



International Journal of Innovative Research in Computer and Communication Engineering

(A High Impact Factor, Monthly, Peer Reviewed Journal)

Website: www.ijircce.com

Vol. 6, Issue 12, December 2018

A Web-Based Online Auction System: A Survey

Manasi Bhamare¹, Arati Chame², Gaurav More³, Prof. Amol Rindhe⁴

UG Student, Department of Computer Engineering, JSPM's Bhivrabai Sawant Institute of Technology & Research
Wagholi, Pune, MH, India^{1,2,3}

Assistant Professor, Department of Computer Engineering, JSPM's Bhivrabai Sawant Institute of Technology &
Research Wagholi, Pune, MH, India⁴

ABSTRACT: In this project, an Online Auction System has two parts- customer interface and admin interface. Customer Panel permits a customer to upload a product for sale and bid on a particular product to buy. This system presents an online display of category wise products they want to sell or bid. There is an admin panel by which an admin can control the whole bidding system. Admin can approve products by the categories and also can control the registered customers. There is fixed delivery policy. After finishing the bidding process there is a notify system to notify the sellers and bidders. This is a fully dynamic system which can be easily operated by the users.

KEYWORDS: Auction Efficiency, Auction Theory, Online Auctions.

I. INTRODUCTION

The online auction system is a web application where all products are displayed in different categories and a customer can bid to the selected category wise product without facing any problem. The online auction system deals between sellers and bidders. It provides the users for sign up to this application and search for products, manages their accounts. Each customer will have their own account showing their username they have logged in. On the other hand users can also see all product pages without having an access with their account. Signed up users will have to log in first then they can upload products on the site from their account and also can bid for other products which are not owned by them. Users can edit their profile and see their uploaded products and bided products. Administration panel can approve products, update products, delete products, delete user, update and delete all ongoing bids and can also see all the products, categories, users and bids. All particular bids have limited time to finish. After finishing the bids admin can notify the sellers and also the bidders. This is a well secured system and can be easily operated. This is fully dynamic. There is nothing static here. The main aim of this web application is to make a good online system that provides a great alternative of bidding policy for general people that saves both time and money.

II. LITERATURE SURVEY

Online auctions have become a pervasive transaction mechanism for e-commerce. As the largest online marketplace in the world, eBay is an attractive case study that enables the study of online auctions utilizing data involving real people and transactions. In this paper, we present a detailed investigation and analysis of multiple online auction properties including: consumer surplus, sniping, bidding strategy and their cross relationships. Our goal is to evaluate the theoretical foundations of online auctions and discover patterns and behaviours hidden due to the lack of real and extensive transaction data. Among our findings, we uncover an important correlation among sniping and high surplus ratios, which implies the uncertainty of true value in a competitive environment. The key issue is the wrong assumption that bidder's valuations are independent from each other, which leads to inefficient auctions. In order to address the inefficiencies of current online formats we introduce a declining price auction model customized for online



International Journal of Innovative Research in Computer and Communication Engineering

(A High Impact Factor, Monthly, Peer Reviewed Journal)

Website: www.ijirccce.com

Vol. 6, Issue 12, December 2018

transactions. Conceptually, this model ought to deal with the complexities of competition in an online environment while maximizing social welfare. [1]

In recent years, the proliferation of the World Wide Web has led to an increase in the number of public auctions on the internet. One of the characteristics of online auctions is that a successful implementation requires a high volume of buyers and sellers at its website. Consequently, auction sites which have a high volume of traffic have an advantage over those in which the volume is limited. This results in even greater polarization of buyers and sellers towards a particular site. This is often referred to as the network effect in a variety of web and telecommunication applications involving interactions among a large number of entities. While this effect has qualitatively been known to increase the value of the overall network, its effect has never been modelled or studied rigorously. In this paper, we construct a Markov Model to analyse the network effect in the case of web auctions. We show that the network effect is very powerful for the case of web auctions and can result in a situation in which one auction can quickly overwhelm its competing sites. This results in a situation in which the natural stable equilibrium is that of a single online auction seller for a given product and geographical locality. While a single player structure is unlikely because of some approximation assumptions in the model, the trend seems to show the likely existence of single dominant player in the web auction space. [2]

Academic interest in the popularity and success of online auctions has been increasing. Although much research has been carried out in an attempt to understand online auctions, little effort has been made to integrate the findings of previous research and evaluate the status of the research in this area. The objective of this study is to explore the intellectual development of consumer behaviour in online auction research through a meta-analysis of the published auction research. The findings of this study are based on an analysis of 83 articles on this topic published mainly in information systems (IS) journals between 1998 and 2007. The results indicate that the consumer behaviour research on online auctions can be categorized into three major areas facilitating factors, consumer behaviour and auction outcomes. Based on this literature review, directions for future research on auction consumer behaviour are discussed, including potential new constructs, unexplored relationships and new definitions and measurements, and suggestions for methodological improvements are made. [3]

This study seeks to answer the question of how an individual would trade off between listing fee (i.e., cost of listing an auction item) and transaction probability (i.e., the chance that a product will be sold). Applying the trade-off decision-making paradigm into the auction context, we examine a seller's choice of online auction outlet and subsequent starting price strategies when facing the trade-off between transaction probability and listing fee. Results from a set of laboratory experiments suggest that a seller would be willing to incur a high cost in exchange for a higher transaction prospect. Furthermore, if the expected transaction probability is high, a seller is more likely to set a high starting price despite incurring a high listing fee. The implications for theory and practice are discussed. [4]

Online auction is becoming more and more popular in electronic commerce (EC). It has become the mainstream trading methods in consumer to consumer (C2C), such as eBay. The steady collaboration field and common concept of exchange may be formed in the cooperation of the Multi-Agent system (MAS), and then the agents will have so much common knowledge in order to complete the tasks. The member of MAS has both cooperation and self-interest. Based on the analysis of the cooperation and competition of the participants in the online auction, the concept of overtime and history information is introduced. As existing incomplete information, the efficiency of the auction is low without consider the history information. This paper put forward a MAS flow frame and negotiation algorithms that make the bidders of the auction participate in the negotiation honestly and actively. Both the efficiency and transparency among the participants have been enhanced. [5]

Auction is an effective way to allocate goods or services to bidders who value them the most. The rapid growth of e-auctions facilitates online transactions but poses new and distinctive challenges. It is difficult to establish trusts among sellers, buyers and auctioneers without the centralized auction websites or platforms (the auctioneer) that collect bids and derive the auction results. However, these third parties may be untrustworthy, and malicious sellers or buyers may refuse to deliver the goods or payment according to the protocol. Moreover, the open and anonymous online environment may stimulate auction participants to form collusion coalitions to rig the auction and reap unfair profit. Many auction designs have been proposed to address these concerns, but they fall short of simultaneously achieving decentralization (i.e., held without a trusted third utility), strong consensus (i.e., the establishment of trust), collusion-resistance and practical implementation. We present CReam, the first decentralized collusion-resistant e-



International Journal of Innovative Research in Computer and Communication Engineering

(A High Impact Factor, Monthly, Peer Reviewed Journal)

Website: www.ijirccce.com

Vol. 6, Issue 12, December 2018

an auction system that is implemented with smart contract on the block chain. With the carefully-designed smart auction contract, mutually distrustful and rational sellers and buyers are stimulated to operate properly hence transact safely without trusted third parties. The auction mechanism in the smart contract can effectively prevent bidder collusion and realize economic robustness, i.e., truthfulness. We implement a fully functional CReam on the Ethereum network. Extensive experimental results confirm that CReam can greatly reduce the probability of collusion and achieve approximate optimal revenue at a low cost of contract execution. [6]

Based on the researches, there is a high rate of fraudulent activities in the online auctions. For instance, this figure for 2008 was about \$43M in the US. As a result it can be considered as a crucial problem. This issue has been always a concern of customers and users of the online auction. Due to interaction and mutual effects between Security and trust these two concepts need to be considered together. To increase security, trust and fraud prevention efforts, in the first step, it is vital to study the structures and frameworks of the online auction fraud deduction. The aim of this paper is to perform a case study on the architectures of online auction fraud detection. These architectures include separated models to trace the behaviour of the auction and trace IP, user management, user security permissions or two-stage phased modelling framework procedure properties filtering on the evaluation is employed to detect the fraudsters. [7]

Recently, there are some concerns in auction duration and bid arrivals in study of online auctions. In online auctions, seller selects duration, and the bid arrivals pattern is deemed to the indicator of bidding strategies and behaviours of bidders. The best known phenomenon in bid arrival is the late bidding, which describes the following bidding strategy used frequently by many bidders: a bidder tends to place bid as late as possible. Noticed there is a void in growing body of literature on online auctions in comparison study of participants' behaviour across similar but different websites, we sampled eBay auctions from several global websites simultaneously and compared the duration distributions and bid arrivals patterns across these websites. The statistical results indicate that the comparison study is meaningful. Finally, we imply that more advanced data mining tools are needed in analysis of online auction data in further research. [8]

With the significant increase of available item listings in popular online auction houses nowadays, it becomes nearly impossible to manually investigate the large amount of auctions and bidders for shill bidding activities, which are a major type of auction fraud in online auctions. Automated mechanisms such as data mining techniques were proved to be necessary to process this type of increasing workload. In this paper, we first present a framework of Real-Time Self-Adaptive Classifier (RT-SAC) for identifying suspicious bidders in online auctions using an incremental neural network approach. Then, we introduce a clustering module that characterizes bidder behaviours in measurable attributes and uses a hierarchical clustering mechanism to create training datasets. The neural network in RTSAC is initialized with the training datasets, which consist of labelled historical auction data. Once initialized, the network can be trained incrementally to gradually adapt to new bidding data in real time, and thus, it supports efficient detection of suspicious bidders in online auctions. Finally, we utilize a case study to demonstrate how parameters in RT-SAC can be tuned for optimal operations and how our approach can be used to effectively identify suspicious online bidders in real time. [9]

An auction is a method of buying and selling goods or services by presenting them for a bid, accepting the bids, and then selling the items to the highest bidder. Online auctions are among the upcoming e-business applications. These auctions have a big impact on trading in the B2B (business to business), as well as in the B2C (business to consumer) and C2C (consumer to consumer) areas. Recently the Android application development along with web services has brought many changes in the mobile application development field. Keeping the above in mind, an Android based mobile application to implement online auctions to buy and sells products has been designed. Our application provides a solution for the buyers and sellers from different geographical locations to come together on a single platform and to host and participate in auctions at ease. The English auction being the most popular auction, our application deals with it as well as other auction like the Dutch auction. Our android application for mobile phones requires General Packet Radio Service (GPRS) and Wi-Fi technology to operate. [10]

International Journal of Innovative Research in Computer and Communication Engineering

(A High Impact Factor, Monthly, Peer Reviewed Journal)

Website: www.ijircce.com

Vol. 6, Issue 12, December 2018

III. PROPOSED SYSTEM

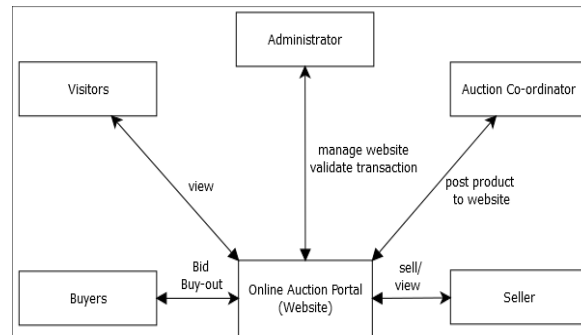


Fig: System Architecture

The development of this new system contains the following activities, which try to develop the web-application entire process keeping in the view of database integration approach:

- This system will generate team progress and also provides secure registration and profile management of the users.
- Administrators would authorize the product to auction, set auction dates & minimum auction amount for that product.
- Prior to each bid, the user's bank or credit account must be authenticated for available balance required for the bid.
- Users can select their interested fields for bidding and periodic Mail alerts must be sent in case an article in that field goes on auction.
- Complete Search/Site Map of the entire site for easy access.

System Models

The system after careful analysis has been identified to be presented with the following modules:

i) Admin Module

This module provides the complete information related to products for sale and the buyers can bid for the products and can own them. All this has to be provided and maintained by the admin because the complete auction process is to be kept under control till the product sale gets confirmed.

ii) Seller Module

Sellers want a place where seller can sell their products at a higher price and get maximum benefit out of that. This is the place where seller can display all his products and sell them.

iii) Buyer Module

The people always want different things to purchase but in the local market they can have local products only. But in this application buyer can buy any product from any part of the world at a very best competitive price and own the product.

iv) Visitor Module

Visitor is nothing but all the people who visits this application online. They can know the information of all the products, which are for sale under this application.

v) Security and authentication

- The security and authentication is as follows:
- Login as buyer or seller or administrator
- Change password
- Forgot Password
- Registration for buyer / seller



International Journal of Innovative Research in Computer and Communication Engineering

(A High Impact Factor, Monthly, Peer Reviewed Journal)

Website: www.ijirccce.com

Vol. 6, Issue 12, December 2018

vi) Reports

In this module, different actors can generate the different types of reports according to their access.

ADVANTAGES

- No noisy crowds like conventional system where users have to sit and bid.
- Excludes general frustration that usually happens while bidding in conventional system.
- No schedule constraint that means bidder can bid any time and from anywhere.
- The bidding process can be conducted on a global scale.

IV. CONCLUSION

Online Auction System has made consumers more effective and efficient in their behaviour and has driven businesses to a new level, forcing many to make the necessary adjustments and changes to reach the new market of knowledgeable consumers. Rapid growth of e-auction has resulted in a e-transformation in the global retail infrastructure. Despite being faced with numerous bottlenecks, Thanks to rising internet and higher incomes and more savvy population. Secured online payments, better to Electronic Stores, return policies and exciting discounts could help the Perceptions of Auction System Benefits. Better understandings of consumer online Auction System behavior will help companies in getting more online consumers and increasing their e-business revenues. At the same time, as realized the benefits from e-auction, consumers are more willing to make purchases online. With the popularity of Internet, the number of Internet users will continue to grow and more Internet users will become online consumers, even regular online buyers.

REFERENCES

- [1] Hu Wenyan, Alvaro Bolivar, "Online Auctions Efficiency: A Survey of eBay Auctions", Alternate Track: Industrial Practice and Experience, 2008.
- [2] Charu C. Aggarwa, Philip S. Yu, "Online Auctions: There can be only one".
- [3] Xiling Cui, Vincent S. Lai and Connie K.W. Liu "Consumer Behaviour in Online Auctions: A Review", Electronic Markets Vol. 18 No.4.
- [4] Chuan-Hoo Tan, Hock-Hai Teo, Heng Xu, "Online Auction: The Effects of Transaction Probability and Listing Price on A Sellers Decision-Making Behaviour", Electron Markets (2010) 20:6779.
- [5] Liang Zhang, Na Li, "Multi-Agent Negotiation System in Online Auction", IEEE, Second International Conference on Communication Systems, Networks and Applications, 2010.
- [6] Shuangke Wu, Yanjiao Chen, Qian Wang, Minghui Li, Cong Wang, Xiangyang Luo, "CREAM: A Smart Contract Enabled Collusion-Resistant e-Auction", IEEE, Transactions on Information Forensics and Security, 2018.
- [7] Hamid-Reza Ghasemi, Gholam-Reza Mohammadi, "Architecture - oriented approach for detecting fraud in the online auction", IEEE, 8th International Conference on e-Commerce with focus on e-Trust, 2014.
- [8] Zhang Jie, Zhang Yaping, "Research on Duration and Bid Arrivals in eBay online Auctions in the Internet", IEEE, 2011.
- [9] Benjamin J. Ford, Haiping Xu and Iren Valova, "A Real-Time Self-Adaptive Classifier for Identifying Suspicious Bidders in Online Auctions", Published by Oxford University Press on behalf of The British Computer Society, 2012.
- [10] Janhavi Baikerikar, Vaishali Kavthekar, Esmond Dsouza, Steffie Fernandes, Mureil Dsouza, "Hammer Down-An Online Auction Application", IEEE, 2017.