**COSC343 – Assignment 1:**

**Robots on a chessboard**

At the beginning of the assignment, None of us is familiar with the ROBOTC language and the capability of the EV3 robot. So, at first we just separate as individual and check the API of ROBOTC. During this process, each of us just test the basic function, do some very simple test, such as turning specific degree, timer, the different model of sensor, etc. This is our first stage.

The next is the second stage, which is the unit test. Each of us try to make the robot to finish some specific tasks which can be integrated together. During this time, I am very interested with the robot’s sensor, and the idea to scan and find the target is really straightforward. So I implement this function first. At the same time, William and Nick are trying to solve some other ideas, such as counting the black block, making the robot walk in the small boundary.

The last part is the integration. When we basically finished several units test, even we haven’t finished all of the function we need. We still decide to do the integration as soon as possible. That is because, this assignment for most of us is the first group assignment. We expected that there will be problems when we merge our code together. And it did have problems, it exposed some problem on the design of logic which encourage us to rewrite our code. During this stage, we also finished the crucial functionality which is testing the boundary and adjusting the error of position. This part is result of team work. Nick try the primitive method which inspired us, William and I worked together to make it worked well. After several testing, we finally can make the robot finish the whole task pretty well!

We finished our task basically in the breaking week and just leave it there without any further improvement. However, as the deadline of assignment is approaching. More and more group have finished their tasks. Some robot’s have much better performance than ours. I want to rewrite the code, but only ended with more bugs. I finally realize that there are several big mistakes has been made during this assignment and I don’t have enough time to improve the performance fundamentally.

The lessons I learnt from during the whole assignment are:

* Keep your mind open, and listen your group member’s option and ideas.
* Do more thinking than coding, once the idea has been fixed, there is no usefulness to improve something bad.
* When you finished some task pretty early, it somehow indicates that your solution is just not good enough.
* Learn how to do teamwork (trust your partners!)

Generally speaking, this assignment is much more interesting and useful than I expected. The whole process is not just about some coding, but more important is about the planning, observation and the experience of team work.

The separation of our work is listed as below:

* + Nick: Mainly are responsible for writing the group report and giving some very good original ideas.
  + William: is responsible for the part 1 of the task and the last stage of the task. Also he checks the code and fixed several important bugs.
  + I am responsible for both part 1 and part2 of the coding task.