Michael Winkler

Summer Internship Journal

**6/6/16:** Today was my first day on the job. I got a little lost driving around the campus but was able to find my way eventually. The campus is really nice – all wooded, very New England vibe. The first thing they had us do was go through a short orientation where they gave us some basic information about Fidelity. Then I headed over to meet my team. I talked with my supervisor (Ann) for a while and then went to get lunch with her. She explained that the project my team is working on involves creating a cloud framework that can host applications, so that fidelity doesn’t have to migrate its apps to new hardware every few years as the previous hardware becomes outdated. I also met the other intern who’ll be working on my team, John, at lunch. I didn’t do much actual work today, though I did get my work station set up and start installing the programs I’ll need to do my work this summer.

**6/7/16:** The day started with a big meeting of everyone on my project team, including all the members in India. Ann lead the meeting and went over what each person or small group within the team is going to be working on in the near future. She also went over a tool called JIRA, which is designed for managing agile/scrum development processes. I’ll need to register for that. After the team meeting, John and I met with Bala and Mahesh, who’ll be supervising us more directly than Ann, since she’s busy running the whole team. They laid out what we’ll be working on over the next few weeks, though I don’t quite have a grasp on the whole project yet. I’m still trying to wrap my head around all the different technologies and how they interact, and it’s a bit overwhelming. I spent the rest of the day continuing to get my workstation set up – it takes a long time to get everything set up because I have to go through the tech desk every time I want to install a program or do anything that requires administrator access.

**6/8/16:** Today I met with Mahesh for a while and he explained more about my role on the project (at least for the near future). I’ll be creating the front-end/user interface of an application while John will be creating the backend/server side code. So, I need to learn several new technologies, specifically JavaScript, AngularJS and NodeJS. To that end, I spent the afternoon starting to learn about JavaScript, following several tutorials to learn the basics. I looked up AngularJS and NodeJS to try and understand what they are, but I haven’t started learning how to use them. I still don’t really understand what they are and how they interact, but that should come in time with more reading.

**6/9/16:** Today I focused on learning JavaScript again and also started in more seriously on NodeJS. I found a good tutorial on Udemy and enrolled in that. It’s helped a lot. The instructor who created the course did a really good job of not assuming any basic knowledge the way other tutorials I’ve found have, which is good because I had absolutely no understand of NodeJS to start off with. It turns out that NodeJS is a platform that enables you to write server code using JavaScript. So now I know what it is, but understanding how to write it is another matter.

**6/10/16:** Today I continued learning about node.js and and AngularJS. I found a really good tutorial for AngularJs and spent most of the day on that. I also had a conference call with Mahesh and some of the other team members this morning. I’ve been having problems with skype’s business meeting feature and so I wasn’t able to see Mahesh’s screen when he used the screen-sharing feature. I spent almost an hour on the line with tech support but we weren’t able to get it resolved, so hopefully it doesn’t cause too many problems before I’m able to get it figured out. Other than that, it wasn’t a very eventful day, I just spent it working my way through an AngularJS tutorial I found and taking notes on it.

**6/13/16:** Today was pretty uneventful – no meetings, just continued learning. AngularJS is complicated, and I’m having a hard time grasping how all the pieces fit together, but fortunately the tutorial I found really goes through all the fundamental concepts before moving on to more practical applications.

**6/14/16:** So today I found out that I’ve been reassigned. I won’t be working on user interface stuff, like I thought. Instead, I’ll be working with John on the MARS project. I’m a little frustrated because I spent the last week teaching myself UI-related things, but there’s nothing to be done. So, I spent today looking over John’s shoulder, trying to get up to speed on the MARS project and understand what I’ll need to do once I get pulled in.

**6/15/16:** I wasn’t able to get started on MARS today because I’m waiting for John to reach a certain point. He has to make a certain amount of progress before he can push his project to the project repository where I can get it from. So, I spent today watching what he was doing and also reading about the structure of spring web services so that I’ll be able to hit the ground running once John uploads the project.

**6/16/16:**  It turns out the process of having John put the project up on Stash (the service Fidelity uses to host their internal projects) is quite a bit longer than I’d expected. We both had to apply for permission to access the project’s repository, which is going to take a few days to get processed, and we also both have to configure eclipse to work with git (the version control we use at Fidelity). So a lot of the day was devoted to getting everything set up, and I spent the rest sitting with John while he worked. I’m still in the process of wrapping my head around how all the components of the MARS project fit together.

**6/17/2016:** Today started off with an intern meet-and-greet type event, where all the interns got together in an auditorium for the morning. It started off with a video talking about Fidelity and then transitioned into team-building things. After that I grabbed lunch, then met with Mahesh and John to work on the data-access objects for the MARS project. That took up the entire afternoon – we found a conference room and worked on those from 1:30 straight to 5:30.

**6/20/16:** This morning I received an email from Bala telling me that rather than working on the MARS project with John, I should still be working on learning UI development. However, I spoke to Mahesh and he thinks that Bala’s wrong, and I should be working with John. So really I just need to get in touch with Ann, as she’s the ultimate authority. I wasn’t able to get ahold of her today because she was busy, but I’ll reach out to her tomorrow and get the verdict. For today, I went back to learning UI stuff and watched some more videos on AngularJS.

**6/21/16:** I finally was able to get in touch with Ann today and she told me that I should be spending my time working with John on the MARS project. So now I finally have a verdict on what I’m supposed to be doing, which is a relief. However, now I’m behind, so I spent the day sitting with John and watching him work, trying to learn what he did yesterday and keep up with what he was doing today.

**6/22/16:** Today there was an intern event that took up the entire day. All the interns met in the auditorium at 9 AM and we started off the day with a few ice-breakers. After that, we watched a presentation teaching use about the various business units at Fidelity and listened to one of the senior technology guys give a talk on different trends in tech that could affect financial institutions like Fidelity. Then we ate lunch, and we spent the afternoon doing an exercise designed to teach us about agile development methods.

**6/23/16**:Today John was finally able to put the MARS project up on stash but now we’ve run into another issue – we’re having problems configuring git in my eclipse so I wasn’t able to pull the project down after John pushed it up. I spent the whole afternoon working with Priyanka trying to figure it out, but we had no luck. I’m going to meet with her again tomorrow morning and hopefully we’ll be able to get it taken care of quickly.

**6/24/16**: Today I spent the whole day continuing to work with Priyanka on the git/eclipse configuration issue we ran into yesterday. We weren’t able to get it resolved, despite getting in touch with several other, more senior members of the team. We’ll continue working on it on Monday, but it was a frustrating day, because I’ve been completely blocked from doing any work for a day and a half at this point.

**6/27/16:** Today I was finally able to get my git issue resolved. We had to pull Jay (one of the more senior team members) in and we worked together for a couple of hours to figure my problem out. In the end, we really went around the problem more than we solved it, but what matters is that I now have access to the project and can start working on making progress. I didn’t really get rolling today; once I had everything set up, I spent the afternoon trying to understand the project and asking John about its structure.

**6/28/16:** Today I was assigned the operation I’ll be working on for the near future. It involves converting Java into XML, sending that to an internal service that already exists at Fidelity, and then interpreting the results. I started out today by creating the data access objects that deal with turning java objects into XML and actually sending requests to Fidelity’s internal service.

**6/29/16:** Today I wrote a Junit test for my DAO and started in on testing. My DAO had some pretty significant structural problems, so I spent the afternoon sitting with John walking through the test and changing the code I wrote in the morning. I’m getting a response from the service, but I’m having problems parsing it. Hopefully we’ll get this resolved fairly quickly.

**6/30/16:** Today was all debugging/testing with John again. We haven’t been able to figure out why we’re getting an issue parsing the XML we’re getting back in our DAO. We wrote a whole new test and stepped through every step but we haven’t been able to figure it out. This is frustrating – tomorrow we’re going to meet with Mahesh, who should hopefully be able to shed some light on the situation.

**7/01/16:** Today John and made some progress on my DAO issue, but we don’t have it totally resolved – we’ve just traded some bugs for others. Back at it on Tuesday, I guess. Also, by 4:30 today the office was practically empty. I was confused, but it turned out that everyone was taking off early because this weekend is a 3-day weekend with the fourth of July. My boss let me go early, so no complaints on my end.

**7/05/16:** Today was not my most productive day. I was waiting to meet with Mahesh about my DAO problem, but he was dealing with a production issue, so I was stuck. I spent most of the morning and early afternoon working a UI for testing since there was nothing I could do on my operation. I finally got ahold of Mahesh around two and was able to ask him about my operation, and then after that I was able to make a bit of progress. Still not a hugely productive day overall.

**7/06/16:** After almost a week, I’m still having problems parsing the response I get in my DAO. Mahesh sent me the source code for the library we’re using, so I was able to use that to pinpoint where my problem is occurring. I’ve narrowed my issue down to something having to do with the headers/namespaces in my XML. Now that I have the relevant error message, I should be able to fix the problem fairly quickly, though I wasn’t able to get it done today.

**7/07/16:** I finally finished my operation today! I spent most of the day working with John. He’d already completed an operation, so he knew what I still had to take care of and he walked me through those steps. I also had a meeting with my internship project group, and we brainstormed ideas for our eventual presentation. We decided that before we meet again on Monday, we’ll each decide on a topic we’re interested in, then vote on what we all think is the best topic.

**7/08/16:** This morning I had a meeting with Mahesh, Priyanka, and John about how we’re going to implement error handling in our operations. I spent the rest of the day working with John to write the actual code for error handling. We ran into a few snags, but we were able to make some serious progress, and hopefully we should finish up working on error handling on Monday.

**7/11/16:** My week started with an intern group meeting. We voted on which topic to present, and we settled on crowdsourced big data. Now we start researching. We plan to meet again on Thursday to work on the specifics of our presentation. Other than that, I worked on the error handling issue that I left unfinished last week.

**7/12/16:** Not much of interest to report today. I couldn’t get ahold of Mahesh for most of the day because he was dealing with a production issue, so I wasn’t able to accomplish that much. I taught myself some more about AngularJS this morning and then in the afternoon worked with John on refactoring our operations to use different response classes.

**7/13/16:** I actually started off the day by breaking my operation while trying to add some more error handling, so that wasn’t ideal. I then spent the entire day trying to get back to the point I was at this morning. Frustrating day, though thankfully I was able to get it fixed just before I went home, so I’ll be able to make some forward progress tomorrow.

**7/14/16:** Today I had another meeting with my intern group. We didn’t make as much progress as I’d have liked, but hopefully next week we should be able to really bust this project out. Other than that, my day was fairly uneventful – I spent some of it researching, and the rest of it working with John to modify the error handling on my operation (once again).

**7/15/16:** Today was not the most productive of all days. I spent the morning learning about AngularJS promises, which I’ve struggled to grasp in the past. I finally was able to wrap my head around them today, which is exciting, since they’re important for really understanding Angular. After that, I watched several videos about EZPaaS, one of Fidelity’s internal platform’s that I’ll have to use in the near future. I finished the day up with some work one error logging.

**7/18/16:** Today I finally finished working on error logging! It took the whole day, but I was able to get my entire operation finished. I showed it to Mahesh and everything. Tomorrow morning John and I will meet with Bala (the guy above Mahesh) and show him what we’ve done, plus he’s going to tell us what we’ll be working on next.

**7/19/16:** So we had our meeting with Bala this morning. We showed him the operations we completed, and decided on a standard way of doing a few things John and I had done differently. We then found out that the next thing we’ll be working on is a new operation. It’ll be similar in structure to the one we just completed, except that the backend (talking to the database portion) will use different a different technology. I spent the rest of the day after the meeting reading about the technology and understand what we’ll be doing next.

**7/20/16:** Today was just a research day. I continued researching and completed some tutorials on the technology we’ll be using for our next project.

**7/21/16:** Today was mostly taken up by my attempts to download and set up AQT, a database management program. Unfortunately, it was only after I had spent the morning and most of the afternoon trying to get it set up that my manager told me to use IBM Data Producer instead. I was a little annoyed, since I had just wasted my whole day trying to get AQT set up, but I went ahead and started configuring data producer. I didn’t have time to finish, so I’ll continue working on the configuration tomorrow morning.

**7/22/16:** Today was a short day – I left at 2 PM because I had a flight to catch. I spent the morning working to get IBM Data Producer set up with database we’re using. It took the whole morning, but thankfully I was able to finish setting it up before I had to leave.

**7/27/16:** Today was the day all the intern groups presented. There were lots of interested presentations, and the topics varied wildly; one group presented an idea for a better way to find conference rooms while another presented on quantum computing. Our presentation went smoothly, and then we watched everyone else’s presentations until about noon. We had lunch provided for us, and then after lunch we heard a talk from two of Fidelity’s cybersecurity heads. It was really interesting to learn about what they do on a day-to-day basis. After that, we learned about Fidelity’s leap program, which took us to the end of the day.

**7/28/16:** Today we were back to the usual schedule. I was actually able to get an entire operation done today! I wrote and tested a DAO, then finished the corresponding code in the data producer and REST implementation. I still need to do a little testing tomorrow but that went so much faster than my first operation. I’m pretty excited.

**7/29/16:** This morning I tested the operation I completed yesterday; I had to make a few modifications but everything’s running smoothly. I spent the rest of the day working on my next operation. It’s going a little less smoothly than the one I completed yesterday, so it looks like it’ll take until next week sometime. I also need to get in touch with Bala about it, since there are aspects of it that are still confusing to me.

**7/01/16:** I actually was able to get my next operation done today! I was able to catch Bala this morning to get some help with the issue I was stuck on, and so I was able to progress from there. Now I’ve completed three operations in two days, which is way ahead of the rate at which I was getting them done earlier in the summer. Hopefully the rate at which I’m able to get them done will only continue to increase from here. I also started working on my third personal goal for the summer, which is to write a white paper on EZPaaS, an internal tool here at Fidelity. What that meant today (and what it means for the foreseeable future) is that I need to spend a lot of time doing research.

**7/02/16:** I completed an entire operation today! New personal record. I even had time to start on the next one in the afternoon. Not much to report beyond that, but it was an exciting day because it really demonstrated how far I’ve come since the beginning of the summer, when it took me a month to complete my first operation.

**7/03/16:** Today John and I started getting ready for a presentation we have on Friday. We have to present for our boss, as well as her boss and assorted members of the department. We met with Mahesh to discuss what should go on our powerpoint and got a rough outline together, but we still need to meet with Bala to get his approval for everything we’re putting on there. We had a meeting with him scheduled for this afternoon, but he ended up missing it – he’s always got a ton to do, so sometimes he can’t make it to meetings. I spent the time that I would have been meeting with Bala researching EZPaaS

**7/04/16:** Today John and I were able to get ahold of Bala to look over out presentation, and everything looks good. After a bit of work on our next operations in the morning, we spent the afternoon making our powerpoint look professional and figuring out how we’re going to split the presentation between the two of us. We finished up the day with a few run-throughs, though it’s still pretty rough at the moment – we’ll need to meet tomorrow and take care of some mistakes.

**7/05/16:** Today was the day of my big presentation. John and I presented together, while the other two interns at the meeting each presented individually. My boss was there, as was her boss, who’s a VP. John and I spent the whole morning preparing, rehearsing our speech repeatedly until our meeting at noon. And it ended up going really well! My boss came by desk afterward to congratulate me on a job well done, which was a relief since I’d been worried about how it was going to go. With that done, I spent the rest of the day working on my next operation.

**7/08/16:** So it turns out that my manager is actually moving to a new position. Starting next week, we’re going to have a new boss, though I’ll only have him for one week before I leave. His name is Rob, and apparently he currently works for Fidelity in North Carolina. He’s going to fly up this week and meet the team, so I’ll get to meet him before I go back to school.

**7/09/16:** Today was an unremarkable day. That said, I’m continuing to get faster. I got through two operations today, which is another new record. I also continued researching EZPaaS; I’m getting close to the point where I can start writing my paper. I’m going to try and start it tomorrow.

**7/10/16:** I met Rob today at a staff meeting. He seems like a pretty standard boss-guy: Middle-aged white dude, sociable, etc. Seems nice enough, though I suppose it doesn’t matter for me since I’ll only be working with him for a week. He only flew up here for two days, and then he’s back down to North Carolina for the rest of the week. Crazy schedule, I don’t envy that. Also, I made quite a bit of progress on my EZPaaS paper today. Most of the hard work was in the research. Now that I understand the tool, writing a paper on it is pretty straight forward.

**7/11/16:** Nothing in particular to report today, I just worked on operations all day today. I got through another two, so hopefully at this pace John and I should get all our operations done before we leave next week. According to Ann, we’ve completed a lot more than they expected, so that seems like a good thing.

**7/12/16:** Another day full of working on operations. Nothing much interesting to report. I made it through another two operations.

**7/15/16:** Today was, again, unremarkable. At this point, John and I know our work well enough that we can crank out operations all day without needing any input. So, we do. I did get through four operations today though, almost enough to finish the entire project. I also worked on my EZPaaS paper, and I’m almost finished with it at this point.

**7/16/16:** The big news for today is that John and I presented our work for the summer to Rob. As with our previous presentation, we spent the morning preparing and then presented in the afternoon. As far as I could tell it went well! Rob also asked us about the best part of our intern experience, as well as what could be improved. We both agreed that the onboarding process could use refinement, since it took us almost a month to get everything installed and start being productive. I also had about an hour and half after our presentation to work on my paper, and I was able to get it finished! So today was an exciting day all around.

**7/17/16:** I finished my last operation today! Between John and myself, we’ve completed ~35 operations, many more than the ~10 we had as our initial goal, so I’m fairly proud of that. Looks like my work from here on out will just be documenting what we’ve done for whoever comes after us.

**7/18/16:** I just spent today on documentation; going back through all the code I’ve written this summer and commenting it to help make it intelligible for anyone who has to use it once we’re not around to explain it. It’s tedious work, but important, since we’ll be gone soon and then no one will know how our code works.

**7/19/16:** Today was my last day. I didn’t really have much work to do aside from getting everything set up for my departure. I was supposed to go out to lunch with Bala and John, but Bala ended up having a meeting that prevented it. So, I spent the day writing some final documentation. Then I turned in my laptop and badge and left. The last month really flew by – once I learned what I needed to be doing for my job, the days went by much faster.