System Design Project

Report 4 – Juozas Kaziukenas – s0820151

Immediately after milestone 3 we had a meeting to decide on tasks we wanted to accomplish before the upcoming friendly match. After a short discussion, I had a list which I later transformed into a table of tasks, each categorized into vision, strategy, simulator or robot construction, assigned to a person, and given a deadline. Having done this, I believe the team had a better understanding of what tasks everyone needed to get finished personally. One of the things I learned as a manager is that without a clear work plan and structure it's very hard for everyone to be focused on team goals.

My major achievement for milestone 4 was improving the workflow of using the software we have built in previous weeks. We noticed in our first friendly matches that we can't start our robot immediately when a "GO" command is given, because the "Start" button will need to establish Bluetooth connection and start vision processing. Even though this would work quite well most of the times, in some occasions Bluetooth establishment could become unreliable and we would lose valuable playing time.

Therefore, I extended our program to have two buttons; "Start/Stop" and "Start/Stop execution". The former was the similar to the previous "Start" button, only differencing in that now it doesn't run the strategy once Bluetooth and vision are setup – it will wait for "Start execution" to be clicked. Thus allowing to not only start moving immediately when we want to, but also allowing a change of strategy (from main to take-penalty for example) without reestablishing Bluetooth connection.

Related to program changes, I have also modified the program running in the robot itself to never quit the program once it's started, which made it easier to test our code on the robot without needing to relaunch the client every time we click "Stop" on the program. Once this was done, I started integration testing the whole system to make sure it was stable and consistent. Results were mostly very good, just a few small issues with the processing thread arose which I fixed by synchronizing the main and the processing threads.

I would consider my work as something which made testing easier and also made performance in matches and demos smoother and easier to control. As team manager I spent a lot of time talking to everyone about the issues they had and how to potentially solve them, also including trying to involve members who are not involved enough (compared to others) more into to team work. My goal for upcoming matches is to extensively test the robot, making sure the strategies are working as they are supposed to, and ensure we do win first place.