Co-op Job Summary

Term 2: Summer 2008

Introduction:

Tangibl LLC is a small, private engineering firm that primarily does contract work for clients ranging from local municipal plants to major electrical utility companies. The type of work they do includes project management, construction management, engineering design, drafting, and other related services. The company is divided into a couple of divisions that are responsible for particular categories of work and/or types of clients. Co-ops are usually assigned to a division and supervisor based on the needs of the company. I know that the past co-op primarily was in the project management and fieldwork role, while I mostly stayed in-house working on completely different types of jobs.

Work Assignments:

During the Fall 2007 term, I found myself working on many small projects, some interesting, some mundane. For the Summer 2008 term, I spent almost all my time working on two large-scale projects, both of them more difficult than anything I had done previously. This time, my projects were more team-based, meaning that I had more freedom to develop my own processes and ideas in conjunction with my team members, rather than simply follow my supervisor’s direct instructions (like I did in the Fall).

The first project I worked on was in the field of electrical power distribution for a major energy company client. This was a very high profile job for Tangibl, so it was exciting for me to be able to have a role in it. A further benefit was that my co-op term began right as Tangibl started the job, so I was able to work on this job right at its start-up phase and continuing through the duration of my co-op term. Power distribution was a topic I never learned in school, so I did not apply any specific classroom knowledge. However, I did need to know fundamentals of electrical circuits and power, which helped when my co-workers were explaining more advanced concepts to me.

In its broadest sense, Tangibl was asked to improve reliability and increase circuit protection on well over one hundred power distribution circuits spanning western, central, and northern Pennsylvania. Circuit protection was done by fusing branches off of the circuit’s main line, and by installing reclosers and sectionalizers based on electrical load and customer count considerations. Then, we used industry software to analyze the circuits for proper time-current coordination in order to ensure that our design proposals would function correctly. Of course, there were plenty of calculations to do and technical background to understand while we were doing this work. Without divulging too much proprietary information, we had to develop a package of information for each circuit that would later be sent to the client’s regional engineers. This information would later be sent
had developed during the fall term. This project had been ongoing for months before I first came to Tangible. There were both changes to the physical layout of the plant’s electrical system as well as major changes to the actual methodology behind our power studies, which explained why this project took so long to complete. Luckily, I had remembered some things about electric utilities and protective devices from my first term, so this project went a bit smoother as compared to in the fall. Since I had used the analysis software and worked on this project for so long, I was also asked to create a user’s manual for other employees to reference.

**Evaluation:**

I was happy with the way this co-op term went, since the projects I worked on were challenging and relevant to my academic interests. I was able to make more of my own decisions, which I felt more comfortable with as I gained experience on the project. The only downside was the level of training provided for my major project. When it started, I was only told the bare minimum background information on what I needed to do. I did not even receive the packet from the client that outlined the project’s scope, design philosophies, and other important information until a couple weeks into the project. Most of my early “training” amounted to me re-running analysis on some circuits due to mistakes that could have been easily prevented if I had a more complete conceptual understanding about what needed to be done. Not surprisingly, I ended up having to make revisions to my early work to bring them up to standard. Though I was able to quickly apply these lessons learned to the rest of the project, a more rigorous and structured training session would have saved a lot of time.
**Life Outside of Co-op:**

Unfortunately, I got a late start on the housing search for the summer term, so I was unable to find any reasonably priced housing in the Yardley area. Yardley is a typical upper-middle class suburban region, so it is difficult to find suitable apartments or dorm rooms. Luckily, it is only a 40 minute commute from my home in New Jersey, so I ended up living at home again, just like during the Fall 2007 term. Although this saved me a lot of money, I would have much preferred to live on my own. I would highly recommend starting your housing search early, and being aware that you may be living in some family’s spare bedroom.

On weekends, I visited my high school friends who were also working in the Philadelphia or central New Jersey area. In addition, we went up to New York City every few weeks to hang out with some other friends who were doing internships there. Yardley is a fairly centralized location, so it’s only about an hour from Philadelphia, New York City, or most places in New Jersey. The drive back up to Cornell is about 4 hours, so I ended up going back up to visit friends at school as well. In Yardley itself, there are plenty of places for young people to have fun, including movie theaters, gyms, bars, and malls. A car is highly recommended for errands or local travel.

Student Signature: [Signature] 8/18/08

Supervisor Signature: [Signature] 8-5-08