Final Year Project Interim Report (Feb 2016)

Current Progress

Building the arena

There is currently little to no progress in the arena and it's construction. I have looked at pricing for various clamps in order to attach wooden posts to a table with little effort – I may have to create L-shaped posts in order to use more conventional, and therefore cheaper, clamps. I have rope at my disposal but am unaware of the length and therefore do not know if it is suitable for the project. I have a 'throw' that I am able to use as a cover for the arena but do not know if it is big enough to be used.

Coding the StiCo Algorithm

I have created a project in MPLAB-X for implementing the StiCo algorithm on my laptop at home. The Project parameters (compiler, microchip device etc.) may be incorrect but I have my source code in a private GitHub repository (https://github.com/Chuddington/FYP-Stigmergy) so am able to download the code onto university computers and correctly configure the project for the e-Puck robotic system. Upon request, supervisors can be given access to the repository or I can make it public as the visibility of the project is now of little concern.

In terms of quantity of code, I have written the template of the StiCo algorithm in C. Put bluntly, basic C constructs are implemented and I only need to add the robot-specific code (such as implementing the LED light). Currently the robot-specific code is in a form of Java 'pseudocode' so I will be able to exchange the code into it's C equivalent.

Future Progress

Building the arena

Within the next week or two I will purchase the required materials and prototype the building of the arena at home, to show that my concept is viable – testing for things such as the rigidity of the rope when taut, making sure that the robot would not fall off the edge of the table and whether my throw is large enough to be used as a cover.

Coding the Algorithms

The StiCo algorithm should be completed within 3-4 weeks, swapping the placeholder pseudocode with actual C code. Extensive testing can then begin to iron out the bugs, and potentially add more functionality. More time will be spent in a robotics lab to be in an environment which allows fast modification and testing of code for the e-Puck robotics system.

Final Notes

Weekly progress reports can be sent to the Supervisor from now on if desired, so that the project can be seen as continually progressing. I will aim to dedicate Wednesday and Friday as days in which I focus on my final year project, as long as assignments and writing up notes allow me this time.