Major Project outline specification

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Project Title: Map building using swarm intelligence

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Degree scheme title and code: AI & Robotics GH76

Module code: CS39440

Version: 0.1

Status: Release

1 Project Description

The goal of my project is to be able to use swarm intelligence to map a target area. Some of the key points of this is:

- networking between nodes(robots)
- finding a good deployment solution for the swarm
- mapping the area (including obstacle avoidance)
- moving the swarm in unison while covering the largest possible area with the sensors

References

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[2] S. Poduri and G. Sukhatme. Constrained coverage for mobile sensor networks. In *Robotics and Automation, 2004. Proceedings. ICRA '04. 2004 IEEE International Conference on*, volume 1, pages 165–171 Vol.1. IEEE, April 2004.

[3] Craig W. Reynolds. Flocks, Herds and Schools: A Distributed Behavioral Model. In *Proceedings of the 14th Annual Conference on Computer Graphics and Interactive Techniques*, volume 21 of *SIGGRAPH '87*, pages 25–34, New York, NY, USA, July 1987. ACM.