Reflection

When I began this project, I wanted to research a topic that would have a direct application to my future career. As a software developer focusing on embedded computing (computers in appliances, tools, or space), I will interact with devices running a Linux-based operating system often and may have to add changes to the Linux kernel, so I chose to research the process for proposing such changes. This is a topic covered in quite a few blog posts and forum answers, yet no formal research exists that details how changes are proposed.

Before this project, I imagined research as working in a lab and running experiments until something novel is discovered or created. As I've gone through this course and this project in particular, I've come to understand that research is much less daunting and more approachable for mere mortals. While ground-breaking ideas and approaches are certainly a worthy goal, research can be anything that fills a gap in human knowledge, such as a faster way to filter sand, a lower power radio, or an analysis of writing styles in a discipline. Being in a course that exposed me to research from various fields and their writing conventions also gave me a broader picture of what research can be, which will allow me to generalize the concept of research to areas where experimentation does not apply.

Having a structure to follow made the research writeup much easier to approach as a beginner and helped guide the whole research process by, for example, forcing me to develop my methodology before collecting and analyzing data. In the past when I did not have a clear structure to follow, I had difficulty understanding how to transform my ideas into an organized report. Now that I understand the basic components of a research writeup, I can plan for future research more effectively.

The most difficult part of any project, for me, is motivating myself to sit down and work on it. My difficulty with starting work is part human nature and part uncertainty with where to begin. I often write out broad TODOs such as "finish project," which I know is the equivalent of a biologist penciling in "cure cancer" for 9:30-11:45am Monday morning. What helped me for this project was making goals like "gather data from five proposals" or "write conclusion outline." While creating specific, measurable goals like that takes more time to develop and more mental effort to plan, it had a profound effect on my ability to avoid procrastination and reduce stress by working a little bit at a time. In addition, spreading out the work meant I had more chances to revise what I wrote, as Nancy Sommers would advise. I am glad I was able to learn that lesson from this project as it will create good habits for future research work.

Next semester, I'll begin doing research for Berkeley Deep Drive, an autonomous car research organization, so it is important that I understand how to perform research and write a journal article. This project helped me practice my writing skills and develop confidence in my writing, which will give me an advantage as I begin research since I'll be able to focus more of my efforts on the experimentation and discovery. However, this does not mean I see myself as even close to an expert in writing articles; that, I believe, will develop as I continue to practice writing over the coming decades, whether as part of my courses, research, career, or other activities.