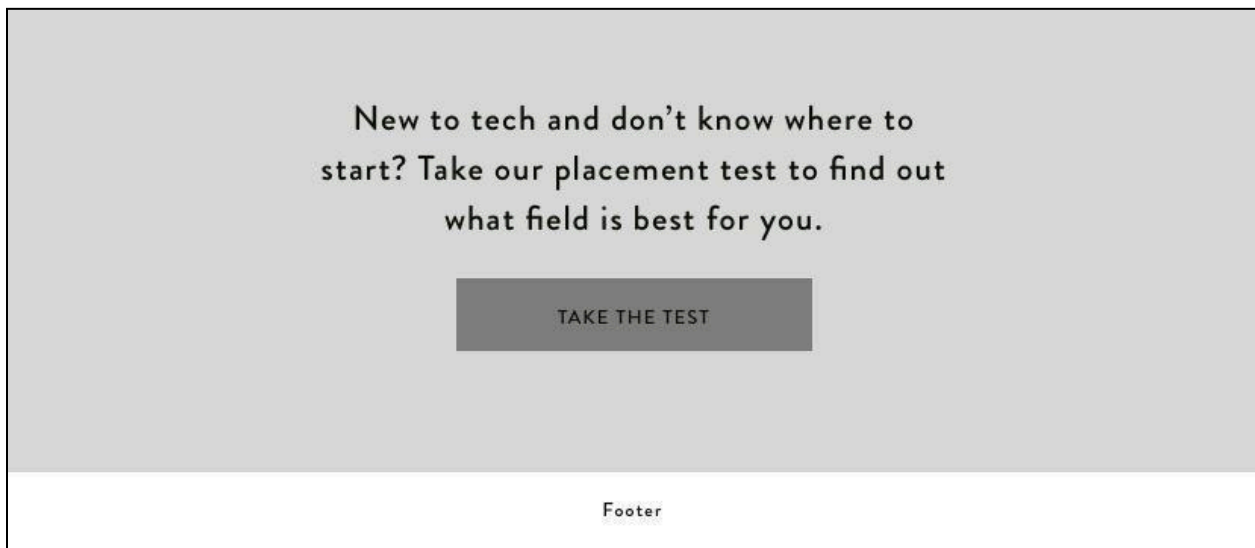
A mockup of a call to action for a placement test. It features a grey background with white text. The text reads: 'New to tech and don't know where to start? Take our placement test to find out what field is best for you.' Below the text is a grey button with the text 'TAKE THE TEST'. At the bottom of the page, there is a white footer with the text 'Footer'.

Figure 12: A sample mockup of a call to action on the homepage that redirects new users to the field placement test.

02. Resources Page

Feature: an extensive and categorical list of quick self-help resources.

The resources page will list a category of resources users can use to expand their knowledge. Users will see the title of the resource, a description, and a link to the external site. Users will also be able to filter the resource results by field, such as design or development.

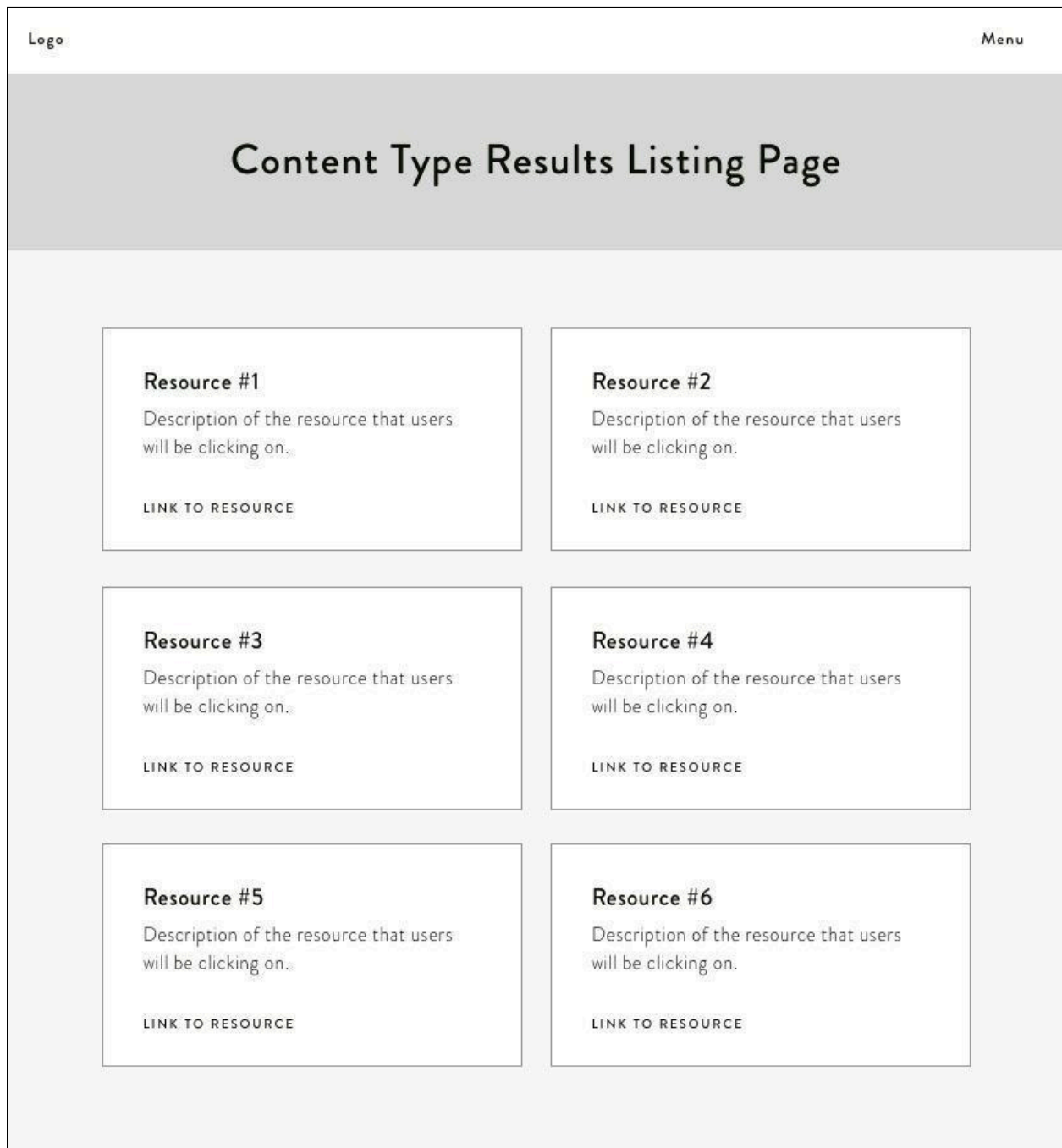


Figure 13: A sample wireframe mockup of what a resource listing page will look like.

03. Glossary Page

Feature: an educational glossary of industry terms.

I will be creating a glossary of industry terms. Users will be able to see a listing of each term and its definition. They can also filter the terms by industry field, such as design or development.

04. Books Page

Feature: a listing of books written by industry leaders.

I will be compiling a listing of books to assist those looking for guidance on their career paths. Users will be able to navigate to the books page and see information on each book as provided by the Google Books API, including title, author, cover image, price, and a link to purchase the book.

05. Online Courses Page

Feature: a listing of online and on-demand, self-paced courses.

This listing will display course titles and descriptions of on-demand, self-paced courses, and links that direct them to the websites that host those courses (*such as Treehouse and Lynda.com*). Users will be able to filter these listings by field, such as design or development.

06. Educational Degrees Page

Feature: a directory of higher education schools.

This listing will display the educational institutions currently offering certifications and degrees in both design and development. Users will be able to see the name of the institution, the location of the institution, the name of the degree, and links to the degree program's website. Users will be able to filter results on this page based on what field they're most interested in, such as design, development, and app design.

07. Inspiration Page

Feature: a listing of top designs of the day created by designers worldwide.

Users will be able to see the most popular designs of the day from designers worldwide for their inspiration. The designs listing will show a preview image, and a link to the original post by the author. This listing's content will be loaded via Behance's API, and will also allow users to filter results by industry field.

08. Events Page

Feature: A listing of industry events

This page will feature a listing of industry events such as networking meetups and skill-building workshops near the user's location by loading data from the Meetup.com API. Users will be able to select from industry fields such as design or development,

and be able to view event information such as the name of the meetup group, the date of the event, the event locations, and the meetup description.

09. Careers Page

Features: a catalog of job listings.

This catalog of job listings will be created by displaying JSON data from [Authentic Job's](#) API. Users will be able to filter through hundreds of job postings by narrowing down the jobs they are interested in. Filters available to users include the position's industry (*front-end engineering, apps, and design and user experience*), and the type of company they're applying to (*startup, studio, educational institution, or non-profit*).

10. About Page

This page will host information about the website's purpose, mission, and its creations through text-based content and images. The about page will also host a section where users can share information about the project on social media.

Users will be able to use any and all of the resources they find appropriate to both their learning and career goals. As most data is pulled from API sources, most of the site will get automatically updated and maintain fresh content without manual site content maintenance.

5. Work plan and milestones

Create a list of all deliverables you will generate for this project. Along with this, generate estimated due dates for each deliverable. In developing this plan, consider that some tasks will run together, some must be consecutive (one cannot start B before A is finished), and some can be completed at any time. You will be presenting your capstone project in an online webinar on December 8. The balance of your deliverables will be due on December 17. Finally, identify milestones. How do you know you're on track to finish this project on time? How will you know if you're ahead or behind schedule?

Milestone #1: WordPress Integration

Due Date: February 1, 2019

Task Deliverables:

Sprint 1: January 5 - February 1

- Install WordPress CMS
- Implement git version control with GitHub
- WordPress starter theme is created
- Install NPM packages
- Create high level pages in Wordpress that are linked in the menu

Milestone #2: Develop and Load Dynamic Site Content

Due Date: March 9, 2019

Task Deliverables:

Sprint 1: January 30 - February 9

- Create custom WordPress plugin for the initialization of sitewide custom post types
- Create all site custom post types
- Create ACF fields for custom post types and display fields on site

Sprint 2: January 30 - March 9

- Register all APIs (*Meetup.com*, *Behance.net*, and *ZipRecruiter.com*, *College Scorecard*) and receive API Keys.
- Load JSON data via API calls in the browser, parse the JSON data and display the data on the site.

Milestone #3: UI Design

Due Date: March 23, 2019

Task Deliverables:

Sprint 1: February 23 - March 9

- Moodboard of the user interface's proposed fonts, colors, and photographic assets.
- Initial wireframes of all website pages.

Sprint 2: March 9 - March 23

- High fidelity UI design of all high impact pages mocked up in [Sketch App](#).

Milestone #4: Front End Development

Due Date: April 13, 2019

Sprint 1: March 23 - April 13

- All semantic HTML and SCSS necessary for front-end styling and development of the proposed UI designs from Milestone 3.
- Placement test personality research.
- Develop and design placement test.

Milestone #5: Filters

Due Date: April 20, 2019

Sprint 1: April 8 - April 20

- Create filters for content site-wide.

Milestone #6: Content Entry, QA, Metrics and Analytics Implementation

Due Date: April 20, 2019

Sprint 1: April 20 - April 28

- Research for content for glossary terms
- Final content entry sitewide including listing of design resources, courses, glossary of industry terms, and about page content.
- Review of full content entry for spelling/grammatical errors

Sprint 2: April 28 - May 4

- QA testing for: page speed performance, accessibility, broken links, search, engine optimization, responsiveness, and cross-browser and cross-device QA, with fully documented results.
- Implement metrics reporting with Google Analytics, Optimize and Tag Manager.
- Implement metrics reporting with Hot Jar heat maps.

Milestone #7: Site Launch

Due Date: April 20, 2019

Sprint 1: May 4 - May 8

- Merge all git branches and push to master branch
- Site launch
- Assure tracking is functioning properly.

The following figure has a Gantt chart of the proposed tasks scheduled out by milestone grouping, with corresponding due dates of tasks and major milestones.

Capstone Project

Milestone 1: WordPress Implemen...

- Set up Wordpress Site
- Implement Git Version Control with G...
- Install NPM Packages
- Create Wordpress starter theme
- Create WP high-level pages and link ...

Milestone 2: Develop and Load Con...

- Create WP custom post types
- Create ACF fields for custom post ty...
- Register for API Keys
- Load API JSON data and display on w...

Milestone 3: UI Design

- Wireframes for all pages
- Moodboard for site design colors, fon...
- High-fidelity UI Design

Milestone 4: Front End Developme...

- HTML and SCSS development of pro...
- Placement test personality research
- Develop and design placement test

Milestone 5: Filters

- Create filters for content site-wide

Milestone 6: Content Entry, QA, Me...

- Research for content for glossary te...
- Final content entry sitewide
- QA Testing
- Reporting: Google Analytics, Optimiz...
- Reporting: Hot Jar heat maps

Milestone 7: Site Launch

- Merge all git branches and push to ...
- Site Launch
- Ensure metrics tracking works

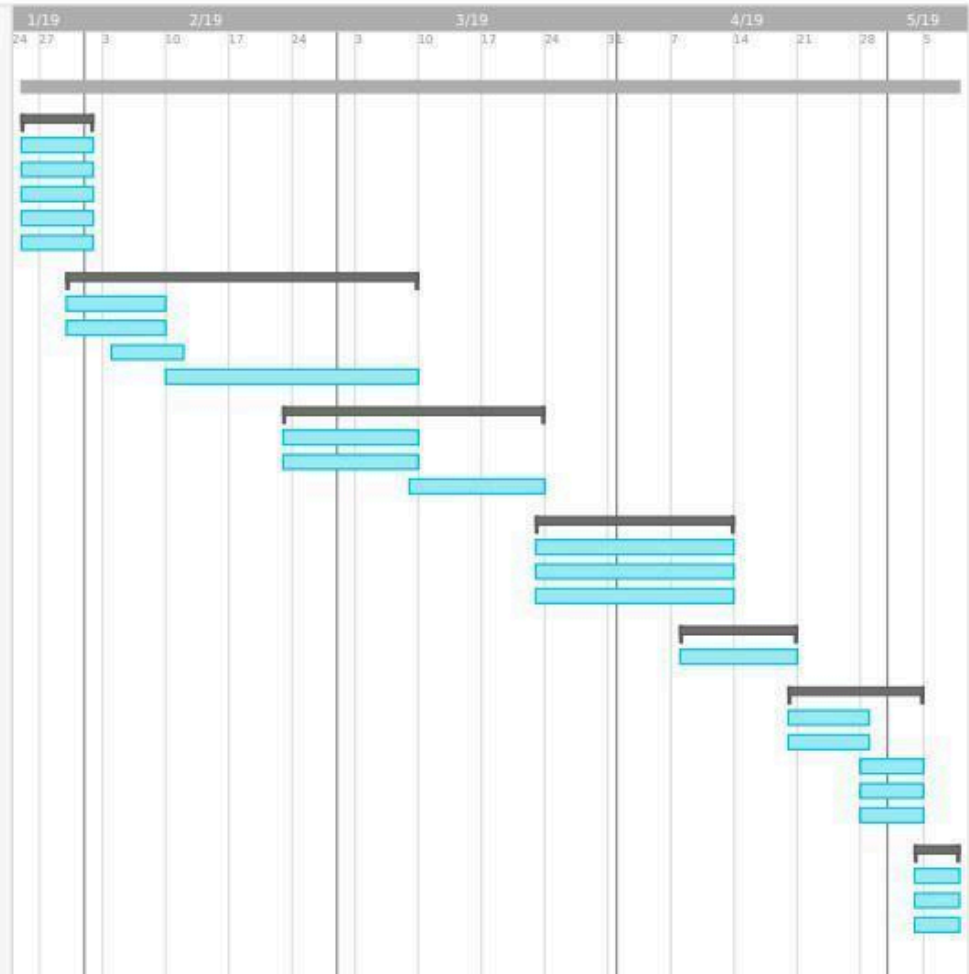


Figure 14: Gantt Chart of capstone project scheduling.

6. References

Include all references in the following format:

- Title
 - Author or company that published the article
 - URL
 - 1-2 sentence description of the article
-

Title: Design Census 2016

Author: AIGA, Google

URL: <http://designcensus2016.aiga.org/#!/results/>

Description: This site displays the 2016 results of a survey completed by over 9,500 individuals in the industry. Data displayed includes demographic (ethnic, age, gender), salary compensation and benefit packages, job satisfaction ratings, and more.

Title: Design Census 2017

Author: AIGA, Google

URL: <https://designcensus.org/>

Description: This site displays the 2017 results of a survey completed by over 13,000 individuals in the industry. Data displayed includes demographic (ethnic, age, gender), employment status, education levels, salary compensation and benefit packages, job satisfaction ratings, and more.

Title: Web Developers : Occupational Outlook Handbook: : U.S. Bureau of Labor Statistics

Author: U.S. Bureau of Labor Statistics

URL:

<https://www.bls.gov/ooh/computer-and-information-technology/web-developers.htm>

Description: The Bureau of Labor Statistics lists data for the web design field to include median pay, job descriptions, entry-level position education levels, and future job outlook.

Title: Webfieldmanual.com – Traffic Overview

Author: SEM Rush

URL: <https://www.semrush.com/analytics/traffic/overview/webfieldmanual.com>

Description: A statistical report on the number of new users, returning users, and the total time spent on pages for Web Field Manual's website, a possible competitor, as provided by SEMRush.

Title: Atom

Author: Atom.io

URL: <https://atom.io/>

Description: Information on the text editor, Atom.

Title: todo-show

Author: Atom.io

URL: <https://atom.io/packages/todo-show>

Description: The description and installation instructions for the Atom package todo-show, which allows users to notate tasks that need to be completed within code files.

Title: autoclose-html

Author: Atom.io

URL: <https://atom.io/packages/autoclose-html>

Description: The description and installation instructions for the Atom package autoclose-html, which closes HTML brackets as you type opening brackets.

Title: atom-beautify

Author: Atom.io

URL: <https://atom.io/packages/atom-beautify>

Description: The description and installation instructions for the Atom package atom-beautify, which auto indents the code for a variety of coding languages used in this project, such as HTML, PHP, JavaScript, CSS, SCSS, and more.

Title: The world's leading software development platform · GitHub

Author: GitHub

URL: <https://github.com/>

Description: An introduction to GitHub, a version control development platform that allows for the storing of previous code base stages, and for the creation of multiple feature branches of code.

Title: npm

Author: NPM

URL: <https://www.npmjs.com/>

Description: A description of the javascript package manager that will ease the installation of workflow enhancing packages such as gulp.js and Browsersync.

Title: gulp.js

Author: Gulp.js

URL: <https://gulpjs.com/>

Description: This site hosts the installation instructions for gulp.js, a task runner that compiles and minifies SCSS and Javascript files.

Title: Browsersync - Time-saving synchronised browser testing

Author: Browsersync

URL: <https://browsersync.io/>

Description: The description and installation instructions for Browsersync, an npm package that auto reloads browser pages on every code-based file change.

Title: About Us: Our Mission | WordPress

Author: WordPress

URL: <https://wordpress.org/about/>

Description: The about page of WordPress, the most used content management system, with information on its history and features, as well as current user base.

Title: Usage Statistics and Market Share of Content Management Systems for Websites, August 2018

Author: W3Techs

URL: https://w3techs.com/technologies/overview/content_management/all

Description: W3Tech displays data on the current usage of differentiating content management systems by users, reporting WordPress as the most commonly used, followed by Drupal.

Title: ACF | Advanced Custom Fields Plugin for WordPress

Author: ACF

URL: <https://www.advancedcustomfields.com/>

Description: The description, installation instructions, and documentation guides for Advanced Custom Fields, a WordPress plugin that allows for custom fields for default WordPress post types, as well as custom post types.

Title: Find Your People | Meetup

Author: Meetup.com

URL: <https://www.meetup.com/>

Description: This page provides access to the number of meetups available to users near their current location, specifically those in the design and development industry.

Title: Extend Your Community | Meetup

Author: Meetup.com

URL: https://www.meetup.com/meetup_api/

Description: The API implementation of Meetup.com's API, which provides access to a directory listing of meetups near a user.

Title: Behance :: Best of Behance

Author: Behance

URL: <https://www.behance.net>

Description: A listing of the most popular designs created by artists around the world.

Title: About :: Behance

Author: Behance

URL: <https://www.behance.net/about/>

Description: Information on the current user base of Behance and the site's purpose.

Title: Behance Developer Documentation

Author: Behance

URL: <https://www.behance.net/dev>

Description: The implementation process for Behance's API data, and how to filter through millions of designs to list only those relevant to specific fields.

Title: Shots – Dribbble

Author: Dribbble

URL: <http://dribbble.com/>

Description: A listing of the top designs posted by Dribbble users, who are industry professionals in web design, illustration, and more.

Title: Changes | Dribbble API

Author: Dribbble

URL: <http://developer.dribbble.com/changes/>

Description: The documentation of changes to the access levels of Dribbble's API data and the removal of access to data that lists work from any particular industry category.

Title: Terms | Dribbble API

Author: Dribbble

URL: <https://developer.dribbble.com/terms/#how-may-i-use-the-api>

Description: The terms of which a developer may use the API, including restrictions on usage if the implemented site functions as a network of designers.

Title: Getting Started | Google Books APIs | Google Developers

Author: Google

URL: https://developers.google.com/books/docs/v1/getting_started

Description: The usage guide for Google Books API, which displays data for books related to a particular keyword, displaying titles, cover images, and prices of the final search results.

Title: Authentic Jobs: Web, Design, Freelance, and Tech Jobs

Author: Authentic Jobs

URL: <https://authenticjobs.com/>

Description: The description of the Authentic Jobs site's mission and purpose, to provide job listings to designers and developers.

Title: Authentic Jobs: API

Author: Authentic Jobs

URL: <https://authenticjobs.com/api>

Description: The implementation and usage of the Authentic Jobs API to serve data related to job postings in the web design and development fields, and information on how to filter results by industry, location, salary, and more.

Title: Home | LinkedIn Developer Network

Author: LinkedIn

URL: <https://developer.linkedin.com/>

Description: The description of the kind of data that is accessible by LinkedIn's public API, which excludes job listings.

Title: Glassdoor API | Glassdoor

Author: Glassdoor

URL: https://help.glassdoor.com/article/Glassdoor-API/en_US

Description: The signup page for access to the Glassdoor jobs API displays a memo that API signup is currently closed until further notice.

Title: Glassdoor API Documentation | Glassdoor.

Author: Glassdoor

URL: <https://www.glassdoor.com/developer/index.htm>

Description: An overview of the Glassdoor API documentation, whose code is not publically available for usage, yet can only be used by API partners.

Title: GitHub - jobapis/jobs-simplyhired: THIS PACKAGE IS NO LONGER MAINTAINED

Author: Glassdoor

URL: <https://www.glassdoor.com/developer/index.htm>

Description: This page offers information on the status of the Simply Hired Job API code base, which is no longer maintained.

Title: CareerBuilder

Author: CareerBuilder

URL: <https://developer.careerbuilder.com/>

Description: The description for the Career Builder API's access and documentation.

Title: Reddit API

Author: Reddit

URL: <https://www.reddit.com/dev/api/>

Description: An overview of the Reddit API, which no longer shows job postings as an option.

Title: Indeed Publisher Program | Indeed.com

Author: Indeed

URL: <https://www.indeed.com/publisher>

Description: Information on the application process to become a published with Indeed in order to access their API data.

Title: Partner, Publisher, and Affiliate Job API Programs | ZipRecruiter

Author: ZipRecruiter

URL: <https://www.ziprecruiter.com/publishers>

Description: Information on the application process to become a published with ZipRecruiter in order to access their API data.

Title: Web Field Manual | Latest

Author: Web Field Manual

URL: <https://webfieldmanual.com/>

Description: A website dedicated to listing resources for designers and developers in the form of a field manual. Resources are links to external sites and are categorized by design or code resources.

Title: Ladies, Wine, and Design

Author: Ladies, Wine, and Design

URL: <https://ladieswinedesign.com/>

Description: A website dedicated to connecting women in the design field by providing access to networking event listings and interviews with top designers.

Title: TSH - Solutions To Help You Go Pro

Author: TSH

URL: <https://learntsh.com/>

Description: A website built to provide advice for designers, filled with event listings, conference information, and advice from other industry professionals.

Title: For Millennials, a bachelor's degree continues to pay off, but a master's earns even more

Author: Richard Fry, Pew Research Center

URL:

<http://www.pewresearch.org/fact-tank/2014/02/28/for-millennials-a-bachelors-degree-continues-to-pay-off-but-a-masters-earns-even-more/>

Description: An article with statistics on the pay differences between millennials with bachelor's degree versus master's degrees.