Third Year Program Exit Assessment

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### Computer Science Technology

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# How I achieved the General Program Learning Outcomes

In my third year in Computer Science at Heritage College, there were numerous general program learning outcomes that I had to achieve. The following includes how I achieved each of the 8 general program learning outcomes.

## Demonstrate problem solving and analysis techniques

Problem solving has always been a strong suit in my deck of skills. This program, however, has pushed me to use this skill in a more wise manner. This skill has evolved passed the application in programming and math, into it being applied in the real world. Examples of real world application of my new and improved problem solving skills include: better time management, making better financial decisions and more. I’ve gained a lot more confidence in my ability and is now able to use it more effectively.

## Demonstrate ethical and professional conduct,

## Work effectively in a team environment,

## Communicate effectively with team members and clients and

## Manage time and resources efficiently both individually and within a team

In my first 2 years in this program, I’ve had numerous courses explaining to me the theory behind working in a team environment. Specifically, the theory behind the whole process of the scrum methodology. I learned how it works, it’s benefits of having a methodology in the first place and the advantages it has over the Waterfall methodology, which is considered to be an outdated methodology. I have applied this theory in my third year in this program. In development project, we split up into groups and worked on a project as a team in a simulated work environment. We had daily (every class) scrum meetings where we discussed what we did before and what we plan to do for the day. We also had meetings with a client and presented all the progress we have done on the project and collected his feedback on the changes. We were capable of doing this since we prepared presentations and portions that each person will have to prepare. We also had to dress and act in a professional manner during those meetings. This was well planned out since we had a member in the team who was the assistant project manager. At the start, the role was rotated around the team members for everyone to try being that role and the next semester we agreed on one and they kept the responsibility throughout. When it was my turn to become assistant project manager, I learned how to manage tasks for my team, myself included and ensure that no one is getting too much at hand.

## Demonstrate ethical and professional conduct

There were some moments when speaking to others in a team environment, a personality conflict would appear. This would end up causing a good amount of trouble, but in order to keep things in control, I had to stay calm and listen to the arguments they had in mind and give my response in a calm and composed manner.

## Develop an awareness of others and

## Develop an awareness of themselves

While we are learning to create and operate software on a machine, it is important to remember that we are still human. It was not rare to see some of my classmates go through tough times, at home, at school or by simply misjudging the size of the assignments given. I had to learn to keep that in mind when communicating with them. At the start, it was a little bit of a challenge to develop my emotional intelligence and notice when and what others were dealing with, but with the help of a few of my classmates who helped me when I was down, I was able to help them back. Unfortunately, some things cannot be shared among classmates. So, I had to learn how to make time for dealing with such things and still keep up with school. It’s not perfect so far, but it has been improving.

# Third-year Learning Outcomes

My third year in Computer Science at Heritage has been filled with multiple learning experiences. These learning experiences will help me advance in my career. Here are a few I’ve decided to share:

In Advanced Topics I, we dedicated half the semester to researching a new topic in Computer Science and presenting it to the class. I’ve decided to learn more about graphics programming, specifically the tricks that makes games look so good today. I did find some of the topics quite challenging to learn. Notably, how 3d perspective works in graphics programming. It is mostly just an application of math none of my classmates have learned and neither have I. I ended up spending quite a bit of time carefully selecting what I would talk about in that portion of the presentation to make sure my classmates wouldn’t get overwhelmed of the amount of information being thrown at them in such a short period of time. Of course, I did not go as in depth as i would’ve liked to go, but in the end, my classmates seem that have enjoyed the presentation as a whole so it turned out good. Another challenge that I had to overcome during this research project was how to make a PowerPoint look good. I learned how to animate and present information in a visually compelling way. Compared to my first year presentations, which was shown in class right afterwards, I received the ‘most improved award’.

In Systems Maintenance, we had to spend time as a team to learn about a system that was built by previous students and work on it to improve it. The system was called LCS (Learning Centre System) and it’s primary goal was to help students view when teachers were available to help them in a certain subject. It would also help teachers queue up the students so they don’t all come at the same time and overwhelm them. When we had to analyze the system, I found many major flaws with how it was built. Considering that it was built 4 years ago, it lacked many of the quality-of-life features that come with the new .NET releases. It also had different patterns than the ones I’ve learned in our classes, so I was forced to adapt. Finally, it included a lot of bugs that the previous team did not have enough time to fix. Nonetheless, I had to find ways to work around these issues and continue to add new features. I primarily worked on implementing a live refresh feature to some of the pages. I had to use a technology that I didn’t fully know (SignalR), which also came with it’s own pile of problems, to make this happen, while also co-operating with another student, who was working on a similar feature, to make sure we don’t end up making bad quality and duplicated code. In the end, by communicating and making prototypes, me and my classmate ended up adding a really nice quality-of-life feature to LCS, which the client loved.