# Introduction

Design is an iterative process, and as such it needs to be start from an abstract level and work downwards, adding more detail until a blueprint suitable for a team of programmers is ready. The high level design is the middle stage of the design in the project. Its purpose is to take the information provided by the requirements analysis team and begin to turn into something more robust. The designs listed in this document are developed from certain criteria supplied in the customer requirements, as well as our own aims in the project.

The design is split up into eight different sections which are summarised below:

* A program that checks if an ant supplied by a player is syntactically well formed.
* A program that checks if an ant world is syntactically well formed and meets the requirements for ant worlds supplied by the player.
* A program that can visualise the ant world.
* A program that allows the generation of random but well-formed ant worlds.
* A program that allows 2 players to play.
* A program that creates and plays tournaments.
* An ant brain.
* A fully functional GUI.

In this document, the first seven of these are detailed with class diagrams, and the GUI given some prototype designs.

This document also contains information about the programming style that will be used in the project, as well as a list of common tactical policies and a cross-reference with the requirements analysis. Finally, we have a short plan for the detailed design.

The motivation in the high level design was ultimately to create an architectural design that can be detailed and improved on in the future. As a result, every major class within the system has been identified along with appropriate methods, attributes and data types, but additional information such as data structures and most likely some refactoring will be included within the detailed design. Part of the architectural design was inspired by the “façade” data pattern which provides a simplified interface to a large body of code and classes.