



# helpful human

## CSS 497: Undergraduate Capstone — Report #2

Last Updated: September 2, 2014

**Student:**

Josh Brunner

[Josh@HelpfulHuman.com](mailto:Josh@HelpfulHuman.com)

**Faculty Advisor:**

David Socha

[DSocha@UWB.edu](mailto:DSocha@UWB.edu)

**Company Sponsor:**

Mark Sandeno

[Mark@HelpfulHuman.com](mailto:Mark@HelpfulHuman.com)

## Introduction

As a student in University of Washington Bothell's (UWB) Computer Science and Software Engineering (CSSE) Department, the last requirement I have to fulfill in order to receive my degree is to complete one of several Capstone requirements. The requirement that I chose is to complete a 400 hour internship at a company of my choice. I have chosen to split up the 400 hours over the course of two quarters at UWB. Doing so will have me finished with my internship and ready to present at the CSSE Colloquium this coming December.

The faculty advisor for my internship is Professor David Socha. He has been my professor for two quarters so far at UWB. Throughout his courses, I have enjoyed working with him on his research projects as well as other various class-related projects. The company that is sponsoring my internship is called [Helpful Human](#). Helpful Human is a small (5 person) startup company located in Seattle. We are capable of producing full front-end software solutions for clients' needs ranging from simple websites to complex web applications.

The following report will provide a brief overview of what it has been like at Helpful Human since [my last report update](#). I will discuss what kind of things I've been working on as well as what kinds of new things have happened. It's all very exciting and I think you'll enjoy it!

## Report #1 Recap

In my last report, I focused a lot on talking about the company culture, what kinds of tools we use to get our work done, and the code accelerators that they had me using to get me up to speed with the other developer (Nick). Towards the end of the report, I went over a few of the things that I found really interesting and exciting as well as a few things that were challenging.

At the end of the report, I discussed my excitement for being in this kind of development environment and how I was looking forward to the next couple of weeks where I would be applying my newly acquired skills to actual projects.

## Changes

A lot of changes have been happening at Helpful Human. The following section will highlight a few of the most notable ones. All of the changes are very exciting and give me confidence in the environment that Helpful Human creates.

### People

Among the most notable changes that have happened in Helpful Human, in the last four weeks we hired two new developers to join the team. The developer's names are Mark Palfreeman and Cole Goodling. Both of them are coming into the company had a great time because we are getting a lot more projects that require a lot more work. It is exciting to begin working with new people and no longer being the "new guy."

## Cole

Cole is the newest addition to our team. He and I have been working together in our classes at UWB for the past three quarters. In fact, I'm the one who recommended him to Mark (the owner). Cole is currently going through a similar code accelerator as I had done. However, the direction that Mark wants Cole to learn is moving towards the "backend" of things (learn the difference between frontend and backend development [here](#)).

## Mark

Mark is our oldest new hire. He comes from a code accelerator called [Code Fellows](#) and knows quite a bit about HTML and CSS. He and I have been working on quite a few projects (big and small) since he joined us a couple of weeks ago. I'm excited to continue to work with him as we both learn how to do software development in the professional workplace.

## Office

You may be wondering how five people are able to fit into a three person office space. I've got great news. Over the past four weeks, we've moved our office location around a little bit (thanks to the [nature](#) of the WeWork environment).

## 2nd Floor

One morning, as we arrived at the office, all of our stuff had disappeared! I looked at Nick and he looked at me with a gaze of shock. Little did I know, Nick and Mark had planned a prank on me and the new Mark (since it was his first day). They had moved all of our gear into a new four-person office on the second floor. This came at a shock because I would have never imagined that it would be so simple to move a company to a different location within a matter of a couple of hours.

## 3rd Floor

We were in this new office space for a solid week. All of us did feel a bit cramped in the small space since all four desks were in constant use. On that Friday, Mark S. walked into the office with a sad look on his face. However, as his excitement built, he finally asked us to pack up our stuff...because we were moving to a larger, six-person office space on the third floor! This is when I learned that the two owners (Mark and Nick) were capable of pulling off some funny pranks.

## Deciding on a Logo

Now that we were in a six person space, it was time for us to start branding ourselves. Mark had a logo built and Nick took it and refined it to our liking. We then had this logo printed and installed on the glass wall of our office space. We may have had a little fun in the process.



## Direction

While the initial direction I was going to take at Helpful Human was to become a frontend developer, there was quite a bit of discussion about another area of focus that they might have me head towards.

## Keeping it Swift

Since I first learned about Apple products, I wanted to develop apps for their platform. However, with the high demand that a [UW CSS](#) degree requires, I did not find the time to apply myself towards achieving this goal.

As mentioned earlier, Helpful Human has been keeping very busy with a multitude of requests for an array (pun intended) of different tasks. One of the most popular requests is iOS apps. With the inclusion of [iOS 8](#), Apple's newest mobile OS, [Swift](#) is all the rage in the iOS development community.

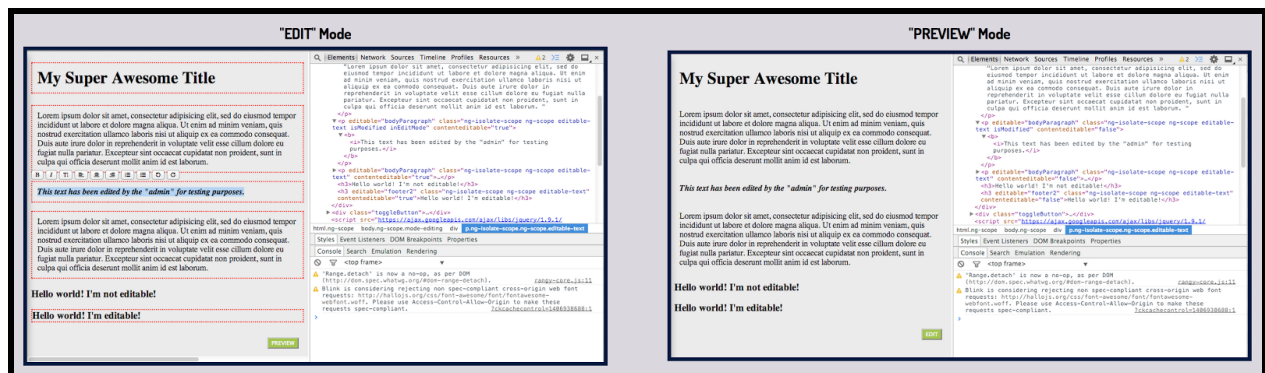
Over the past couple of weeks, Mark and Nick have asked me if I'd be interested in getting trained to be the lead iOS developer at Helpful Human. I feel that with the Object Oriented Programming that I've learned in my UW degree, learning Swift wouldn't be too hard. I'm extremely excited for this potential opportunity and really hope it comes to fruition.

## Highlights

As with the last report, I wanted to highlight two areas in my work .

### Admin Edit Page

As mentioned in my [week 4](#) blog post, I was tasked with building a “wysiwyg editor” to allow for in-place edits to be possible on HTML web pages. The term “wysiwyg” stands for *What You See Is What You Get* and it essentially lets you click on some text and a styling bar appears to allow you to **bold**, *italicize*, etc. certain editable text regions on a page.



In the image above, you can see screenshots from the two different states that my wysiwyg editor allowed (Preview and Edit). The Edit mode highlighted editable text regions with a red dotted line. This dotted line resembled the regions for the admin (the person who would be editing the content) to easily spot. Once the edits had been made, the Admin would click the Preview button and the Angular directives (a JavaScript component) would change the editable regions so that the changes could appear how they would in a “live” version.

I was really proud of this work because it was the first time that I had implemented my development in addition to other developer’s creations. Specifically, I used [Halo.js](#) to accomplish the WYSIWYG-ness of the editor. I then had to convert JavaScript files into CoffeeScript files so that I could combine them. In addition, at the time, since I was still new to CSS and HTML outside of the code accelerators, there was a decent learning curve as I worked through issues in getting the different languages to talk with eachother. At the end of the 3 days that I spent on this editor, I had a product that Nick (the lead developer) and I were proud of.

## **Completing Projects**

The second thing that I’d like to highlight is the large projects that I’ve been able to complete over the past four weeks. Since I cannot refer to our clients by their real company name (for privacy reasons), I’ll just go ahead and call them the client.

Over the past four weeks, I’ve been able to work on one client’s backlog list. This backlog list included work for two different large projects. Essentially, we (Mark P. and myself) are responsible for taking the designs that we get via Photoshop files (PDSs) and implementing them in HTML and CSS and occasionally JavaScript. These files represent an internal tool that this client is going to have used by all of its employees. Therefore, it is imperative for us to design it with modularity and scalability in mind.

Mark and I spend a lot of time designing and questioning the designs. After multiple iterations of questions about workflow with the UX person on the client’s team, we got the final OK and begin our work. In the past four weeks, I’ve been able to take an existing (poorly implemented) version of the client’s web app and refactor it to account for best practices and custom styling requests. After this had been completed and shipped off for integration testing, we began work on another web app for the same client. This web app was responsible for managing different entities in the client’s environment and it needed a lot more functionality added to it to work properly. We ended up delivering this project two days late because of a schedule misunderstanding but the client was grateful that we had done a good job and didn’t mind.

I was proud of these projects because it was the first time that I had worked on something that a client was paying for. I learned a lot about actual development environment where people are “heads down” in their computer punching away at the keyboard. Of course, we still made time to have fun in the office but during these crunch times it was mostly business.

# Challenges

As with all stages in development, certain challenges are faced and must be overcome to move on. In the past four weeks, I can think of two main challenges that I've faced.

## Delivering Late

As briefly mentioned above, we delivered two days late on a project. This doesn't feel good to anyone and it certainly doesn't look good on the company. However, from this experience, I have learned that the time to complete a software task is extremely hard to determine. Whether you think it will take X amount of hours or not, chances are, you'll probably underestimate the effort.

In discussion with Mark S., we talked about why this is and what can we do to prevent it from happening again. The team came to the conclusion that we can't predict how long something is going to take. We decided that we'd do a better job of resource planning so that we could catch ourselves when we begin to fall behind on a task. And, in the event that we are drastically behind schedule, hopefully we'd be able to catch it early on so that we could inform the client.

Delivering late on a project most often results in an unhappy client (rightfully so) and at Helpful Human, we try very hard not to let this kind of thing happen. Since this occurrence, we've shifted towards making these burndown spreadsheets which allow us to list out the components that we have to build and assign an estimated amount of hours to each. See below for a screenshot of our most recent burndown spreadsheet for a project we are currently working on for the same client as mentioned above.

Task Breakdown							
File Edit View Insert Format Data Tools Add-ons Help Last edit was made 13 hours ago by Mark Palfreeman							
Overview							
Overview	73	11	61	143.33%	0.00%	12/30/1899	
Task	Estimate	Used	Remaining	Efficiency	Completed	Expected On	Assignee
Layout/view - Messages	4		4	0.00%	FALSE		
Migrate v1 styles into v2	3	1	3	300.00%	FALSE		JOSH
New Grid/layout - Edit Profile, Practice Info	2	2.5	-0.5	80.00%	FALSE		MARK
Module - Message (single)	4	1	3	400.00%	FALSE		JOSH
Module - Conversation	6		6	0.00%	FALSE		
Module - Checkboxes	2		2	0.00%	FALSE		
Module - Subnav (new)	4	3	1	133.33%	FALSE		JOSH
Module - Message rows	4		4	0.00%	FALSE		
"Sort" dropdown	1		1	0.00%	FALSE		
"Filter" dropdown	4		4	0.00%	FALSE		
Module - mobile search (new)	2		2	0.00%	FALSE		
Mobile Filter/Sort combo view (responsive)	6		6	0.00%	FALSE		
Utility Bar - various types/occurences (responsive)	6	1	5	600.00%	FALSE		JOSH
New Icons & Spritesheet	7	1.5	5.5	466.67%	FALSE		JOSH
Colors / base style edits	2		2	0.00%	FALSE		
Responsive tweaks	6		2	0.00%	FALSE		
Testing	6		6	0.00%	FALSE		
Admin/setup	4	1	5	600.00%	FALSE		

## Git-ing Commit-ed

The second challenge that I've been facing involves the hurdle of learning Git on-the-fly. I am honestly disappointed that something as valuable as Git isn't taught in my CSS degree. If you're unsure of what Git is, please follow [this link](#) to learn more.

At Helpful Human (and really any software development company) we use Git to keep track of changes with our code on a typically hour-by-hour basis. Each hour (or after every big change), we commit our changes and when we need to do a merge, we push our changes to a local branch for approval. In working here, I've learned a lot about the complexities of a merge and how things can get overwritten and how to roll back to a previous state.

All in all, overcoming the complexities of the world of Git has been a real challenge. It seems that every day I am faced with a new challenge with how Git works. However, I am optimistic that by the next report, I'll be able to say that I finally understand the majority of how Git works and how to navigate throughout it.

## Next Steps

As I continue to work at Helpful Human under the umbrella of "an intern," I am excited to learn more about these complex web systems. The opportunities available to me at Helpful Human are endless, and I am excited to be a part of a young company at this stage in its growth.

Now that I am doing actual work all on my own, I expect the next 3-4 weeks to allow me to really hone in on my developing skill set. You can expect the the [Report #3](#) at the end of September.