

Android Based Online Auction System Using Cloud Storage

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Abstract- An auction is generally conducted for the sale of products/assets that have huge demand among the customers. Auction system has a really large potential market of sellers and buyers. The auction is conducted manually mostly or through online websites. So we propose a Truthful Incentive Mechanism(TIM) for the Auction System through mobile phone application with the help of real time cloud storage. Online Auction System has two categories namely the customer interface and admin interface. The Auction Application involves the design and implementation of an online auction system. System presents a display of category wised products they need to sell or bid. There is an admin panel by which an admin can control the entire bidding system. It also defines the layout in the android application in which many numbers of bidders bids the auction and the highest bidder wins the auction. This application can be extended for various kinds of auctions and different smartphones.

Keywords- Auction, Android Application, Cloud Storage, Smartphones.

I. INTRODUCTION

Auction is the process of buying and selling goods, services, assets etc by offering them up for bid, taking bids, and then selling the item to the highest bidder. It is an event of sales where potential buyers place competitive bids on assets or services either in an open or closed format. These auctions are popular because those who buy and sell believe they will get a good deal of buying or selling assets.

There are different kinds of auctions such as,

Open Format Auction: where all bidders are made aware of the bids submitted for the goods, services or asset beforehand. Example: a livestock auction. The buying members come together at a physical venue or an online exchange to bid on assets, goods or services. A person or company that is interested in buying is aware of the competing bid amounts and continues to raise their bid until they are either declared the winner of the auction or until they decide to drop out of the bidding. The winner of the auction is the one

who submitted the last highest bid within the auction time limit.

Closed Format Auction: where bidders don't know any information about other bids. In various business transactions, such as the sale of company assets or an entire company, auctions are being conducted in a closed format where all the interested parties submit sealed bids to the seller. These bid amounts are known only by the seller. It is then up to the seller to choose whether to hold just one round of bidding, or the seller may choose two or more bidders for an additional auction round to select the best party.

These auctions can be conducted live, or they can be conducted on an online platform. The asset or service that is made available for bidding is sold to the person or company that places the maximum bid in an open auction and usually to the highest bidder in a closed auction system.

These auctions are now being conducted online by certain popular websites such as eBay, bonanza, ebid etc. An online auction is also known as electronic auction or E-Auction. Online auctions have greatly improved the variety of goods and services that can be bought and sold using auction mechanisms. They have also expanded the possibilities for the way's auctions can be conducted and in general created new uses for auctions. Currently, there are hundreds, if not thousands, of websites dedicated to online auction practices.

The increasing popularity of online auctions has led to an increase in fraudulent activity also. This is usually performed on an auction website by creating a very appetizing auction, such as a low starting amount. Once a buyer wins an auction and the payment is done, the fraudulent seller will either not pursue with the delivery, or will send a less valuable version of the purchased item such as replicated, used and refurbished version of the product.

II. LITERATURE SURVEY

Implications of the Bidders' Arrival Process on the Design of Online Auctions(YanivVakrat, Abraham Seidman),2013. Recently a tremendous number of auctions

conducted over the Internet. This form of electronic commerce is rapidly growing, and it is projected to account for 30% of all E-Commerce by 2002. In this paper, using actual bidding transaction data from 324 business-to-consumer online auctions, the bidders' arrival process during each auction is being analysed. It is found that that most bidders like to sign on early in the auction; typically, 70% of the bidders sign on during the first half. The statistical analysis of this paper reveals that the minimum initial bid is negatively correlated with the number of bidders per auction, while the number of units offered and the length of the auction are positively correlated with the number of bidders. It also presents a model for estimating the expected price as a function of the number of bidders, the mean and variance of the private valuation distribution, and the number of units to be sold in the auction. Our analysis shows that increased dispersion in the bidders' values may either increase or decrease the auction price, depending on the bidders' overall arrival process, the length of the auction, and the number of units. The optimal auction length is calculated and show that an auction's profit is a unimodal function of its duration and the number of units. The paper also addresses several other economic trade-offs that are relevant for the optimal process.

A Survey on Mobile Edge Computing: The Communication Perspective(Kaibin Huang, Senior Member, IEEE, and Khaled B. Letaief, Fellow, IEEE), 2017. Driven by the visions of Internet of Things and 5G communications, recent years have seen a paradigm shift in mobile computing, from the centralized mobile cloud computing toward mobile edge computing (MEC). The main feature of MEC is to push mobile computing, network control and storage to the network edges (e.g., base stations and access points) so as to enable computation-intensive and latency-critical applications at the resource-limited mobile devices. MEC promises dramatic reduction in latency and mobile energy consumption, tackling the key challenges for materializing 5G vision. The promised gains of MEC have motivated extensive efforts in both academia and industry on developing the technology. So from this paper it is understood that smartphones and cloud storage can be used to propose our auction application

Towards Truthful Auction Mechanisms for Task Assignment in Mobile Device Clouds (Xiumin Wang^{†,‡}, Xiaoming Chen[§], Weiwei Wu),2017. Despite the increased capabilities of mobile devices, resource-demanded mobile applications still transcend what can be accomplished on a single device. As such, mobile device cloud (MDC), an environment that enables computation-intensive tasks to be performed among a set of nearby mobile devices, offers a promising architecture to support real-time mobile applications. To stimulate mobile devices to execute tasks for

others, it is essential to design an incentive mechanism that appropriately charges the owners of the tasks, acted as the buyers, and rewards the mobile devices, acted as the sellers. In this paper, it proposes two truthful auction mechanisms for two different task models, heterogeneous and homogeneous task models, which assume the different and the same resource requirements of the tasks, respectively. We are trying to adopt this method in implementing our auction application.

III. PROPOSED SYSTEM

The proposed system involves the design and implementation of an online auction system through a mobile application. This mobile application presents a display of various category of products, asses or services that a party wants to sell or bid.

This application uses Truthful Incentive Mechanism(TIM). The **truthful incentive mechanism** is designed for the purpose of selecting the winners among various bidders according to the assignment rule and to determine the payments using a payment rule. The properties of the Truthful Incentive Mechanism are also analysed in terms of computational efficiency and individual rationality.

1. PARTICIPANTS/STAKEHOLDERS

The participants of our auction app are described :

- User: A user can be the seller or the bidder. The seller can post the request to the admin with all the relevant details. On the other hand, the bidder can participate in the auctions that are available at that time.
- Auctioneer: The auctioneer is the admin who will control the bidders and the sellers with the help of our application.

2. ONLINE AUCTION FORMAT

In our application, the English auction format is being used. It is the process where all the bidders will place bids against a product/asset and the one who places the highest bid when the time is over will become the winner.

First the seller posts the request to the auctioneer with relevant information such as the description, category, expected price etc. After the details of the product/asset is sent by the seller, the admin will evaluate the authenticity of the product to be put up for bidding by verifying the documentation. It is expected that the seller produces the relevant proof to prove its originality and value. The value of

the product will be set based on the market value of the product after proper background check and then the auction will be scheduled through the app.

The various parameters that are considered includes,

- Starting Value: The value at which the bidding will start. This is the value set by the admin after evaluation of the product worth.
- Reserve Value: The minimum value that the seller will accept for the product/asset. Below this value the seller may not want to sell the product/asset.

For the storage and retrieval of the data's, a real time cloud storage is used that will enable fast database access. Finally, after the bidding process is over, the winner will be declared and then the shipment process will be carried out after the necessary paperwork.

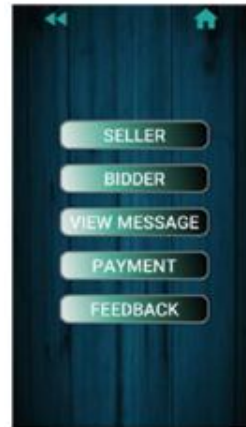
3. SYSTEM ARCHITECTURE

The application involves two interfaces. One interface for the users such as the buyers and sellers and the other for the admin.



4. SCREENSHOTS

User :



Seller:



Bidder:



IV. CONCLUSION

The proposed system makes the process of conducting the auction easily with the help of our android application. Using our application, the buyers and the sellers can easily buy or sell the product/asset respectively at ease.

We are proposing a system that can also reduce the risks in the auction process. It also dedicates future study on how to reduce the fraud activities and further analyse if the products/assets gets the value it is worth for in the auction.

Future work involves taking the other different types of auction into consideration and design a system for those. We also intend to design an algorithm that will verify the authenticity and find the value of the product/asset based on a predefined set of parameters.

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