Department of Computer Science

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Swarm Memory

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Acknowledgements

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Executive Summary

1 Introduction

Swarm robotics/intelligence/mechanics is becoming an increasingly important area of research for society as the world moves towards a distributed technollogy future. Swarm intelligence can be viewed as distributed problem solving[2, 5], this is ever becoming more and more relevent as computer systems start to level out in terms of indurvidual performance and parrelism is inbraced to be able to satisfy the demand of the age of big data [7]. Swarm mechanics and robotics are on the rise in industry, as soceitys pace increases and manual labour is automated out, whether its drone delivery to inpatient customers or mapping areas in dangerous zones [1].

Another area of swarm robotics research is distributed and local memory of swarm like agents. This area of research has gone down a route more to do with the optimisation of distributed problem solving algorithms rather than practical applications of storage of abstract ideas as a collective. Examples of this is from my understanding there is no research into collective memory on swarm like agents. This research is invaluable due to applications like mapping of dangerous area, being able to handle loss of agents and collect data on agents with limited memory. An explanation for this to be a less developed area of study is due to subjects like cloud based storage and raid based storage systems.

Storage of data on an ever changing network of storage devices is a hard task to complete, handling loss of connection between diffrent servers, reliability to access of data and handling loss of services. This is very applicable to swarm memory handling of data however must be adapted, this is due to current algorthims such as raid not really being designed for highly dynamic systems such as s swarm system.

1.1 Motiviation

1.2 Background

1.3 Literature Review

2 Methodology/Design

3 Conclusion

A Some apendix

B Another apendix

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