Name: Leung Ko Tsun SID: 20516287

Submit through Canvas a single-page reflective essay (in PDF) addressing the following questions regarding your skill learning journey on software engineering:

- What major problems have you encountered and how did you deal with them?
- What **specific skills** you utilized that allowed you to resolve the issues?
- Or, if there are ongoing challenges yet to be cleared, what **specific skills** you aim at acquiring to resolve the issues?

This course is well-designed as each lab is very concise and delivers clear targets and objectives for students. Sometimes I cannot attend the class on the designed schedule, I still found the lab manuals and recordings are very easy to follow. With the well-explained and detailed lab manuals, I was able to finish the lab by following the guidance. Each lab has a clear objective for the students to acquire different skills, including class and use case diagrams, debugging, and unit testing. The labs help me to become well equipped for the team project.

One major problem I have encountered is debugging. Luckily, the debugging lab taught me how to efficiently debug in the Eclipse IDE by adding breakpoints and utilizing debug stack. Also, as I am in the honour track, we were given a high degree of freedom in designing task 3. I was assigned task C3 and it was challenging to think of the structure and features of the deliverables. I have proposed some thoughts and discussed with my groups whether my proposal is reasonable.

Also the other problem was the confusion about Version Control Systems like Git. I am familiar with basic operations like Push & Pull, but when there is a more complicated situation, for example if I want to roll back to a specific version, or merge branches to master. Sometimes it may be very dangerous if the engineer is not familiar with these systems and can erase all the source code, wasting the team's effort. Therefore, I realized that I need to gain more understanding on these materials, so I self-studied several tutorials on Remote Version Control.

I acquired different skills to resolve the above issues, like the operations of git rebase/ git stash/ git revert. Becoming an expert in these software engineering skills allows me to collaborate with others easily, and enhances the roll-back ability, especially for the large-scale project.

There are different practices I used to solve the problems that I mentioned. First of all, I revised the labs again. As the lab manuals are well-structured and comprehensive, it provides a good source for me to set up the environment. Also, communication is of essential importance. Compared to other courses where students can only ask questions by emails, a telegram group is opened for students in COMP3111/H. It helped me to form my group, ask questions to TAs and professors, and discuss with other classmates in private chats. Communication and teamwork are the main components of software engineering and the telegram class group is very helpful as it is more efficient solving problems collectively.

All in all, I enjoyed the labs and group projects very much as it enables me to have a chance to experience software engineering by practising. It is the first time for me to collaborate with classmates in a Computer Science course. Overall, I believe my journey was meaningful and I was able to gain great insight on software engineering through team collaboration.