BeerAgent

Elad Naor: eladna812@gmail.com, Bar-Ilan University
Benjamin Wexler: benwex93@gmail.com, Bar-Ilan University

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1 Introduction

The BeerAgent is a solid agent that Attempts minimize the gain of other agents and capitalize on their strategic mistakes and bugs. it will thrive to minimize its risks of lossing value by avoiding the chance to have big deals with small margins.

2 The Design of MyAgent

The BeerAgent is designed after the decentralizing agent. It has a few key changes in strategy and is overall a better agent (according to ur tests). We have changed the utility function, acceptable prices, buy and sell quantities and some strategies.

2.1 Negotiation Choices

To really exploit strategic mistakes and bugs we decided:

1. When buying - the BeerAgent is willing to pay the minimal price of the item (its production cost)

2. When selling - the BeerAgent is asking for 10 times the average price.

So, in case other agents has strategic faults or bugs they will loose and the BeerAgent will gain significantly more then in a regular good transaction.

Also, since the score in the tournament penalizes for hoarding items The BeerAgent will try to avoid it by only buying a few items (1 + step) but sell all items that needs to be sold.
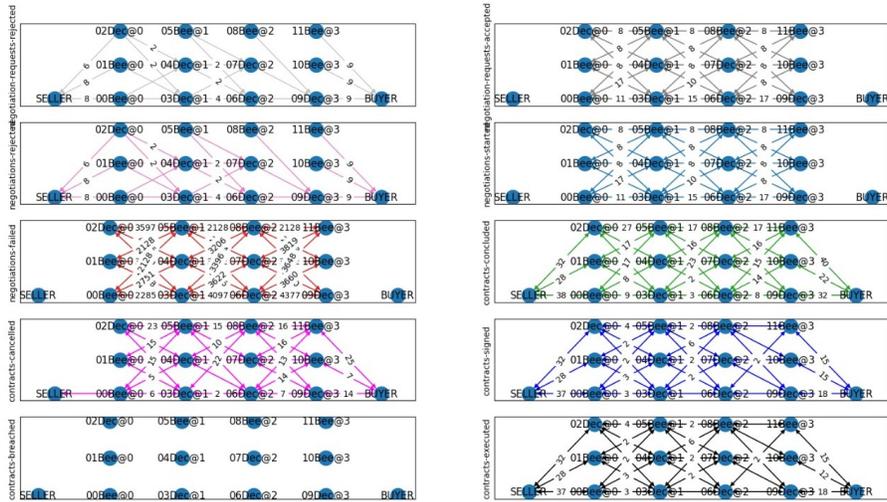
Figure 1: Interaction with decentralized agent

2.2 Utility Function

We Have tried more than a few utility functions by simulating them in a tournament with various agents. Out of all of them the best BeerAgent had a linear utility function.

2.3 Concurrent Negotiation

We haven't added new features to this.

2.4 Risk Management

As mentioned before the BeerAgent minimizes all risks by buying only a few items and selling them. Also it sells for a very high price and buys at vert low price. By reducing the risk to a minimum it losses the power to be "big player" in the competitions, namely it will have a small percentage in the overall contracts signed in the tournament.

Moreover, the BeerAgent uses a demand driven production strategy to reduce risks.

Conclusions

The BeerAgent is a simple agent that looks for opportunities for easy pay-offs with a big margin but of small quantity. The existence of theses opportunities is dependent on the other agents imperfections and faults. The more faulted agents the more gain the BeerAgent can have. If the other agent will have little

mistakes in them then the BeerAgent will mostly watch the trade, and take part only in a small percentage of it.