



Trinity College Dublin

Coláiste na Tríonóide, Baile Átha Cliath

The University of Dublin

CS2013 Individual Reflective Essay

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Group 21

With completing the software engineering project, I was able to benefit from a variety of new things from the project. I was a part of Group 21 and our project was “Using AI for good!”. We used IBM Watson technology to train an AI to learn how to recognise the horrific act of human trafficking in texts and photos in hopes of preventing it.

My overall experience of working in a collaborative team project was surprisingly very positive. I have had my fair share of unsatisfactory project teams in the last two years of college so I did not enter this project with high expectations. However, this project was quite the opposite. I have had an excellent time working with my fellow colleagues in this project. Everybody pulled their weight in the group; nobody was lacking any effort when it came to putting your head down and getting the work done. We achieved so much together all thanks to working together efficiently.

The core of our team was of course the Team Leader. We all agreed on the chosen team leader and it was one of the best decisions we made as a team. She took on this role confidently and fulfilled all of her responsibilities – keeping in touch with our client and also making sure each member of the team was carrying out their obligations. Our team leader has inspired me for when I will try to take on that role next year.

Working with 3rd years was quite the shock for me in the beginning. It was fairly daunting knowing that they were older and more experienced than me and that they had the responsibility of leading the team and telling us 2nd years what to do. However, our group dynamic turned out to be excellent despite the difficulties we had trying to meet up with our different time schedules. The 3rd years took the role of contacting the client greatly and also led the group without bossing us 2nd years around too much. It was a pleasure working with them and they taught me leadership skills and control which I lacked before.

Despite our team chemistry being exceptional, I myself still came across some bumps in the road along the course of this project.

At first when we were given our task to use IBM Watson to train our AI to recognise human trafficking in images, I had no notion about how to undertake this duty. There were not many resources and documentation online for beginners describing how to use this technology. It was really a matter of trial and error in the beginning; we had our model practically completed at one stage but we had to delete it all and start again as we trained it incorrectly due to poor knowledge of the software. With time and a lot of practice, I became accustomed to training the AI and it developed into second nature for me.

Another challenge for me personally was having to use Python programming language. I was given the task to create a program that could find the location of an incident mentioned in a piece of text using python and a Watson Natural Language Processing API. I had no prior experience of using Python so I had to learn the language from scratch by watching hours of tutorial videos and reading a vast amount of documentation. Eventually I was able to overcome this obstacle and I became quite comfortable with the language.

My last concern during this project was the weekly video meetings we had with our client John McGrath from IBM. Every Tuesday and Friday we had a thirty minute video call with John through WebEx. I did not have much familiarity with video meetings before the project so this task was quite intimidating in the beginning. But just like the rest of my challenges, I overcame it quite quickly and I became quite confident with the notion of asking John for help when we needed it.

During a group project I am constantly asking myself: “Am I doing enough?”, but I can proudly say I contributed a satisfactory amount of work to this project.

My contribution that I am proudest of is the location extractor mentioned previously which I programmed through Python; a language I did not even know a month ago. The program called upon a Watson Natural Language API which it then uses to analyse text given in a CSV file. The program searches through all the texts provided and uses the Watson AI to scan for and recognise locations mentioned in the text. The locations are then written to an output CSV file alongside the corresponding text. This program will hopefully be used to accurately and efficiently locate happenings of human trafficking reported all over the world. Not only was I proud to get the program working but the fact that the program may be used to save the lives of many people across the globe is my greatest pride of the entire project.

A further contribution I gave was to the Image Recognition portion of this project in particular. In order to train the AI accurately, we had to gather hundreds of images of human trafficking on the internet as well as images that did not display human trafficking (to train the AI to know what is NOT trafficking). This proved to be a rather tedious task clicking “Save image” for each singular image. I went and searched for a solution to this issue, eventually discovering an extension from Google Chrome browser called “Fatkun Batch Image Downloader”. This allowed us to search for images on Google Images and then use the extension to download a ZIP file of all of the image on the current tab in the browser. This effectively sped up the process of collecting images and allowed us to perform a lot more efficiently as a team.

Another contribution I was proud of was speaking in the presentations. Before this project was totally uncomfortable with getting up in front of a lecture hall full of students and speaking. However for this project I took this task on the chin and carried it out quite well. I now feel more comfortable with giving presentations from this experience.

This project was not only an assignment but it was in fact a journey of discovery and self-reflection. I realised many things about my own working and learning styles.

As I mentioned in the opening, I had a reasonably negative outlook on group projects before entering this project. However, my view has completely changed. I discovered that I work fantastically in a group, especially this group as we all had such great chemistry. It never felt like we had a burdensome assignment hanging over our heads, it always seemed enjoyable and intriguing, especially because each of us were equally invested in the project. I thoroughly loved this project and I anticipate my project next year.

I also realised that I learn a lot more when I am asking questions. We had weekly meetings with our client which I saw as troublesome in the beginning but I soon came to see that it was extremely helpful. I was able to ask John questions about the IBM Watson technology that could not find in any documentation online; he really assisted with the overall results of the project.

In conclusion, I commenced this project with rather negative expectations and with a lack of experience and skill. Now, at the resolution of this project, I can proudly say I have grown as a computer scientist and as a person, and have acquired life-long knowledge and competence.