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CS322 HW 14

I feel the lower level computer science courses did well in preparing me for later courses overall. I transferred here from a community college where I learned Java and C#. Coming out of those courses I feel I would have been unprepared for upper division courses. I didn't have a good understanding of how the computer works. Those courses were more about going through the motions and not focusing on how the language works. My first course at Washington State University was CS121 with Andy O'Fallon. For the first time I was shown how and why things work. In CS121 the language we learned was C. We learned from the ground up about how the computer works, and I finally began to understand why the computer works the way it does. One of the first major topics of CS121 was defining what an algorithm is. The first few assignments were centered on getting the "recipe" right. As we learned more about how to use functions we were tasked with going back and reworking our first homework assignments to add them and follow the three file format. Looking back CS121 was an example of how college should be. We were given the basic tools and told to build something, the best way to learn is to build something.

The next class in the computer science series was CS122. Adam Carter was the instructor for CS122. My experience in CS122 was not a great one. Adam Carter was constantly underprepared for his lecture. He frequently went through examples in class with errors in it that he could not fix. It was extremely frustrating when the only answer he could give was, "well it worked in my notes". In CS122 we advanced to using C++ and began focusing on object oriented programing. We had to implement several basic data structures including linked lists, binary search trees, and other basic collections. While learning these data structures we began working on abstract data types and

template data. Despite having a horrible learning experience in class, I learned how to learn the concepts on my own and ended up being quite successful in the course.

I am glad the lower division courses used C and C++. I feel learning from the most basic level was incredibly valuable. Starting with C and C++ gave me a greater understanding about how the computer works at a very low level. However using C# in CS322 was a great experience. I feel the higher level language made covering the concepts in the course much more doable, because C# allows for simpler implementation of core concepts we have already learned. I feel were able to focus on the concepts of this course instead of debugging errors in concepts covered in prerequisite courses.

The online library of concepts is much easier to navigate for C#. Microsoft has spent an incredible amount of time making C# easy to implement so I could focus on using an object instead of struggling to implement it. This allowed me to accomplish the objectives of the assignments after a small amount of research. I feel, even though I didn't have a great experience in CS122, I was prepared for learning the concepts of this course on my own.

I feel this class is a good example of my strengths as a software engineer. I find working at a high level with C# very interesting. I really enjoyed building the spreadsheet in a module manner, adding features and building from week to week. I learned how a good design can save lots of time later on in the development cycle. If a good design is implemented from the beginning then adding features later on becomes much easier. On more than one occasion I had to go back and rework some code to make implementing a new feature possible. When engineering a solution it is important to keep the big picture in mind so you have an idea about what features you need to implement. For example, if I had known we needed to build an undo/redo feature I would have kept that in mind as I built the logic engine on day 1. I think it would have been helpful to have master plan with the

features that we would be implementing from day 1. Of course in software development, you don't always know all the features that will be required at the end but having a master plan from the beginning would have been helpful.

After taking CS223 and CS322 I feel more prepared to enter the industry workforce and build real world applications. I feel comfortable when working with complex applications. When I engineer solutions to implement new features I break them down into smaller problems and build up to a complete solution, keeping in mind that another feature down the road may reuse this feature in unforeseen ways.

I feel this course has gone well for me. I don't believe that the exams are accurate in representing my understanding of the course material and that my work on the homework is a much better "snapshot" of my level of understanding. I am not a great test taker and it really shows in this course. I believe building software is a much better way demonstrating my ability than any test. I need time to think about what the best way to proceed is, the test environment does not allow for much thinking, I always feel I cannot adequately answer the questions in the time provided on an exam.

I look forward to new challenges in the remaining courses and later on in the industry. I feel that I have found something that I can be successful with. There is no comparison to compiling a piece of code and finding out that it works, I love that feeling and always try to build solutions one piece at a time so that I can test it along the way.