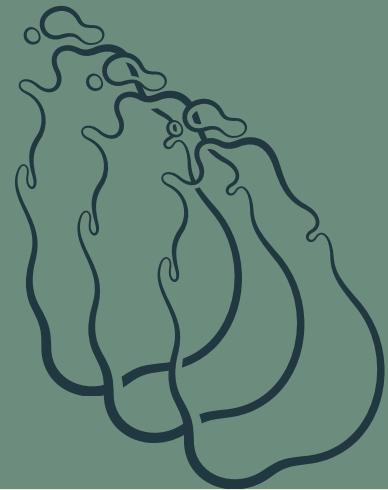




**University of kelaniya**  
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## online Agricultural product Auction Platform for Sri Lanka

Connecting Farmers and Buyers for Fair Pricing and Improved Market Access

# Project Proposal

**Group 05**



online Agricultural product Auction  
Platform for Sri Lanka

# Table of Contents

Objectives	2
Problem Statement	3
Scope	4
Methodology	5
Expected Benefits	6
Resources Required	7
Timeline	8
Conclusion	10

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# Summary

This project intends to establish an online agriculture bidding platform developed particularly for Sri Lanka, hoping to bridge the gap between farmers and clients. The system will provide a user-friendly, efficient, and transparent platform for buying and selling agricultural products. Key features include a real-time bidding method, secure payment alternatives, integrated logistics, and quality assurance systems. These aspects work together to promote fair pricing, decrease waste, and improve market access for rural farmers and urban customers alike. By tackling core difficulties in Sri Lanka's agriculture business, the platform intends to develop environmental sustainability, promote social fairness, and achieve economic growth.



# Objectives

## **Empower Farmers:**

Provide direct market access, eliminate middlemen, and ensure fair pricing.

## **Enhance Buyer Experience:**

Simplify product discovery and purchasing with filtering, bidding, and delivery options.

## **Improve Logistics:**

Streamline delivery systems and reduce post-harvest losses

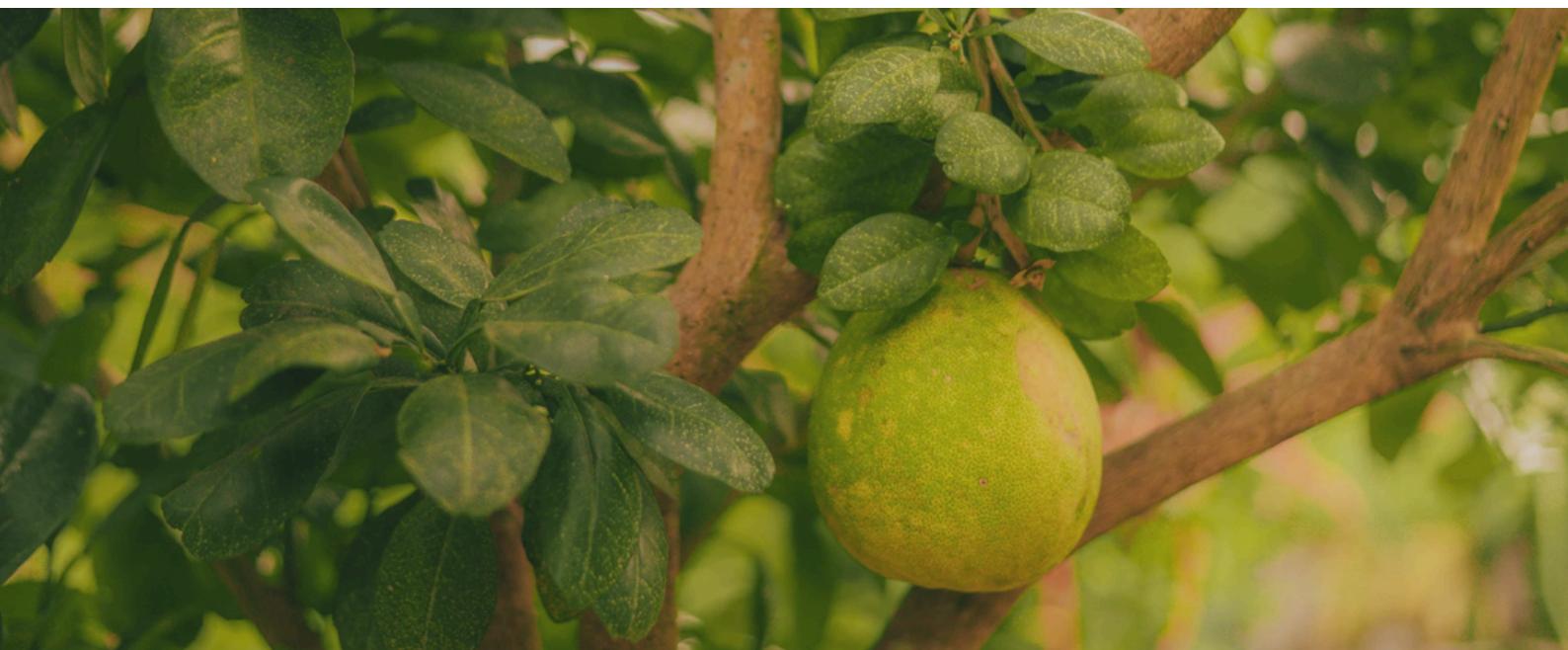
## **Promote Digital Inclusion:**

Cater to users with varying levels of digital literacy and internet access.

## **Ensure Sustainability:**

Reduce food wastage and encourage organic and sustainable farming practices.

# Problem Statement



## **Sri Lanka's agricultural sector faces several challenges**

Limited market access for farmers, leading to reliance on intermediaries.

Lack of transparency in pricing and inefficient supply chains.

High post-harvest losses due to inadequate logistics.

Low adoption of technology among rural farmers

Buyers struggle to find fresh, high-quality produce at competitive prices.

# Scope



## User Roles

Farmers, Buyers, and Administrators.

## Key Features

- User registration and authentication.
- Product listings with descriptions, images, and certifications.
- Real-time bidding system and "bid Now" options
- Secure payments with escrow services.
- Rating and review system for quality assurance.

## Target Users

Rural farmers, urban buyers, cooperatives, and logistics providers in Sri Lanka

# Methodology

## Planning and Preparation

- Define user requirements and platform features.
- Identify technologies: React.js (frontend), Spring Boot (backend), MySQL and MongoDB (databases), and Google Maps API.
- Set up development tools: Node.js, npm, Java JDK, IntelliJ IDEA, Visual Studio Code, GitHub for version control.

## Development

- Frontend Development: Build responsive interfaces for product browsing, bidding, and payment.
- Backend Development: Develop APIs for user authentication, bidding, payment processing, and logistics.
- Database Integration: Design schemas for structured (MySQL) and unstructured (MongoDB) data.
- Logistics Module: Integrate Google Maps API for location-based services.

## Testing and Deployment

- Conduct user acceptance testing (UAT) with farmers and buyers.
- Deploy the platform on a cloud server for scalability and reliability.



# Expected Benefits

## Economic

Increased income for farmers and reduced costs for buyers.

## Social

Empowerment of rural communities and improved access to fresh produce.

## Technological

Enhanced digital literacy and adoption in rural areas.

## Environmental

Reduced food wastage through efficient logistics



# Resources Required

## Technologies

- Frontend: React.js, Node.js, npm.
- Backend: Spring Boot, Java JDK, Maven
- Databases: MySQL, MongoDB
- APIs: Google Maps API.

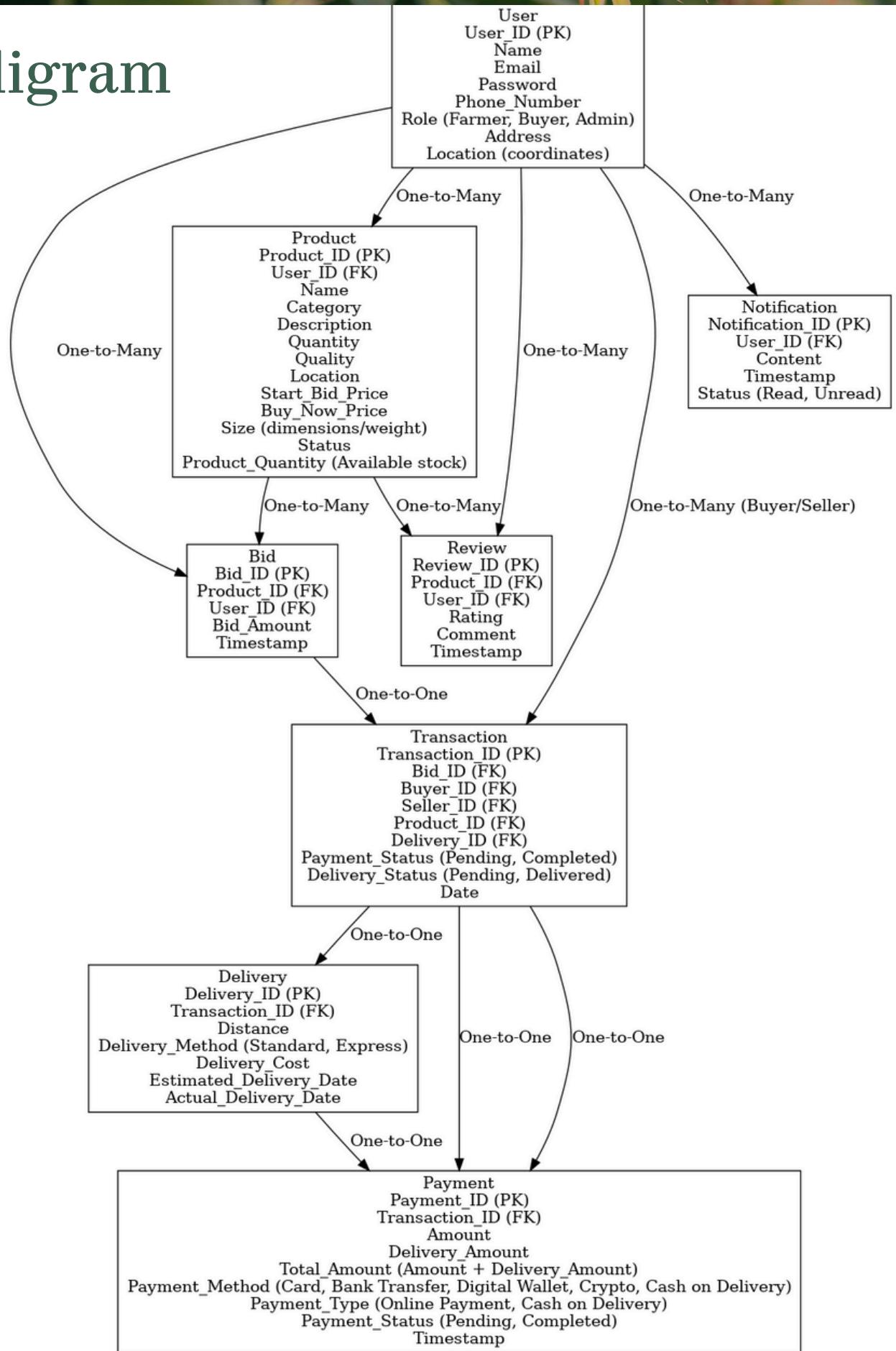


# Timeline

PHASE	DURATION
PLANNING AND PREPARATION	1 week
DEVELOPMENT	1 month 2 week
TESTING AND DEPLOYMENT	2 week
MAINTENANCE AND TRAINING	ongoing



# ER diagram



# Conclusion

*This effort is a transformative solution for Sri Lanka's agriculture sector. By leveraging technology to link farmers and buyers, the platform promises to secure fair pricing, eliminate wastage, and foster sustainable economic growth. With solid planning and execution, it has the ability to make a huge impression on rural communities and the wider economy.*



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