**CS-499 4-1 Journal**

To date, the previous journal entries have been, for me, far more academic than personal. They provided opportunities to explore different elements of what it is to be a Computer Scientist, which then I would just add my own personal perspective on. This journal, in some ways, was quite a bit more difficult, because it demanded that I develop my internal thought process and truly take time to assess “what am ***I*** doing?” I appreciated the forcing function to truly reflect, and as a result, this became an unpolished outpouring of personal thoughts, as opposed to a meticulously crafted academic exercise.

**Have you changed your career plans? If so, what prompted this change? If not, why have you remained with your original plan?**

As I’ve mentioned previously, my current career plan is fairly well locked in. I’ve served on active duty for 18 years, I can retire in 2, but as an E-9, I can serve for 30+. The plan has always been to serve at least 20 (it would be silly not to), and then assess the impacts of continuing service on my wife and children. This degree, and more specifically the skillsets afforded by it, only serve to make me more marketable when the inevitable day comes for me to take my uniform off for the last time.

**How has your thinking about your career evolved?**

What a weighted question. It would seem as though my thinking about my career is ever evolving. For the better part of the last two decades, I’ve lived professionally on autopilot. The Navy outlined the career trajectory for me as a Cryptologist, and I just followed the “checklist.” Go here. Qualify that. Complete this. Lead them. It’s a fairly straightforward progression – albeit drenched in nuance. That’s been the latter half of my life. Moving towards the civilian sector, or at least towards the timeframe where I can consider it, is as exciting as it is daunting. I’m constantly evaluating “What do I want to be when I grow up?” This capstone course adds an exclamation point to the inquiry. I’ve been chasing a Bachelor’s since August of 2001. Now it’s here - what’s next? I’ll let you know when I figure it out!

**Have you completed any research about your choice of career? How has this impacted your thinking? Have you thought about seeking an advanced degree or certification after earning your undergraduate degree?**

I have. Similar to the previous question, with every tour of duty there is another facet, explicitly or implicitly, of consideration for post-naval careers. Presently, I’m stationed at the Pentagon, and I do a decent amount of work in and around the area of acquisitions. The longstanding best practice is that you find a job at the place you retire, because that provides the most recent and relevant work experience. Plus you’ve been given 3+ years to network. I think I can say with relative certainty that I’m not quite cut out to be an acquisition professional. However, I have – as a byproduct – been pretty entrenched in the systems design and engineering discussions. That holds some promise, I think. To truly be marketable and make the kind of money I hope to make, and be in the realm of influence I would like to be in, it almost necessitates an advanced degree. I will likely start my masters in the fall. I’ve talked with some of my civilian counterparts, both in government and industry, about which makes the most sense. In general, the consensus seems to be with an undergrad in CompSci, and a master’s in engineering management, I shouldn’t have much difficulty finding employment.

**Which course outcomes have you achieved so far, and which ones remain?**

I don’t know that I can say I have fully *achieved* any of the course outcomes just yet, as I’m not done the final project yet, and each of my artifact elements are still being developed. However, I think I can argue that I’ve made significant strides in the following course outcome areas: (1) Design and evaluate computing solutions that solve a given problem using algorithmic principles and computer science practices and standards appropriate to its solution, while managing the trade-offs involved in design choices; (2) Demonstrate an ability to use well-founded and innovative techniques, skills, and tools in computing practices for the purpose of implementing computer solutions that deliver value and accomplish industry-specific goals; and (3) Develop a security mindset that anticipates adversarial exploits in software architecture and designs to expose potential vulnerabilities, mitigate design flaws, and ensure privacy and enhanced security of data and resources. I accomplished (1) in the translation of a rudimentary login system from Java to Python. I am in the process of completing (2) by changing the credentialing process from validating names and passwords off text files, to generating unique usernames and passwords based on user inputs, and will ultimately store the authentication data in a SQL database. Lastly (3) is being worked out in the upgrade from MD5 hash to bcrypt with salting to improve overall security, and through the requirement to implement more robust and complex password requirements. The remaining two still need some work. I am largely ignorant to the collaborative usage of GitHub (I understand it in theory, but have not had much experience or exposure to employ it), and I “fumbled the ball”, so to speak, on my initial code review.

**Status Checkpoints for All Categories**

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| --- | --- | --- | --- |
| **Checkpoint** | **Software Design and Engineering** | **Algorithms and Data Structures** | **Databases** |
| *Name of Artifact Used* | IT-145 Final Project | IT-145 Final Project | IT-145 Final Project |
| *Status of Initial Enhancement* | Complete | Complete | In Progress |
| *Status of Final Enhancement* | In Progress | Incomplete | Incomplete |
| *Uploaded to ePortfolio* | Incomplete | Incomplete | Incomplete |
| *Status of Finalized ePortfolio* | Incomplete | Incomplete | Incomplete |

***References:***

N/A