Wiktor W Brodlo (s0927919) – SDP Performance Review 4
March 23, 2012

Because we have changed the packet format and added some more opcodes, I have done some maintenance on the simulator. I have spent most of my time debugging the Bluetooth connection, various delays across the system, helped fix bugs and contributed my ideas to how to improve our system.

Strong points

- I wrote a ping program, and an associated pong program that runs on the brick, to debug the Bluetooth connection. This is because the connection seemed unstable, and after a longer play (around 10 minutes) the connection would delay by a good few seconds. I wanted to eliminate software bugs, so I wrote a program for the brick that replies with the same packet it was sent, and a program for the PC to send and track those packets. The output is compatible with the Unix `ping(8)` command to make the analysis of the connection easy. The output suggests some interesting properties of Bluetooth connections, it has helped to measure the average round-trip time, and has proven that the problems are not due to Bluetooth, they are software bugs.
- I have contributed my knowledge of threads to help rewrite the robot control code. I have not written any code for this, as I do not know much about threads in Java, but my theoretical knowledge helped another team member implement the changes.
- I have helped fix some bugs in various parts of the system.

Weak points

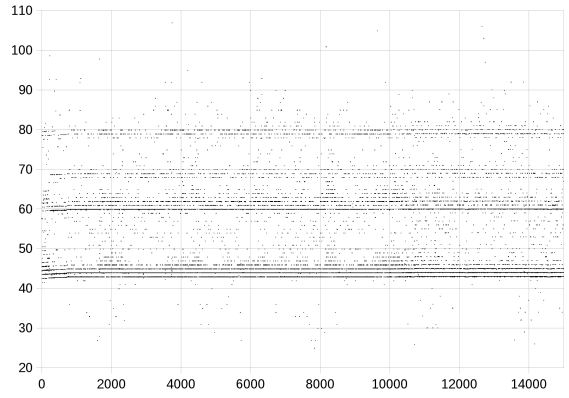
- The team is dissatisfied with my simulator, so I will improve it in due course with the help of another team memeber.
- There were still some communication issues, I need to reorganise my mailbox as there have been emails sent to me that I have never seen.

I believe I have earned 6 points this time as my contributions were important, even if I have not contributed a lot of code.

I am unsure of other team members' respective contributions, so I would like to withold my vote, but I believe everyone else has earned at least 6 marks.

Sample roundtrip times graphs, x-axis: roundtrip time (ms), y-axis: ping sequence number

15000 pings, 8 bytes, 13 min
rtt min/avg/max/mdev = 24.924/53.025/106.919/11.563 ms



15000 pings, 5 bytes, 13 min
rtt min/avg/max/mdev = 23.918/52.525/104.954/10.631 ms