University of BRISTOL

Optimising Continuous Double Auction Mechanism with Genetic Algorithms

Carlos Gonzalez Betancort, supervised by Dr. John Cartlidge

Background

The Continuous Double Auction (CDA) is one of the most common auction methods used for commodity and share trading. This is the system by which any seller or buyer can at any time quote a price for the item to be sold or bought. A transaction is made when a bid and an ask intersect.

Project Outline

Different exchanges implement CDA differently using various rules and mechanism to control how trades are made. The objective of this project is to find a set of rules and parameters that maximise the efficiency of the market, as small increments in efficiency in the market can result in increments in the total surplus in the market.

To do this a market simulator and a framework to evolve the market based on its efficiency has been built and

Current Status

Currently the simulator and the framework for optimizing the parameters has been built. Currently it is being tested by replicating previously published market experiments in the hopes of finding same results proving that the system works correctly.

Once the system is tested and any problems fixed, simulations to find a good configurations of rules will be run.

Goal

By the end of the project there should be some evidence to see how different rules and market mechanisms affect the market efficiency under different scenarios, and some optimize market configuration for different market scenarios should be found.