

Progress since Project Demonstration

Since the project demonstration on March 31, we have completed some additional testing. We are currently working on testing the matching method, which cycles through the order book beginning with orders one and two. It checks to see if the first two orders on the book are a match and if not tries to match the first and third. It continues on in this fashion until all orders are checked and all possible matches are made. As new orders are added to the book, they are checked for an existing match in the book in the order they are received. Once this method works as desired, the traders will be able to submit their desired trades to the order book and they will be automatically executed when a match is submitted. The system will be fully automated once this is in working order.

Another aspect of the project we have been researching further is the interface. We have begun looking into GUI possibilities in order to make our system more pleasant to the eye. Currently, it prints out the trades as they are made, but we would like to create a more aesthetically pleasing interface.

Finally, the focus of our research has turned to intelligent algorithms. For the demonstration, we had an algorithm that always made trades and one that could choose to make trades based on random chance. We are now researching and developing history and belief based algorithms in order to add more intelligence to our system. We will give different traders different strategies based on these algorithms and determine if the more intelligent algorithms outperform the random and always trade strategies.

Solutions for Demonstration Concerns

Our project demonstration went quite well last week. We were on track according to our own schedule and the system was working well. Dr. Adams did not have many concerns, but as always, we need to pay special attention to debugging the new algorithms, since the process usually takes longer than expected. Because we were on pace for the demonstration, we will continue as planned in order to be prepared for the final project presentation on April 19.

Potential Issues Remaining

We have two primary concerns about the remainder of our project. First, we don't have a lot of experience with GUI in Java and we haven't quite decided what we want the GUI to achieve, so we will need to spend a significant amount of time researching this area and brainstorming about our interface. Second, we are concerned that the complexity of the system will explode with the addition of our intelligent algorithms. The traders will need to be knowledgeable about their own trading histories, and they will need a way in which to calculate their rate of success (or failure) and translate that numerically into a belief. The system will certainly become far more complex than it is now, but we hope we have not underestimated the potential complexity explosion.