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Computer Science Work Report

Co-op Report



To: Sandra Stark

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Subject: Computer Science Co-op Work Report

# Introduction

In order to gain work experience, I participated in a Cooperative Education and Internship Program (Co-op) at the Canada Border Services Agency (CBSA) from May 1st, 2017 to August 23rd, 2017. I held a position in a software/application testing team named YTST which was supervised by [John Sander](mailto:John.Sander@cbsa-asfc.gc.ca).

# Employer

Canada Border Services Agency (CBSA) is a federal agency created on December 12, 2003 which is responsible for providing border services that support Canada’s security and safety. The CBSA facilitates the flow of people and goods into and out of Canada, including animals and plants. Their motto, “Protectio, Servitum, Integritas”, translate to “Protection, Service, Integrity” which represents the Agency’s core values in which the Agency’s responsibilities, mandate and workforce are based.

# Position

My official position title at CBSA was “CO-OP College”, a proper position title would most likely be Software/Application Tester. As a tester in YTST, my main tasks were to improve, correct, and possibly create new automated testing scripts for applications called IPIL Air and IPIL Highway as well as reporting defects when finding them. However, I also participated in weekly JAD sessions to discuss current tasks at hand, the state of how the development is going, the status of the individual tasks of each member of YTST, brain storming about testing strategies, etc.

# Technical Environment

## hardware & operating system

At CBSA, I was provided with two workstations. In my case both were utilizing a dual core CPU, 8GB of RAM, and Windows 7 32-bit architecture.

## software

On my machines, Unified Functional Testing (UFT) 12.01 was installed which is a vital tool for testers to write scripts in VBScript in order to test applications. UFT was connected to Application Lifecycle Management (ALM) which helps supervise the state of applications. Both UFT and ALM were created by Hewlett Packard (HP Enterprise) for application development and testing purposes.

## Programming Languages

HP UFT only supports Visual Basic Scripting Edition (VBScript) which is a procedural language. Applications were connected to IBM DB2 database which used SQL.

## Databases

As previously mentioned, all applications were connected to an IBM DB2 database.

# Applications of Skills acquired in Computer Science

During my co-op, I used a great amount of skills that I learned and acquired in Computer Science at Heritage College, this includes my technical skills from my programming courses such as Web Programming, Programming, and Database Management. These courses helped me with learning UFT 12.01 and VBScript as well as helping me with the creation and maintenance of scripts. Courses like Interpersonal Relationships and Business Information Systems helped me with the common communication happening in electronic or oral forms. The Systems course helped me with understanding the business logic in applications and the current state of development.

# Skills acquired

During my time at CBSA, I learned a lot about interpersonal skills, I believe that being in a professional environment helped me develop a professional attitude towards other people at work. I’ve also learned a few technical skills, while maintaining other peoples’ scripts and I’ve developed the ability to read and understand other peoples’ code better. This is something I need to develop even further but after doing it constantly during this work term, I believe I’ve gotten much better at it. I’ve also learned a lot about how large and complex applications are connected to each other and how they have to share resources which has really opened my eyes as to why I should be making my code as efficient and robust as possible. This observance was something I was only able to see due to my position as a tester which had to test many applications built by different teams. Working at CBSA has also taught me to be more patient. Due to the bureaucracy within the government, there were many times where delays were inevitable which gave me a lot of free time to deal with. It is within these times where I learned to take the initiative and do productive things with my free time whether it was about improving my technical skills or interpersonal skills.

# Evaluation

## Preparation

I believe I was properly prepared for the co-op, my entry at CBSA went quite smoothly. As for how technically prepared I was, I would say I was mentally prepared for the technical challenges that would come with learning a new tool and a new scripting language.

## Highlight

The highlight of this summer was being able to get very complex scripts up and running. These scripts never worked from the start and I was able to make them more robust and reliable as scripts. As long as the applications don’t change too much, the scripts should be able to run for a while and adding new sets of data to test should be quite easy even for someone who hasn’t touched the script at all as long as that person knows UFT 12.01 a bit.

## Suggestions

If the student was provided with the set of tools and language that would be used during co-op, the student could try to learn these tools ahead of time in order to work much earlier. It would also be great to somehow get access to what the student needs in order to do work before the student starts working, perhaps getting access. It took me over a month in order to actually be able to work, during that month, all I was able to do was read up on the tools which quickly got boring.

# Conclusion

Working at the Canada Border Services Agency was a wonderful experience, as it is a place where I learned a lot, improved my programming skills and interpersonal skills and learned a new set of tools to add to my repertoire. As well as acquiring new skills, CBSA also taught me about the public sector and its many opportunities that it offers to its employees which has allowed me to meet many people who were genuinely interested in their jobs. I am quite excited to explore choices and find the one that will allow me to advance my career while also giving me the opportunity to flourish as a person.