Daffodil International University

Department of Software Engineering

Project Proposal

A Web-Based System for Post-Harvest Storage and Logistics Management of Perishable Fruits in Bangladesh

Submitted By

Student Name: Khan Maisha Moon	Student ID:0242310005341215
Student Name :Riyan Khalashi	Student ID:0242310005341014
Student Name :Khorshed Alom Mozahid	Student ID:0242310005341228

Submitted To

Teacher Name: Rahat Uddin Azad
Lecturer, Dept. of SWE, Daffodil International University

Course Information

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Contents

1. Introduction

Bangladesh produces a wide variety of perishable fruits throughout the year. However, a significant amount of these fruits is lost due to poor post-harvest storage facilities, inefficient logistics, and lack of coordination among stakeholders. These losses reduce farmers' income and weaken the agricultural supply chain.

This project proposes a web-based system to improve post-harvest storage and logistics management of perishable fruits in Bangladesh by connecting farmers, transport providers, dealers, and suppliers on a single platform.

1.1 Background Overview

Currently, most farmers rely on traditional knowledge to store and transport fruits. There is no centralized digital system that provides guidance on storage conditions, freshness duration, or alternative delivery options when transportation fails.

1.2 Problem Statement

Farmers often lack information about how long fruits remain fresh under specific conditions and which transportation options are suitable. Transport providers, dealers, and suppliers work independently, resulting in delivery failures, poor communication, and increased waste. A software-based solution is needed to integrate these stakeholders and reduce post-harvest losses.

1.3 Objectives

General Objective: To develop a web-based system that improves post-harvest storage and logistics management of perishable fruits in Bangladesh.

1.4 Scope

In-Scope:

- User registration and role management
- Product and storage condition management
- Transport request and offer handling
- Delivery failure handling with alternative delivery options
- Deal management between dealers and suppliers
- Basic admin monitoring

Out-of-Scope:

- Real-time GPS tracking

- Online payment integration
- Automated optimization systems

1.5 Stakeholders

- **Farmers**: Provide product information and request transport services
- **Transport Providers**: Offer logistics and delivery services
- **Dealers/Suppliers**: Purchase and distribute fruits
- **System Administrator**: Monitor and manage the system

1.6 Proposed Solution

The proposed system will act as a centralized platform where farmers can input fruit details, estimate freshness duration, request transport services, and manage deals. In case of delivery failure, the system will suggest alternative delivery options to minimize losses.

2. System Requirements

- The system shall allow users to register and log in based on roles.
- The system shall manage product and storage information.
- The system shall handle transport requests and offers.
- The system shall handle delivery failures and suggest alternatives.

3. Tools and Technologies

- Frontend: HTML, CSS, JavaScript
- Backend: PHP / Python / Node.js
- Database: MySQL
- Version Control: Git

4. Project Timeline and Work Plan

The project will be completed through a milestone-based development plan. Each phase is designed to ensure systematic progress and proper task distribution among team members.

Phase	Activities	Duration
Phase 1	Requirement analysis and problem understanding	Week 1–2
Phase 2	System design, use case modeling, and architecture design	Week 3–4
Phase 3	Frontend and backend development	Week 5–8
Phase 4	System integration and functional testing	Week 9–10
Phase 5	Bug fixing, performance improvement, and validation	Week 11
Phase 6	Documentation, report writing, and final submission	Week 12

5. Conclusion

This project proposes a practical web-based solution to reduce post-harvest fruit losses in Bangladesh. By integrating all stakeholders on a single platform, the system aims to improve coordination, efficiency, and sustainability of the agricultural supply chain.