# Motivation

There are many complications when developing multi agent systems, our goal with this project was to lessen one of these by designing an engine with the specific purpose to develop multi agent environments. What these environments can be is left to the developer, however almost everything in the engine is modular and interchangeable ensuring that all types of multi agent environments are possible.

What the types of projects can be is manifold but here are some possible examples

## Agent comparison software

There are many different languages in which it is possible to write agent programs, some are specifically designed for it others are powerful enough to accommodate the possibility of agent programming. Our engine is designed with support for multiple languages at once which makes this engine a perfect candidate for designing a comparator program.

For instance if two groups wanted to test their agent programs against each other this engine would make it possible for them to easily design a world in which this test could occur.

## Agent testing/Simulation software

Testing agent software can be complicated being able to rapidly create an environment and visualize it can be important to the project as it ensure basic mistakes are ironed out before larger scale implementation.

## Agent teaching tools

Teaching agent languages can be tough without proper exercises; however the time spent on designing these exercises can prove too exhausting for the teacher to develop. In this case the teacher can rapidly design the world he had in mind for his exercise instead of designing every integral part of the multi agent system himself. This is because our engine provides all the basic features of a multi agent system, so that the time can be spent more productively on designing how a given exercise should play out, show casing the problem the students are supposed to deal with.

## Computer games

In theory most computer games are just multi agent programs where one of the agents is controlled by the player. Our engine should make it fairly easy for setting up a framework for creating rules inside a given world and ensure that the agents of the world follow said rules.