CSS 497: Undergraduate Capstone — Report #3
Last Updated: October 7, 2014
Weekly updates here:
http://students.washington.edu/rennurb/

Student:

Josh Brunner
Josh@HelpfulHuman.com

Faculty Advisor:

David Socha
DSocha@UWB.edu

Company Sponsor:

Mark Sandeno
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 full-stack 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 #2 Recap

In my last report, I focused a lot on talking about many of the exciting things that were going on at Helpful Human. In particular, I discussed the additions to the team and how we were moving around to larger office spaces to accommodate new members and to have more room. We also decided on a logo and got that printed on our glass door, showing that we've begun the branding process.

I had a few serious talks with my boss about the direction I wanted to take in the company and how I would like to eventually get trained on Swift (the new iOS programming language). I was very excited to know that he wanted to have me go that direction as well.

Lastly, I highlighted some of my favorite projects that I had worked on like the admin page and the fact that I was completing client projects. I also listed some of the challenges that I was facing like working with version control software using Git. I also described the challenge of delivering late and how we, as a team, handled that happening.

Overview

Being Truly Engaged In My Work

When I joined Helpful Human in the beginning of summer, I was joining at a time where projects were already in progress and the owner and developer manager had already established relations with clients. However, with the work that I have been doing since the last report, it has gotten to a point where I am directly in communication with clients. This means that I have been receiving direct feedback and overall in clear communication about the work that I am doing for

the client. In the past four weeks, since my last report, I got the opportunity to assess a set of Photoshop files and Time out how much effort it would take to complete certain aspects of the new designs. This process although seemingly simple, turned out to be a lot more daunting than I had initially expected.

Looking at these files and basically putting effort in time to complete modules taught me A very viable lesson. Initially, when I was looking over the files, I broke up the design into chunks. The first chunk was the navigation bar, I looked at it and said that it would take me four hours to complete. At the time, I thought this was a generous amount and I thought that for sure I would be able to finish it in less time than that. Well, as it turned out, I was grossly wrong. As I began to look deeper and deeper into the design of the navigation bar, I Learned that there were quite a few stylistic changes that needed to be intimate. In addition, there was a another view for the navigation bar when the user open the web app on a mobile device. I had not even remotely accounted for this change. This was a very valuable lesson because I saw what it was like to incorrectly judge something and have to communicate to the client about my failure to me a goal.

We ended up reevaluating the effort required to complete all of the various tasks in the Photoshop designs. The total effort that it took to complete the navigation bar, Simply for the desktop view, was just over 10 hours. Then, when we went to work on the mobile navigation bar, that ended up taking us six hours. And, as we were doing quality assurance testing, we learned that there is a need your bug when you actually load the web app up on a mobile device. However, the strive to produce a perfect product is a lesson that all the helpers must come to an understanding that that is an impossible task. There comes a point where you just have to say, "it is good enough."

Becoming Agile
One of the big things that Mark, the owner, has really been focusing on since the last time that I reported is moving the Helpful Human team towards a true Agile methodology. Specifically, we are really focusing on Extreme Programming with a slight variation on the Scrum methodology. In one of our other projects, we are learning the consequences of not communicating with the client early on about the status of a project. We have become completely late and missed deadlines quite a few times but this is teaching us quite a lot about what to do and what not to do. So, in our communication with other clients, we are reevaluating and re-negotiating how we do work. For example, from now on, we will only do work in two week increments. If the client wants to continue to have us work for them they will pay us and we will work another two weeks. We call these two-week chunks "Sprints." It is neat that what I had been learning in my CSS 360 class is what I am actually doing now in the workplace. It is another instance where what I learned in school is what I am actually doing in the professional element environment. So far, this new methodology that we are following has forced us to reevaluate how we manage our projects on the company's Trello board.

One of the things we do differently is that, depending on the size of the project, a client will get their own Trello board. In most cases, the client actually gets complete access to the board so

that when we have questions or concerns (and visa versa), those can be relayed immediately by simply including the recipient on the comment. Using Trello, we are able to easily share screenshots, files of any type, as well as make checklists. Since we moved to this new style of project management, I personally feel more confident in our ability to communicate progress to clients as well as be able to retrospectively see our growth.

Working Remotely

Since the last report, I have begun to work less hours in the office because of the fact that I am back in school. I am currently taking 15 credits as well as working on my internship at Helpful Human. As you can imagine, I am very busy. Fortunately, the work that I am in allows for the ability to work remotely. So, I have begun to work Mondays and Wednesdays in the office and Tuesdays, Thursdays, and Fridays I work for a couple of hours in the mornings. This works very well because we use Google Chat to connect visually and Slack to communicate when we have questions or concerns.

Highlights

Swift Education

One of the things I am very excited about is the fact that I am beginning to get my feet wet in Swift programming language. Swift is what Apple now uses two develop all of their software. So far, it feels like a merge between C++, JavaScript and Java. It is very fast and efficient in the development environment that Apple provides in Xcode makes it very easy to adapt to an entirely new language. While I don't do too much training because I am mostly working on client projects, I do enjoy the every once in a while opportunity that I have to learn about Swift development.

Presenting my Work

Another thing that I wanted to highlight since the last time I wrote a report, was when I went down to one of our clients offices in Seattle and presented the work that I have been doing. I was very proud that what I was doing was being well accepted over in their offices. When I was asked to describe it more in depth, I was pleased to provide a demonstration. Although there were only a handful of bugs that were pointed out, I did leave the meeting feeling confident in the work that I am doing.

Challenges

The Fundamentals

One of the things that I am beginning to realize with how all of this web development works is the underpinnings of what's stitching everything together. While I do have a firm grasp on how it all works, at times I realize that I certainly don't know it all. One of the things that I think is a challenge for me is how I can think that I understand something very well. However when I go to actually use that knowledge, I learn that I might not have as firm as a grasp as I thought. One of the things that I am doing to get better at this is to not have the more experienced developers set things up for me. Rather, I am opting to figure it out on my own so that I might be able to gain more experience and be able to do it without questioning the future.

Getting Git

Unfortunately, I am still having troubles with understanding how Git works. I know this is been a challenge since the last two reports that I have written but it continues to cause me to struggle. I am familiar with the basic commands like adding files to a commit, Writing a message for the commits, and pushing it up. However, there is so much more that Git provides that I seem to have no familiarity with. For example, I just learned about a neat little thing called Git Stash. Stash is a command that takes the files that you don't need and prevents them from being tracked any longer. In the workflow that we have at Helpful Human, we have all of our files in a 'src' folder and when they get compiled into the distribution files they get put into a 'dist' folder. Well, the files that go into the 'dist' folder do not need to be tracked and, using the 'git stash' command, I am able to simply prevent them from doing so. It is little attributes of Git like this one that I just need to experience on my own rather than be instructed. Maybe by the next report I will be able to say that I have finally conquered Git!

In this report, I have gone over all of the cool things that I've been working on in my internship at Helpful Human. In summary we have moved to new offices, grown to five employees, and I am even presenting my work to clients! I am very excited for the next four weeks because I will be seeing what it is like to work remotely as well as work closely with clients in our new methodology of software development.

You can expect the the [Report #4](#) at the end of October.