# GAUHATT - Farmer-to-Consumer Marketplace
# Final Year Project Proposal

**Student Name:** Arpan Upreti
**London Met ID:** 23049196
**College ID:** np05cp4a230146@iic.edu.np
**Internal Supervisor:** Kushal Tamang
**External Supervisor:** Sameual Sherpa

**Table of Contents**

1. Introduction
1.1 Problem Scenario
1.2 The Project as a Solution

2. Aim and Objectives
2.1 Aim
2.2 Objectives

3. Expected Outcomes and Deliverables

4. Project Risks, Threats and Contingency Plans

5. Methodology

6. Resource Requirements
6.1 Hardware Requirements
6.2 Software Requirements

7. Work Breakdown Structure

8. Milestones

9. Gantt Chart (Textual Format)

10. Conclusion

References

# 1. Introduction

Agriculture is one of the largest sectors in Nepal, yet farmers often face major challenges in bringing their goods to market. Due to the involvement of middlemen, farmers receive reduced profits while consumers pay inflated prices. In addition, there is a lack of transparency, traceability, digital enablement, and regional accessibility. GAUHATT aims to bridge this gap by digitizing the direct connection between farmers and consumers. Technology can transform the agricultural supply chain by empowering farmers, strengthening trust, and reducing inefficiencies. Through a modern platform built using ASP.NET Core, React, and PostgreSQL, GAUHATT offers a sustainable digital ecosystem where farmers can sell their products without intermediaries.

## 1.1 Problem Scenario

The agricultural market in Nepal suffers from multiple structural issues: • Excessive dependency on middlemen reduces farmer earnings.
• Consumers lack access to fresh produce sourced directly from farms.
• Farmers lack visibility, branding, and a direct marketplace to engage with buyers.
• Limited technological adoption slows down agricultural digitization.
• Crop spoilage due to inefficient, long-distance supply chains.
• Lack of trustworthy channels for farmers to share their stories and establish credibility.
A study by the Nepal Agriculture Market Board reveals that farmers often receive only 30–50% of the final consumer price due to layers of intermediaries. This affects livelihood, pricing stability, and agricultural sustainability.

## 1.2 The Project as a Solution

GAUHATT is designed as a comprehensive farmer-to-consumer marketplace enabling direct trade, regional delivery, and transparent interactions. Its major features include: • Farmer KYC verification for authenticity.
• Direct messaging and story sharing for trust-building.
• Regional delivery radius enforcement to minimize spoilage.
• Data-driven insights for both farmers and administrators.
• Secure authentication using OTP and role-based access control.
This project is intended to modernize the agricultural supply chain and empower farmers with digital tools aligned with Nepal’s rural economic development goals.

# 2. Aim and Objectives

## 2.1 Aim

To develop a secure, scalable, and user-friendly digital marketplace connecting farmers and consumers directly through an efficient web platform built using ASP.NET Core, React, and PostgreSQL.

## 2.2 Objectives

• Build dedicated portals for Admin, Farmer, and Consumer roles.
• Implement secure authentication using OTP and JWT.
• Allow farmers to upload KYC documents for admin verification.
• Enable farmers to publish stories, upload products, and manage inventory.
• Provide ordering, cart, wishlist, and checkout functionalities for consumers.
• Implement regional delivery radius validation.
• Develop admin dashboards for monitoring sales, trends, and system health.
• Implement a rating and review system for transparency.
• Integrate data analytics for crop trends and revenue tracking.

# 3. Expected Outcomes and Deliverables

At the end of the project, the following deliverables will be produced: **I. GAUHATT Web Platform**
• Farmer module (product upload, stories, analytics)
• Consumer module (search, order, wishlist, reviews)
• Admin module (KYC verification, moderation, analytics)

**II. Documentation**
• Software Requirements Specification (SRS)
• System Architecture & ERD
• API Documentation
• Test plan documentation

**III. Testing Reports**
• Unit testing
• Integration testing
• Load/performance testing

**IV. Deployment Package**
• Deployed version on VPS
• Source code repository

# 4. Project Risks, Threats and Contingency Plans

**A. Technical Risks**
Risk: API integration challenges, server load issues.
Mitigation: Early prototyping, caching strategies, async processing.

**B. Development Risks**
Risk: Delays due to complex modules such as KYC and delivery radius calculations.
Mitigation: Sprint planning and prioritizing core features.

**C. Security Risks**
Risk: Unauthorized access, data leakage.
Mitigation: HTTPS, JWT, server-side validation, encryption of sensitive data.

**D. Scalability Risks**
Risk: Performance issues with growing content (images, videos, orders).
Mitigation: CDN usage, database indexing, modular architecture.

# 5. Methodology

The project adopts the Scrum methodology to ensure iterative and incremental development. Each sprint delivers functional components that can be tested and reviewed. **Sprint Structure:**
• Sprint Planning
• Design Phase
• Development Phase
• Testing Phase
• Review & Retrospection

Scrum is chosen due to:
• Flexibility
• User-centered adaptability
• Continuous improvement
• Risk mitigation through frequent review cycles

# 6. Resource Requirements

### 6.1 Hardware Requirements
• Laptop with minimum Intel i5 Processor
• 8GB RAM (16GB recommended)
• Stable internet connection

### 6.2 Software Requirements
• ASP.NET Core SDK
• React.js
• PostgreSQL + pgAdmin
• VS Code / Visual Studio
• Postman for API testing
• Git + GitHub for version control
• Linux VPS for deployment

# 7. Work Breakdown Structure

- Requirement Gathering
- System Design
- UI/UX Design
- Backend Development
- Frontend Development
- Integration
- Testing
- Deployment
- Documentation

# 8. Milestones

• M1: Topic Finalization
• M2: Proposal Submission
• M3: SRS Documentation
• M4: UI/UX Completion
• M5: Authentication + OTP
• M6: Farmer KYC + Dashboard
• M7: Consumer Ordering
• M8: Admin Analytics
• M9: System Integration
• M10: Testing
• M11: Deployment
• M12: Final Report Submission

# 9. Project Gantt Chart

• Month 1: Requirement Analysis + Proposal + SRS
• Month 2: Backend Foundation + Authentication + KYC
• Month 3: Farmer & Consumer Modules + UI Integration
• Month 4: Admin Dashboard + Analytics + Reports
• Month 5: Testing + Deployment + Final Report

# 10. Conclusion

GAUHATT aims to revolutionize the agricultural market in Nepal by empowering farmers and providing consumers access to fresh local produce. With modern technologies, data analytics, and a transparent ecosystem, GAUHATT contributes to sustainable development and digital transformation in Nepal’s agricultural sector.

# References

References will be added in the final dissertation document.