**Date:** August 22nd 2016

**To:** Sandra Stark

**From:** Jeremy Clarke

**Subject:** Computer Science Co-op Work Report

**Subject**

This Co-op report’s subject is in regards to my work at Heritage College over the course of the summer from May 30th up until August 19th with my supervisor Marc Amey. It will provide details and descriptions of the work itself and the environment, skills used, and acquired and overall conclusions of the co-op term.

**Employer Description**

Heritage College is a Cegep that offers education in pre-university, career, and continuing education programs. There are many different programs that are available to students such as computer sciences, electronics, new media and more.

**Position Description**

The work environment of the co-op required to have a good understanding of networking pertaining to both server-side and client-side networking. Since the knowledge was used to set up thin clients, computers at Heritage would process hardware on the server-side rather than client side in order to decrease the hardware strain on older models of computers with aging hardware as well as eliminating the time and costs of replacing hardware throughout all of the computers by allowing the server to provide a remote desktop for the computer to connect to. A lot of skills required for the job were acquired through the understanding of hardware and networking classes given throughout the first and second semesters of the computer sciences program. Generally over the course of the summer, our goal was to convert all of the teachers computers, and many of the labs that did not require software that was hardware intense (adobe cloud for example) into a virtual environment for the client so that the computer’s interface would run server-side, making old machines run much quicker and giving them a much longer expected lifespan. Other tasks involved managing computers in active directory, physically testing computers, tech support for staff, and building specific images for different computers such as the computer science program which requires specific programs like Eclipse, Dreamweaver, LanSchool etc…

**Technical Environment**

Computers were mostly if not all dell machines, this made servicing and troubleshooting them much easier as drivers would all come from the dell site, the hardware was mostly clip-on screw less hardware components allowing parts to be uninstalled and reinstalled quite easily. The operating systems we worked with were windows 7 and a special thinned out version of windows 7 that would make deployment of computers much faster. The thin clients were set up using VMware view client, with a few changes using PowerShell script to allow the thin clients to remote connect to a virtual desktop created by the server that could be used like a normal windows 7 professional client.

In terms of workspace, the space available during construction was scarce, we had to use old classrooms as labs to image, test and label full labs. We were provided all materials needed to work with many computers, all the power and network cabling, mice, keyboards, other peripherals, and desktop screens.

**Acquired and Practiced Skills**

The skills acquired in the computer sciences program were very much used, the hardware and networking courses were definitely the most useful courses in terms of understanding the required concepts of our work. What had been learned during hardware and networking was the grounding for what was used for work, the work itself helped to build upon the knowledge and help us better understand many of the concepts that would be used, for example, how a domain can be used to better control push group policies over to many computers on a server’s network and for example, not allow a user on one of the school’s computers to change their desktop background, or update the computer. When our work had advanced, we were given the rights to manage where computers could be dropped into in active directory, in order to put computers in organizational containers in order to push specific policies to computers in organizational units.

There were quite a few new skills we acquired during the co-op, such as making a new image to deploy to many computers at once, and all the small details and processes that come with it such as learning how to install many new applications, the concept of making a custom default profile so that any new user that logs in will have a customized set of profile settings, desktop backgrounds, icon placements as well as the sysprep process that allows the machine’s image to be distributable across many machines by removing any license or code such as a mac address tied specifically to the machine. It was also necessary to take into account all the necessary drivers for the computer so that deployment would be seamless, usb, display, and sound drivers would work and Ethernet would allow connectivity to the domain. Many of the skills learned were through troubleshooting, such as computers not having proper group policies meaning that they were not dropped into the right organizational unit, or how changing a computer’s name will cause a trust relationship error with the domain if it isn’t taken off the domain before changing the computer’s name.

**Evaluation of Co-op Experience**

In terms of how preparation for the co-op, I felt the preparation provided through business information systems was well rounded enough to prepare for most work places. Acting proper and professional at the workplace, keeping any information that is vital secure, and making sure to manage time and work properly. Although we were not prepared for the work done this summer at first, it is only because we didn’t have a full understanding of how the virtual desktop environment had to work and be set up at first, but we learnt and although there were a couple of mistakes, we became more efficient and understood it more through the mistakes, as well as better learning how to troubleshoot the virtual environment.

The most accomplishing parts of the co-op was creating system images to deploy from scratch, although both times it was very troublesome, and help and involved a lot of do-overs, it involved great satisfaction in the end when everything had been done, which is very true for the computer science image, since it is the image that I will be using throughout the semester.

Although there were some problems and challenges along the way, there was almost always a solution or prevention by the end that allowed us to solve or prevent the problem immediately as soon as it had come up again. All the time and trouble the problems would give would be the greatest reminder of how to prevent or solve a problem concerning imaging, hardware, or networking issues.

**Conclusion**

The co-op term has been one of the most enjoyable and accomplishing experiences I have had in a job, I am grateful to be part of such a drastic computer infrastructure change in the school and to have worked with under such a great team in the computer services at heritage. Overall I feel it has allowed me to see the other side of the spectrum of computer sciences and it has helped me to learn much more of the concepts already learned computer sciences applying those skills to real life situations.

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Jeremy Clarke

**OBJECTIVE:** To attain a job position in computer hardware and programming

**Relevant Skills and Capabilities:**

* Demonstrated bilingual verbal skills (Parc des Îles Valleyfield, summer 2012 - 2015)
* Experienced with computer hardware, networking, Windows 7, Java, NetBeans, Eclipse, Microsoft Office Suite, Adobe Dreamweaver, HTML, CSS, and JavaScript, PHP, Node.js SQL
* Skilled in hardware, active directory, vmware view
* Meticulous and analytical with code syntax and problem solving
* Works well independently and collaboratively
* Adapts and conforms to unexpected circumstances
* Demonstrated strong work ethics

**Workplace Experience:**

* Co-op Student for tech support (Heritage College, summer 2016)
* Converting computers to a virtual environment
* Managing computer objects and applying group policies in active directory
* Imaging and installing software, preparing computers for labs
* Troubleshooting computers and responding to tickets
* Beach Maintenance (Parc des Îles Valleyfield, summer 2012 - 2015)
* Cleaned and supervised group reservations and customers
* Trained new employees in maintenance and responsibilities
* Maintained hardware and cleaning equipment
* Assisted customers in with their needs

**Education:**

* Studying in Computer Sciences - Heritage College Gatineau Quebec (2016 - present)
* Acquired Diploma of Social Sciences and Studied in Computer Sciences - Champlain St. Lambert College Longueil Quebec (2011-2015)

**Activities and Interests:**

* Video recording and editing
* Sketching and art