

Artificial Intelligence Techniques

Negotiation Agent Design in Java

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Contents

1	Introduction	2
2	Domain	2
3	Agent Design	2
3.1	Strategy	2
3.2	Implementation	2
4	Test Results	2
5	Conclusions and Discussion	2

1 Introduction

Humans are often not the best negotiators. Emotion and the limited processing power of the human brain can prevent us from getting the best results in negotiations. This makes it an interesting area for AIs. A good negotiation agent can aid humans in negotiation, since they are not limited in the same way humans are. Negotiation is a complex problem. The first step is knowing your own *utility*, a quantization of your preferences within the negotiation domain. This allows us to make offers that are agreeable to ourselves and also inspect offers made by other agents, to base our decision of rejection or acceptance of said offer on.

With just this information, it is possible to create a functional agent, although a rather simple one. Such an agent would only make and accept bids that are agreeable to itself. A major issue with this approach is that we don't know in what direction to continue the negotiation, since we only know our own preferences.

2 Domain

3 Agent Design

3.1 Strategy

3.2 Implementation

4 Test Results

5 Conclusions and Discussion