E-Krushi Auction Portal

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ABSTRACT

In this project, an online auction system is presented. It has a very large potential market of sellers and buyers. An Online Transaction Processing (OLTP) database model structure is, therefore, desirable. The project involves the design and implementation of an online auction system. The analysis stage is performed first for the case study. Project begins by analyzing and presenting the OLTP database model for the online auction house. Besides, the intention to establish what goes on operationally within the online auction house. It also defines the layout in android application. In which many numbers of bidders bid the auction and final the auction won will store the result of the winning bidder details. And finally, the shipment process will carried out.

Key Words: Online auction, marketing, information, electronic commerce auction

1. INTRODUCTION

Farmers in rural areas often do not know the latest market prices or demand for their agricultural products. Because of this, they usually sell their goods only in local markets, which may not give them the best price. Similarly, many buyers and dealers do not have clear information about the quantity, quality, and availability of agricultural products across different regions. Due to lack of time, buyers also prefer convenient and quick ways to purchase products. To solve these problems, this project introduces a any operating system-based auction application that connects farmers (sellers) and buyers on a single platform. The app allows farmers to list their products easily, and buyers can participate in auctions without visiting any physical market. This creates a transparent, safe, and time-saving environment for both sides. Traditional manual auctions have many limitations such as limited participants, chances of corruption, need for physical presence, and lots of paperwork. An online auction app removes these issues

by providing wider reach, secure transactions, and real-time bidding. Through this application, authenticated agricultural products can be auctioned in a user-friendly and transparent manner. The application is cross-platform, meaning it can be accessed from any operating system such as Android, Windows, Linux, or iOS, making it easy for users to join auctions from any device with an internet connection. This project aims to modernize the auction system, help farmers get better prices, and give buyers a convenient way to purchase quality agricultural products.

2. LITERATURE REVIEW

In case of auction the first thing comes in mind how to sell a product. Simply it means in auction the seller waits for the high number of prices and waits for the bidder who remains active till the last of the auction process. There are various types of bidding a product. To overcome a traditional auction process, this online auction process had been used which is detailed in [1]. Secondly, a various types of auctions had been described such as English auction (ascending bid auction), the Dutch auction (descending-bid auction), the first-price sealed-bid auction, and the Vickrey auction (second-price sealed-bid auction) as explained din [2]. It also described the steps of how auction will be carried out and what information should be carried on. The internet auction is the most simple to use for maintaining the data then the traditional auction which is to be carried on the paper. And most of the auction has been learned by the economists for the understanding purpose to study their properties and how it works[3]. it describes how the auction is carried out on the internet and what the information is provided before the auction and after the auction process. It also describes auction such as user agents and mobile agents. User agent mostly done on the user's PC with the help of some services or some expert advices while mobile agent deals with the execution of program through remote base server. In addition to this

the auction time is provided with the help of auction date and the last date of ending the auction. Earlier auction products were like electrical equipment's, etc. But now Agricultural Product can also been auctioned. First product was Tea Auction.

Now-a-days auctioning process has been became a competitive in the market. The auction can be done from anywhere in the world at any time and anyone can auction the products which is detailed in [4].

In additional to single item auctioning, it also consists of multi-item auctioning where n number of items are auctioned simultaneously as described in [5].

In multi-item auction it provides more opportunities for online auction market in large market over the world with higher efficiency. This multi-item auction has came into existence because now-a-days very small markets does the auctioning of similar items which results into less efficiency.

3. PROBLEM ANALYSIS

e-Krushi Auction Portal : For decades, small and marginal farmers have been trapped in a marketing ecosystem where their hard work rarely translates into fair earnings. Scattered production, low bargaining power, and the absence of a unified platform force farmers into the hands of multiple intermediaries—Farias, Beparis, and Aratdars—who dictate prices and dominate local markets. This chain of middlemen creates unnecessary delays, inflated handling costs, and ultimately reduces the farmer's profit share. Moreover, agricultural departments often rely on outdated linear forecasting methods to estimate crop demand, ignoring real-time data such as existing stock levels, seasonal variations, and actual market requirements. As a result, farmers suffer from unstable pricing, poor decision-making, and crop surpluses or shortages that directly impact their income. The lack of transparency, limited access to genuine buyers, and zero visibility into ongoing market trends further widen the gap between producers and consumers. These deep-rooted challenges highlight a pressing need for a digital transformation in agriculture—one that eliminates intermediaries, empowers farmers with real-time insights, and connects them directly to competitive buyers. The E-Krushi Auction Portal emerges as a powerful solution to overcome these long-standing barriers by creating a transparent, data-driven, and farmer-centric auction environment.

4. SYSTEM ARCHITECTURE

The e-Krushi Auction Portal is developed with the increasing need to provide farmers with fair pricing opportunities and direct market access. In rural regions, farmers often depend on intermediaries and local traders, which results in reduced income due to unfair price deductions, transportation burden, and lack of bargaining power. Traditional auction methods further restrict market transparency, require physical presence, and limit participation to local buyers only. The proposed system eliminates these constraints by introducing a digital auction platform that enables farmers to list crops and buyers to bid remotely using an Android-based application.

The portal provides farmers with an easy-to-use interface to upload product details, including crop images, descriptions, quantity, and auction schedule. Buyers can browse available crops, participate in live bidding, and view real-time price updates, ensuring competitive and fair transactions. By enabling direct farmer-to-buyer interaction, the system reduces the dependency on middlemen, increases competition, and enhances profit margins for producers. Meanwhile, buyers benefit from access to verified crop listings, availability information, and transparency in pricing across different regions, making it highly suitable for wholesale traders, retailers, exporters, and food processing units.

The system is implemented using PHP as the backend technology along with MySQL for maintaining structured auction records, bidder logs, seller profiles, and final bid settlements. The front-end interface is developed using HTML, CSS, and JavaScript, ensuring smooth navigation and responsiveness.

During prototype testing, the portal demonstrated consistent performance, secure access control, accurate bid tracking, and reliable data storage. The auction module successfully handled simultaneous bidders and maintained time-bound auction cycles. The design emphasizes usability, scalability, and accessibility, making it adaptable for different agricultural markets. The system also supports rural users with minimal technical knowledge through simplified registration and guided navigation screens.

The e-Krushi Auction Portal holds strong socio-economic importance due to its ability to empower farmers, reduce exploitation, and enhance agricultural trading efficiency. Beyond farming, the same platform

structure can be extended to fisheries, livestock, handicrafts, and rural commodities where auction-based selling improves value return. Although the current system operates on manual product authentication and user-driven bidding participation, it offers significant opportunities for enhancement. Future advancements may include AI-based price forecasting, multilingual support, SMS notifications, automated quality grading, blockchain-based transparency, and integration with digital payment systems. Overall, this project demonstrates how a simple online auction mechanism can transform agricultural marketing and contribute to a more equitable, transparent, and technology-enabled economy.
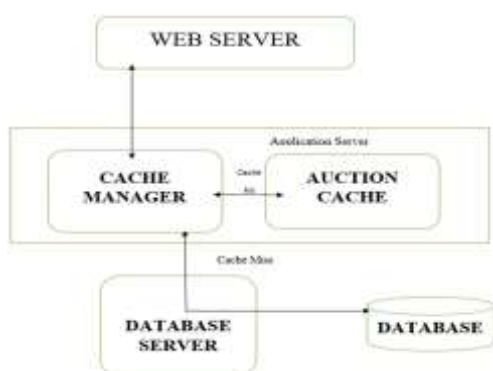
Fig : System Design Architecture
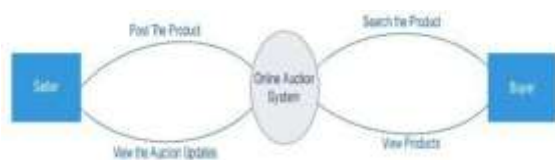
**Fig : DFD Level 0**
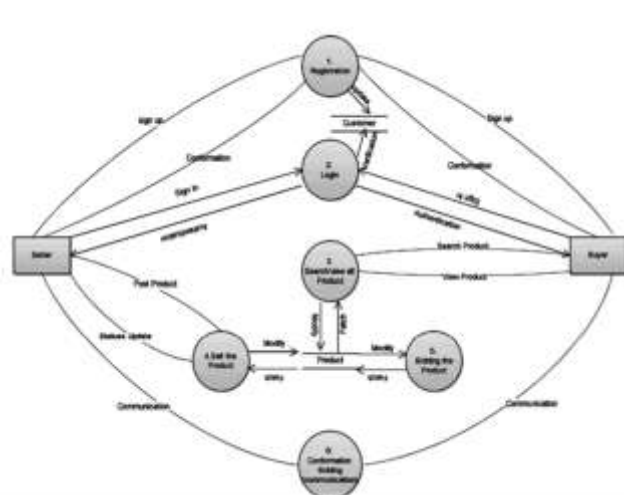
Fig : DFD Level 1

3. CONCLUSIONS

Overall, we provide a user-friendly auctioning site where any kind of product can be auctioned and provide value added service to the bidders and sellers. In the first phase of our project, we have developed two modules. Our first module is the validation for the administrator. In the second module we provide the registration for the seller and buyers. If already registered then the user can directly login to the auction website and the administrator can keep the overall data of the users. Final phase of our project requires shipment process, where the winner of the bidder will get his products delivered through proper online transactions.

4. ACKNOWLEDGEMENT

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