The Effect of Size and Information on the Performance of Unique-Bid Auctions

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1 Purpose

The purpose of this project is to create an auction environment, with human and robotic participants, and to examine the effect of changing certain variables on the behavior of the auction. The auction format will be the unique-bid auction.

Unique bid auctions are a type of lottery in which the participants bid for a particular item by submitting blind or sealed (ie secret) bids: the winner is the bidder who places the highest (or, in some variants, the lowest) unique bid. A unique bid, in this context, means one in which the amount offered is different from that offered by any other participant. - quote from Unique-bid auction on Wikipedia

Also, I think that the variables in question will be the number of participants and the ability to view the results from the previous auction (it will be a series of auctions). In addition to the human participants, there will also be computerized participants with preprogrammed strategies. The goal of this project is not only to gain some understanding of a little-researched auction, but also to create a complicated computer program that involves, among other things, networked computers and graphical displays.

2 Background

There has been no scholarly research on the Unique-bid Auction (I spent a portion of the summer searching economic databases). A reason for this is

that no auctioneer would use this format because the substantial profit goes to the winning buyer, not the seller. However, there is an online auction site, UniqueAuction.com, that incorporates this system.

3   Procedure and Methodology

I believe that this project can best be completed in Java language. The aspects of programming that will be challenging will be networking computers for the human participants and the graphical display of the previous round's results.