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# Double-Bid Enhanced Auction System in Livestock

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## Abstract
*Livestock farming plays a crucial role in global agriculture, yet many farmers continue to face major challenges when it comes to marketing and selling their animals. Limited access to markets, geographic isolation, and a lack of effective marketing or negotiation skills often make the process difficult. Traditional avenues like local auctions and commodity markets are usually inefficient, offering little visibility and limited decision-making support for farmers. To address these issues, this project proposes a digital solution designed to revolutionize the livestock selling experience. The platform will allow farmers to create detailed listings, including important information such as breed, age, weight, health status, and images of the livestock. A key feature of the platform is the integration of live video auctions, enabling farmers to present their livestock in real-time and allowing potential buyers to place bids from anywhere. To build trust and ensure transparency, a quality assurance system with certification badges will be included. Additionally, video consultation services will support direct communication between farmers and buyers, offering virtual farm tours or one-on-one consultations. The platform also prioritizes user convenience and safety, with features like a secure payment gateway, real-time chat, notifications, and a feedback system. Designed to be accessible via mobile devices, it offers flexibility for both buyers and sellers. The solution is developed with a strong focus on legal compliance, scalability, and robust security, aiming to create a reliable and sustainable digital marketplace. By addressing the core challenges in livestock marketing, this platform lays the groundwork for future innovation and broader market reach.*

***Keywords:*** *Video consultations, Real-time notifications, Purchase history tracking, Schedule management.*

## 1. Introduction
The livestock industry plays a vital role in the global agricultural economy, serving as a cornerstone for food security, rural livelihoods, and trade. Livestock comprising cattle, goats, sheep, poultry, and other domesticated animals provides essential resources such as meat, milk, eggs, wool, leather, and manure. In many parts of the world, including developing regions, livestock not only contributes to the nutritional needs of communities but also represents a major source of income and employment. Despite its importance, the trading of livestock often remains confined to outdated systems that are highly dependent on physical marketplaces, limited communication. In traditional livestock markets, farmers and traders typically engage in face-to-face negotiations, often without the benefit of price transparency or formalized quality assessments. This method, while familiar, introduces a range of inefficiencies. Buyers are limited by geography, and sellers may struggle to reach a broader audience or secure fair prices. Moreover, the lack of digital records makes it difficult to track past transactions, analyze trends, or build trust. As global markets move toward digital platforms, it is imperative that livestock trading evolves accordingly [1]. The Double Bid Enhanced Auction System in Livestock, named Live Trade, was developed to address these specific challenges. This system introduces an innovative, web-based auction model designed to enhance the way livestock is bought and sold. Unlike standard online marketplaces that focus on manufactured goods, Live Trade is tailored

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specifically to the needs of animal-based commerce. It allows verified sellers to list detailed animal profiles complete with pricing, breed information, and health status while enabling buyers to participate in competitive, real-time auctions from anywhere with internet access. A unique aspect of this system is the "Double Bid" mechanism, which goes beyond traditional one-way bidding by allowing real-time counter-offers from both parties [3]. This interactive process mirrors live negotiations, giving buyers and sellers more control over pricing decisions and increasing the likelihood of achieving market-aligned deals. For livestock, where factors such as breed quality, age, and health can drastically influence value, such flexibility is crucial. It ensures that the pricing truly reflects the worth of the animals being traded. Live Trade also includes critical support features such as video consultations, where buyers can request real-time visual inspections of animals before committing to a purchase. This enhances transparency and builds confidence in transactions that might otherwise be hindered by physical distance. Additional tools like order tracking, payment integration, and purchase history management allow both parties to maintain clear records and improve long-term planning. On the administrative side, the system includes a backend module for web administrators to monitor activity, approve legitimate livestock sellers, manage user access, and ensure regulatory compliance. This governance layer is vital in maintaining a safe and trustworthy digital environment, especially in an industry where animal welfare and authenticity are important concerns [2]. By combining modern web technology with a deep understanding of livestock commerce, Live Trade bridges the gap between traditional practices and digital innovation. It creates a platform where farmers, ranchers, and traders can connect efficiently, market their animals fairly, and operate with increased confidence. Ultimately, the Double Bid Enhanced Auction System is not just a marketplace it is a tool for empowering rural communities, increasing the reach of livestock farmers, and driving the next generation of growth in the animal agriculture sector.

## 2. Literature Review

The efficient management of livestock trading has long posed challenges across agricultural markets, particularly in areas of auction transparency, fair pricing, and buyer-seller communication. Traditional livestock markets rely heavily on physical interactions and informal negotiations, which often lead to inconsistent pricing, limited reach, and operational inefficiencies. Over the years, various technological interventions have been proposed to modernize this space ranging from basic online classifieds to generic e-commerce frameworks. However, these solutions often fall short of addressing the specific needs of livestock as live, perishable commodities that require real-time assessments and dynamic valuation. This section explores existing literature and systems related to digital livestock trading platforms and auction models, highlighting their core functionalities, limitations, and areas where the DoubleBid Enhanced Auction System offers meaningful improvements.

### 2.1 Novel Double Auction mechanism for supply chain in agriculture

The paper makes a valuable contribution by introducing multi-unit double auction mechanisms (MNR and MTR) for produce trading in agricultural supply chains. However, its scope is mainly confined to non-livestock produce like fruits and vegetables, overlooking the complexities of livestock trading, where perishability, health conditions, and mobility introduce unique challenges. Moreover, the mechanisms assume a high degree of digitization and structured data exchange between growers and buyers, which is often not the case in rural or traditional markets [4]. The system also emphasizes auction efficiency and carbon emission reduction without sufficiently addressing logistical and operational constraints, such as transportation, live animal handling, and regulatory compliance.

### 2.2 Automatic Double-Auction Mechanism for Federated Learning Service Market in Internet of Things

This paper proposes a promising double auction framework for incentivizing participation in federated learning (FL) within AIoT ecosystems. However, one major drawback is its reliance on a centralized controller in the Iterative Double Auction

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(IDA) scheme. This central dependency undermines the decentralized nature of FL and introduces potential single points of failure and bottlenecks. Although the paper addresses this with a reinforcement learning-based alternative (EWA-DA), this approach also has limitations it adds complexity, assumes ideal participant learning behavior, and may not converge efficiently in volatile environments.

### 2.3 A Price-Based Iterative Double Auction for Charger Sharing Markets

While this paper presents a well-structured iterative double auction, model tailored for electric vehicle (EV) charger sharing markets, it encounters significant practical limitations. The mechanism requires time to be discretized into small units for accurate scheduling, which results in a heavy computational burden when scaled to large markets. This complexity can slow down real-time decision-making and reduce responsiveness. Furthermore, the system depends on detailed information such as geographic location, time preferences, and energy pricing, which may not be consistently available or accurate in all environments.

### 2.4 Limitations of Existing Research Gaps

Farmers often face a range of challenges that limit their ability to effectively market and sell their livestock. One of the major issues is the reliance on localized markets, which restricts access to a broader network of potential buyers. The absence of real-time market information makes it difficult for farmers to make informed decisions about pricing and timing. Transparency is also a concern, as pricing structures and transaction details are often unclear. Many farmers still depend heavily on word of mouth to promote sales, which can lead to missed opportunities [6]. The involvement of intermediaries adds extra costs and complicates the selling process, while selling directly on farms or in small local markets significantly limits visibility. Seasonal oversupply and fluctuating demand contribute to inconsistent income. In addition, traditional practices can make farmers hesitant or slow to adopt modern technology that could otherwise enhance their operations. The risk of disease transmission is heightened at crowded market gatherings, and the use of barter systems or limited financial transaction options can further restrict farmers' flexibility and financial growth. All of these factors combine to create a challenging environment for livestock marketing.

## 3. Proposed System

The proposed system aims to create a project, revolutionizing the traditional livestock trading process and providing farmers and buyers with a modern, efficient, and transparent marketplace. **Integrated Live Commerce Platform:** The integrated live commerce platform serves as a comprehensive online marketplace designed specifically for efficient livestock marketing. This feature seamlessly integrates various functionalities to cater to the needs of both farmers and potential buyers. Farmers can easily showcase their livestock offerings, while buyers can engage in real-time bidding and transactions directly through the platform. **Live Video Auctions:** Live video auctions are a key feature of the platform, allowing farmers to dynamically present their livestock to potential buyers [5]. Through real-time video streaming, buyers can participate in live bidding, creating a transparent and engaging trading environment. This interactive functionality enhances the overall livestock trading experience, facilitating direct engagement between sellers and buyers. **Video Consultation Services:** The platform offers integrated video consultation services, enabling buyers to schedule virtual farm visits or consultations with farmers. This feature enhances communication, transparency, and trust between parties by allowing buyers to directly interact with sellers and inspect livestock remotely. It fosters a deeper understanding of the offerings and builds confidence in the purchasing process. **Detailed Livestock Listings:** Farmers can create detailed listings for their livestock offerings through a user-friendly interface provided by the platform. These listings include essential information such as breed, age, health status, and certification details. High-quality images and videos are also incorporated to provide buyers with comprehensive insights into the livestock being offered. **Secure Payment Processing:** To facilitate transparent and secure financial transactions, the platform integrates a robust payment gateway. This

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ensures that payments are processed efficiently and securely, providing peace of mind to both farmers and buyers. Various payment methods are supported to accommodate diverse preferences. **Real-time Communication Tools:** Real-time chat functionality is implemented to facilitate direct communication between buyers and sellers. This feature allows for immediate clarification of queries, negotiation of terms, and seamless interaction throughout the purchasing process. It enhances transparency and fosters trust between parties. **Quality Assurance System:** The platform collaborates with relevant authorities to establish a robust quality assurance system for livestock offerings. Certification details are prominently displayed on listings, providing buyers with assurance regarding the health and quality of the animals they are considering. This feature enhances trust and credibility within the marketplace [7].

### 3.1 Advantages of The Proposed System

- Enhanced market accessibility for farmers, reaching a broader audience of potential buyers.
- Real-time engagement through live video auctions fosters transparency and trust in livestock transactions.
- Convenient virtual farm visits empower buyers to inspect livestock remotely, saving time and resources.
- Detailed livestock listings with certification details provide buyers with comprehensive information for informed decision-making.
- Secure payment processing ensures trustworthy transactions for both farmers and buyers.
- Seamless communication tools facilitate direct interaction between parties, streamlining the buying process.
- Certification and visible badges assure buyers of the quality and health of livestock.
- Farmers can showcase livestock to a wider audience beyond local markets.

### 3.2 System Architecture

The architecture diagram for the LiveTrade system outlines a comprehensive, role-based web application designed to facilitate enhanced double bidding in livestock auctions. It features distinct modules for buyers, sellers, and administrators, each equipped with tailored functionalities. Sellers can manage livestock catalogs, pricing, orders, and consultations, while buyers can browse, bid, schedule video consultations, and complete purchases with real-time tracking and notifications. The admin panel oversees user approvals, platform maintenance, and analytics reporting. This modular architecture ensures seamless interaction between all users, supports transparent bidding processes, and enables efficient management of sales and livestock inventory within a scalable and secure digital ecosystem. Figure 1 shows LiveTrade system outlines.

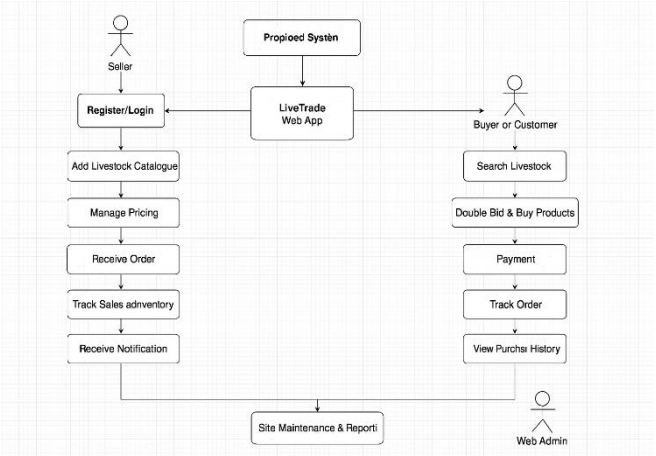


**Figure 1 LiveTrade system outlines**

## 4. Modules Description

The Live E-Commerce Web App is a comprehensive platform built using Python, Flask, MySQL, and Bootstrap, and it brings together several essential modules to streamline online livestock trading. It features a secure user management system that handles registration and login, ensuring a safe experience for all users. Farmers can create detailed livestock listings, providing buyers with important information about the animals. The livestock showcase video feature allows sellers to present their livestock in a dynamic and engaging way. Additionally, the platform includes a video consultation module that enables scheduled, secure video calls between buyers and farmers. These virtual meetings act as remote farm visits, giving buyers the chance to see the animals in real time, ask questions, and discuss terms directly. For financial transactions,

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the app integrates a transparent and secure payment system, while real-time chat tools support smooth and instant communication. To further boost trust and credibility, a quality assurance system is included, featuring certification details to validate the condition and health of the livestock.

### 4.1 E-Commerce Admin

**Login:** This module provides administrators with secure access to the admin dashboard using their unique login credentials. It acts as the control center for managing various features and operations of the platform. **Receive Farmers' Registration Requests:** Admins handle incoming registration requests from farmers who wish to join the platform as sellers. This module is designed to streamline the process of reviewing and responding to these requests efficiently. **Verify Farmers Using Farmer's Card and Aadhar Number:** To ensure the credibility of sellers, the admin verifies each farmer's identity by cross-checking submitted details such as the Farmer's Card and Aadhar number. This step helps maintain trust and authenticity within the platform [8]. **Approve Farmers as Sellers:** Once a farmer's information is successfully verified, the admin can approve their account, granting them permission to list and sell livestock. This module also supports management of seller roles and access rights. **User Management:** The admin has the ability to manage all user accounts, including adjusting permissions and assigning roles. This functionality allows for adding, editing, or removing users to maintain platform security and organization. **Maintain Product Categories:** To help users navigate the platform more easily, the admin is responsible for creating, updating, and organizing product categories. This ensures a well-structured and user-friendly browsing experience. **System Maintenance:** Routine maintenance tasks, such as performing updates, managing servers, and resolving technical issues, fall under this module. It helps keep the platform running smoothly and reduces the risk of downtime. **View Reviews:** Admins can monitor feedback left by users, including reviews and ratings. This module allows them to read, moderate, and respond to reviews to maintain a high standard of user satisfaction and engagement. **Customize Notifications:** Admins have control over the notification settings for different system activities, including registration approvals, order confirmations, and updates. This module enables customization to match user preferences and system needs. **Reports:** This module allows the admin to generate detailed reports on various activities across the platform such as sales trends, user activity, and system performance. These insights are valuable for making informed decisions and developing future strategies.

### 4.2 Farmers (Sellers)

**Register with Farmer's Card and Aadhar Details:** Farmers begin by registering on the platform, providing essential identification details such as their Farmer's Card and Aadhar number. These details are crucial for verifying the authenticity of the seller. **Receive Registration Approval:** After submitting their information, farmers must wait for admin approval before they can start using the platform to list and sell their livestock. **Login:** Once approved, farmers can log in using their credentials to access the seller dashboard and manage their listings. **Add and Manage Livestock:** Farmers can upload and manage livestock listings by adding descriptions, images, and prices. This ensures accurate and appealing presentations to potential buyers. **Receive Requests for Video Consultations:** Buyers can send farmers requests for video consultations to view livestock in real time. This feature supports open communication and builds trust between parties. **Approve or Reject Requests:** Farmers have the option to accept or decline video consultation requests based on their availability or preferences. **Schedule Video Consultations and Notify Buyers:** Upon accepting a consultation request, farmers schedule the session and notify buyers of the time. This helps ensure smooth and timely communication. **Receive Orders:** When buyers place orders, farmers are notified to begin the transaction and prepare for the next steps in the selling process. **View Orders:** Farmers can access all incoming orders, check order details, and track their status, helping them stay organized and responsive [9]. **Receive Payments:** Once orders are confirmed, farmers receive secure payments through the platform, ensuring reliable and transparent financial transactions. **Process Orders:** After

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payment is received, farmers handle the necessary steps to prepare the livestock for delivery or pickup, ensuring a smooth fulfillment process. **Deliver Orders:** Farmers arrange logistics for delivering livestock to buyers, including coordinating transportation and providing tracking information when needed. **Track Orders:** Farmers can monitor delivery progress and order status in real time, ensuring they stay informed and can keep buyers updated. **View Delivery Status:** This allows farmers to see the current status of deliveries, helping them maintain transparency and communicate effectively with buyers. **View Transaction History:** Farmers can review a detailed history of all past transactions, including orders, payments, and deliveries, for personal record-keeping and analysis. **View Reviews:** Farmers are able to read reviews and ratings submitted by buyers, helping them understand customer satisfaction and identify areas for improvement. **Post Queries in the Farmers Forum:** The platform offers a community space where farmers can ask questions, share experiences, and seek guidance from fellow users. **Receive Replies:** Farmers receive responses from the community to their forum queries, encouraging knowledge sharing and collective problem-solving. **Receive Notifications:** The system sends alerts for important activities such as new orders, payment confirmations, and forum interactions, keeping farmers informed in real time. **Reports:** Farmers can generate detailed reports about their sales performance, orders, and business trends. These insights help with better planning and decision-making [10].

### 4.3 Buyers

**Register:** Buyers start by signing up on the platform, providing the required details to create their account. This registration process grants them access to all buyer features and enables interaction with sellers.

**Login:** Once registered, buyers can log in with their credentials to explore livestock listings, place orders, and communicate with sellers. **Search Livestock:** Buyers can search for livestock using specific filters such as species, breed, location, and price. This helps narrow down results and makes it easier to find livestock that matches their preferences. **Request Video Consultation:** To ensure a transparent buying process, buyers can request live video consultations with sellers. This allows them to inspect the animals virtually before making a purchase. **Receive Video Consultation Schedule:** After sending a request, buyers receive a scheduled time from the seller for the video consultation. This confirms when the virtual visit will take place. **Choose Livestock:** Based on their needs and what they learn during video consultations, buyers can select livestock that best fits their requirements. **Add to Cart:** Once livestock is chosen, buyers add the selected items to their cart. This step helps organize purchases before heading to checkout. **Pay and Place Order:** Buyers proceed to checkout, securely pay using their preferred method, and complete the order placement with the seller. **Track Order:** After placing an order, buyers can track its progress, from processing to shipping and final delivery, through real-time updates. **Receive Product:** Buyers receive their livestock as per the agreed terms and can confirm the quality and accuracy of the delivered animals. **Request Bulk Orders:** For those needing larger quantities, the platform allows buyers to request bulk orders. This feature supports wholesale purchases and direct negotiations with sellers. **Post Reviews:** After receiving their livestock, buyers can leave reviews and rate their experience. This feedback helps other users and promotes transparency on the platform. **View Transaction History:** Buyers can access detailed records of their past transactions, including order summaries, payments made, and delivery updates. **Profile Management:** The platform allows buyers to manage their personal details, update preferences, and customize communication settings for a better, more personalized experience.

## 5. System Implementation

This project is a robust web application built using Python, Flask, MySQL, and Bootstrap, designed to streamline livestock trading. It includes a range of key modules such as User Management, Livestock Listings, Livestock Video Showcases, Video Consultation Services, Payment Processing, Real-Time Communication Tools, and Quality Assurance and Certification. The platform offers a user-friendly experience for farmers to present their livestock and

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for buyers to make informed and secure purchases. Secure user authentication and registration are handled through the User Management module, while farmers can post detailed livestock listings. The video showcase feature adds a dynamic layer to presentations, and virtual consultations allow buyers to interact directly with sellers. Secure payment processing ensures trust in transactions, real-time chat supports smooth communication, and the quality assurance system helps maintain high standards, building confidence among buyers. Frontend: Frontend development focuses on the user-facing side of a website or web application. It's all about designing the interface that users interact with, from the layout and visuals to the way users move through the site. The goal is to make the experience smooth, visually appealing, and easy to use. Developers use a range of technologies like HTML, CSS, JavaScript, and frameworks such as React, Angular, Vue, NextJS, and TypeScript to bring designs to life and ensure responsiveness across devices. Backend: Backend development supports the functionality that users don't see. It involves building and maintaining the server, database, and application logic that power the website. Developers work to ensure that data flows seamlessly between the frontend and backend, and that the application runs efficiently and securely. Popular backend frameworks and server management tools help streamline this process while keeping the site scalable and up to date. Database Management: To handle and organize data efficiently, full-stack developers use database systems like MySQL, PostgreSQL, and MongoDB. These tools help store, retrieve, and manage data in real-time. Additionally, knowledge of APIs is essential for enabling communication between different software components, ensuring a cohesive and responsive application.

### 5.1 Deployment & Testing

The system undergoes comprehensive testing and validation before live deployment: User Acceptance Testing: User Acceptance Testing involves direct participation from key stakeholders, including farmers, buyers, and platform administrators. During this phase, users engage with the platform in conditions that closely resemble real-world usage. Their interactions are aimed at evaluating the platform's overall usability, functionality, and performance. Feedback gathered from this testing helps identify any usability concerns or technical issues that may affect the user experience. All reported problems are carefully reviewed and resolved to ensure the platform is ready for deployment. This testing phase plays a critical role in confirming that the system meets user expectations and provides a seamless experience in the live livestock commerce environment, particularly with the integrated video consultation feature.

### 5.2 Final Deployment and Execution

The final deployment of the Live Commerce Livestock E-Commerce Platform marked the culmination of extensive development, rigorous testing, and iterative improvements. Once all modules including user management, livestock listings, video consultation, payment processing, and reporting were thoroughly tested and optimized, the system was successfully deployed on a live server environment. Key deployment tasks included configuring a secure hosting setup, setting up the MySQL database with all relevant schema, ensuring HTTPS encryption, and integrating third-party services for payments and notifications. The deployment process also involved ensuring compatibility across devices and browsers to support a wide range of users, including farmers accessing the system from rural locations via mobile devices. Real-time monitoring tools were implemented to track system performance and usage metrics post-launch. Additionally, training and documentation were provided to stakeholders to ensure smooth onboarding and effective usage. A soft launch with selected users preceded the full-scale release to gather initial feedback and fine-tune any remaining issues. The platform is now fully functional, supporting real-time interactions, secure transactions, and data-driven decision-making for both buyers and sellers. Figure 6 shows Seller Details.

## 6. Result and Discussion

### 6.1 Review

The Review module lets buyers and farmers share their experiences and feedback. Buyers can leave ratings and comments about the livestock and overall

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transaction, while farmers can respond to reviews and engage with their customers. This two-way feedback system builds credibility and improves trust across the platform. Figure 5 shows Admin Login page.

### 6.2 Notification

The Notification module ensures that all users stay informed through a variety of channels including email, SMS, and in-app alerts. Whether it's an order update, consultation confirmation, or forum reply, users receive timely messages in the format they prefer. This multi-channel approach boosts engagement and keeps everyone in the loop. Figure 4 shows Auctioneers Login.

### 6.3 Reports

The Reports module allows users to generate insightful analytics related to their activity on the platform. Farmers and admins can view performance metrics such as sales trends, consultation frequency, and overall user behavior. These insights help in making strategic decisions, improving performance, and staying competitive in the livestock marketplace. Figure 3 shows Searching Animals.

## 7. Livestock Web Applications

**Home page with user interface**

The Live E-Commerce Web App is a comprehensive platform built using Python, Flask, MySQL, and Bootstrap, and it brings together several essential modules to streamline online livestock trading. It features a secure user management system that handles registration and login, ensuring a safe experience for all users. Farmers can create detailed livestock listings, providing buyers with important information about the animals. The livestock showcase video feature allows sellers to present their livestock in a dynamic and engaging way. Figure 2 shows Procurer Login.

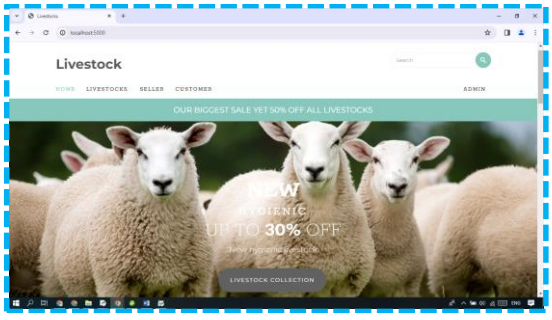


**Figure 2 Procurer Login**

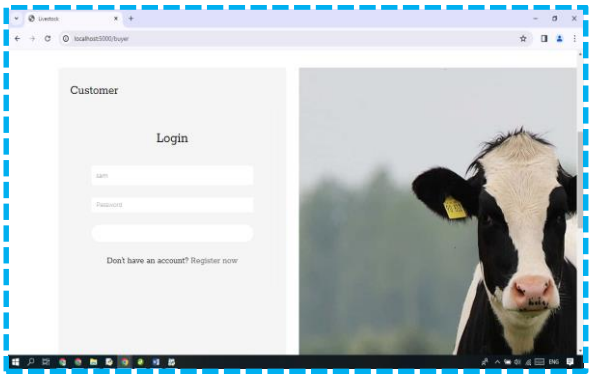


**Figure 3 Searching Animals**

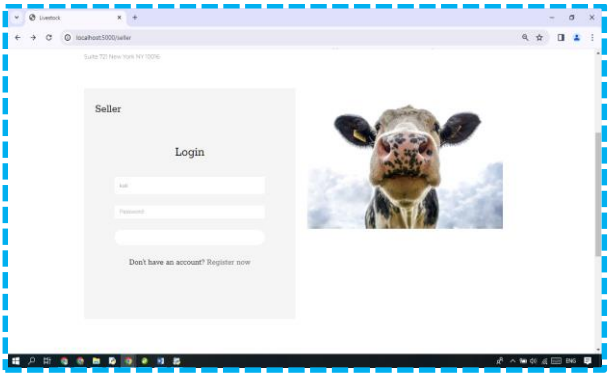


**Figure 4 Auctioneers Login**

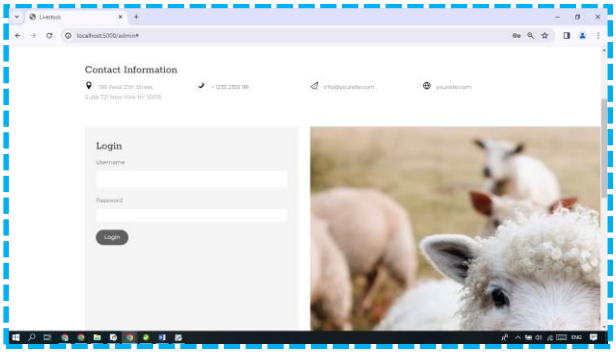


**Figure 5 Admin Login page**

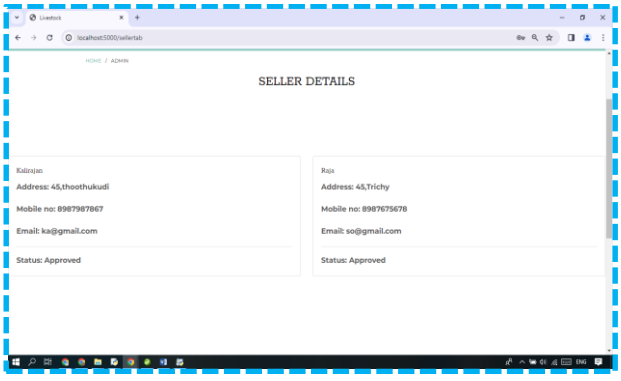


**Figure 6 Seller Details**

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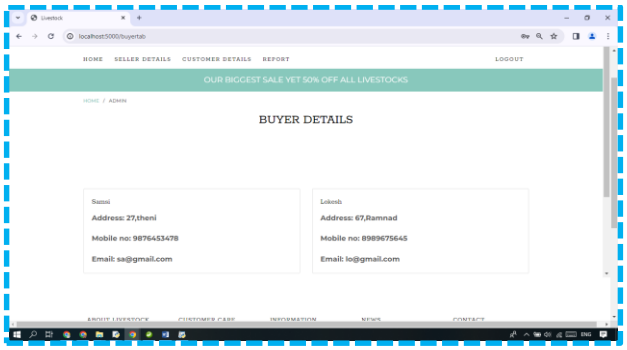


**Figure 7 Buyer Details**

## Conclusion

This project represents a meaningful step forward in transforming agricultural e-commerce through technology. With its key components such as user management, livestock listings, video consultations, order processing, and a review system the platform delivers a smooth and user-friendly experience for everyone involved. Farmers can easily list their livestock, connect with buyers via virtual consultations, and manage transactions with minimal hassle. On the other hand, buyers benefit from powerful search features, transparent purchasing processes, and the ability to track orders in real time. What sets this platform apart is its targeted approach to solving real challenges in the agricultural sector while maintaining a strong focus on usability, security, and future growth. By incorporating modern technologies, it provides a dependable and efficient tool that meets and often exceeds user expectations. Looking forward, there is ample room for growth and innovation. With ongoing feedback from users and continued development, the platform can evolve to include more advanced features and improved services. Building partnerships with agricultural organizations and stakeholders can also help increase its reach and positive impact within the farming community. In essence, the project showcases how digital solutions can drive real progress in agriculture. By making the livestock trading process more accessible, efficient, and transparent, this platform supports the long-term development and sustainability of the agricultural ecosystem.

## Reference

[1]. L. Karn, R. K. Karna, B. R. Kondamudi, G. Bagale, D. A. Pustokhin, I. V. Pustokhina, et al., Customer centric hybrid recommendation system for E–Commerce applications by integrating hybrid sentiment analysis, Electronic Commerce Research, vol. 23, no. 1, pp. 279–314, Mar. 2023.

[2]. L. Han, Y. Ma, P. C. Addo, M. Liao, and J. Fang, The role of platform quality on consumer purchase intention in the context of cross-border E-commerce: The evidence from Africa, Behavioral Sciences, vol. 13, no. 5, article 385, May 2023.

[3]. Y. Xiao, Y. Zhu, W. He, and M. Huang, Influence prediction model for marketing campaigns on e-commerce platforms, Expert Systems with Applications, vol. 211, 2023.

[4]. J. Chen, T. Zhu, M. Gong, and Z. Wang, A game-based evolutionary clustering with historical information aggregation for personal recommendation, IEEE Transactions on Emerging Topics in Computational Intelligence, vol. 7, no. 2, pp. 552–564, Apr. 2023.

[5]. S. Naiki, M. Kohana, M. Niibori, S. Okamoto, Y. Ohtaki, and M. Kamada, A graphical front-end interface for React.js considering state-transition diagrams, International Journal of Grid and Utility Computing, vol. 13, no. 5, pp. 482–494, 2022.

[6]. Y. Xiao, W. He, Y. Zhu, and J. Zhu, A click-through rate model of e-commerce based on user interest and temporal behavior, Expert Systems with Applications, vol. 207, 2022.

[7]. P. Goel, S. Parayitam, A. Sharma, N. P. Rana, and Y. K. Dwivedi, A moderated mediation model for e-impulse buying tendency, customer satisfaction, and intention to continue e-shopping, Journal of Business Research, vol. 142, pp. 1–16, 2022.

[8]. M. Soleimani, Buyers' trust and mistrust in e-commerce platforms: A synthesizing literature review, Information Systems and E-Business Management, vol. 20, no. 1, pp. 57–78, 2021.

[9]. X. Liu, Neural auction: End-to-end learning of auction mechanisms for e-commerce advertising, Proceedings of the 27th ACM

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SIGKDD Conference on Knowledge Discovery and Data Mining, pp. 3354–3364, 2021.

[10]. Y. Lin, D. Yao, and X. Chen, Happiness begets money: Emotion and engagement in live streaming, Journal of Marketing Research, vol. 58, no. 3, pp. 417–438, 202z