System design project

Report 3 – Juozas Kaziukenas – s0820151

I started milestone 3 with deciding on new teams' structures to make work required for strategy easier and distribute, and assigning all tasks we need to do to competent people, of course assigned quite some tasks to myself.

One of my biggest achievements was building a basic structure of GoToBall strategy, which is simple state machine executing move commands depending on which state it's in (where the ball is, what angle is between robot and it etc.) just by implementing top-level logic and leaving lower level logic, which were calculating angles, distances and states, for others help out with. This work really well as it was much easier to contribute for others and in just a few days the strategy was implemented.

Strategy was working quite well with simulator we have because it was outputting a lot of helpful information to the screen: like the points it wanted to reach or what state it's currently in. The first tests on the actual robot showed that without that information available it's very hard to test strategies with real robot. Hence I merge the simulator GUI with our Server code (1) and made it so it displays same graphical pitch it does when running with simulator. This proved to be very worth the time and others could debug the strategy without much effort.

One of the things I noticed is that simulator was using different X, Y space than vision was returning to us. Thus I spent quite some time working on mapping of those values, further improving the goal of simulator being and behaving in the same way as a real robot. After that I have noticed that simulator is drawing robots in incorrect positions, with a slight offset from real position stored in X, Y, so I'm going to have to work on this next week.

As a team manager I spent a lot of time making sure everyone knows what one needs to do and they deliver. I have party failed this task by not making sure few important things, like failed milestone 2 we decided to implement during milestone 3, will be delivered in time. However, the communication of the team was greatly improved by organizing regular meeting, forcing to contribute to our Wiki and participate in discussions in the email group.

We had experienced problems with SVN server we had assigned and some members leaving Facebook, which we used to communicate before, due privacy issues. I made a decision to migrate to 3rd-party SVN server and discussions to Google groups. Both of these worked great and once migrated everyone could continue contributions, even though I spent quite some time making sure the new SVN server is stable and no data was lost in the migration.

My biggest task for next week is to make sure everyone know what they should be working on and improving strategy to the point where it can actually compete with other robots. That will also involve thinking about other playing strategies and tricks we can use.

1. New system GUI