Weekly Report

# Supervisor Notes

Unfortunately I have been unable to meet my supervisor due to the strikes. I have added new objectives and removed complete tasks from the last week

This week’s checklist should cover the following 2 weeks

* Designed SDS for MST
* Create Requirements for SDS
* Implement Unit tests for SDS
* Implement SDS to pass tests
* Create Requirements for Agent class
* Implement Unit tests for Agent class
* Pass all Unit tests for Agent class
* Create Gantt Chart

# This week’s progress

I have created the list of requirements for SDS for each phase and split SDS into two main classes Agent and SDS.

Requirements for SDS Initialization phase:

* Agents are generated during the initialization phase
* Every agent has a hypothesis after the initialization phase

Requirements for SDS Test phase:

* Every Agent’s fitness is calculated
* The total fitness of all agents is equal to 100
* Agents within the activation threshold become active
* Agents outside of the activation threshold are inactive

Requirements for SDS Diffusion phase:

* Every agent checks a random agent’s hypothesis
* Agents copies hypothesis if active agent selected
* Agents generate random hypothesis if inactive agents selected

Requirements for Agents

* Agents are set to inactive by default
* Able to generate random hypothesis
* Hypotheses are minimum spanning trees
* Hypothesis must be accessible for external classes

I have not been able to implement the Unit tests for SDS and the SDS class itself. I have been working on the Agent classes and Unit test. I have completed the list of requirements and tests for the Agent class. However, I will need to create a method to randomly generate spanning trees in order to pass the tests.

I am still researching degree constrained minimum spanning tree papers and the benchmarks used to test them. I believe that it will be possible to modify SDS to cater for these types of spanning trees.