

How to bid optimally on ebay.

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If you're not familiar with ebay (its name is not capitalized), the way the bidding scheme works is that it lets you put in your true value for the item, and then, if you have the highest value, your 'bidding elvis' will bid the price up to the second-highest price plus a nickel.

The theorists call this a second-price auction, in which everybody submits a bid, the winner gets the item, but the winner pays the second-place price (plus a nickel). This idea is very well-founded in the theory, because a second-price auction is strategy-proof. The best thing for you to do is to think hard about what the item is worth to you, and bid that amount. You can check for yourself that if you deviate from this strategy in a second-price setup, there's some situation where you're worse off than if you'd used the honest valuation rule.

We're used to the highest-bidder-pays-highest-price auction, which is the most intuitive, but there's much to be said for the alternatives. One example, which I always wanted to see implemented, is an all-pay, lowest bidder charity auction. Everybody at the fundraiser places a bid for the item, and the person with the highest bid takes the item home, as usual. But then *everybody* pays the *lowest* bid. This gives you a lot of pressure to raise your bid. If you're not the lowest bidder, then whatever, but if you are, and there are a hundred people in the room, then knocking your bid up by a dollar would give your favorite charity another hundred dollars. Further, nobody pays more than the amount they wrote down, so nobody can complain about making a contribution they weren't prepared to make. A paper somewhere proved that this is revenue-maximizing for whomever can implement the thing; the fact that it's all-pay means that it'll only work for a charity, though.

Back to ebay. The optimal strategy in a second-price auction is to bid your true valuation for the item, which still holds for ebay. But there's one more consideration: most of the bidders don't have as many years of auction theory as your dear author, and don't understand that it's not a high-bid auction. That is, half the audience gets the second-price thing, or behaves as if they do, and bids once and leaves. The other half—or maybe even just one bidder—will check the darn auction every five minutes and place a bid just higher than whatever the high bid is, turning the thing into a first-price auction. Placing a bid only encourages these unenlightened folk; we want them to bid as infrequently as possible. But you have to bid, of course, which leads to the strategy we all

know and love: place a bid which represents your true valuation, but at the last minute. Hopefully, the 'keep raising the bid' people aren't there, and if they are, they don't quite have time to respond.