

**THE UNIVERSITY OF AZAD JAMMU AND KASHMIR, MUZAFARABAD**

**Project Proposal**

**Farming Management System**

**Submitted By:** Group #02  
**Department:** BS Software Engineering   
**Roll Numbers:** **2024-SE-38**(Kamal Ali Akmal)

**2024-SE-23**(Muqaddas Kiani)

**2024-SE-34**(Jawahir Ali)

**Submitted To:** Engr. Muhammad Awais Rathore

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**Course:** Object-Oriented Programming (OOP)

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### Department of Software Engineering

### 1. ****Introduction:****

### Agriculture is the backbone of many economies. Farmers often struggle with managing land, crops, equipment, and resources efficiently. This project aims to provide a simple yet powerful farming management system to help farmers track and manage their farming activities using object-oriented principles.

### 2. Objectives:

* To create a system that manages plots, crops, and farming equipment.
* To apply OOP principles like encapsulation, inheritance, polymorphism, and abstraction.
* To provide an easy interface for assigning crops to land and tracking their growth.
* To manage inventory items like seeds and fertilizers.
* To improve productivity and planning in farming operations.

### 3. Scope of the Project:

The system will allow a farmer to:

* Add and manage multiple land plots
* Assign crops to plots and monitor their status
* Manage farming equipment and inventory
* View weather conditions (basic mockup logic)
* Track sowing and harvesting dates

### 4. Modules / Functionalities:

|  |  |
| --- | --- |
| **Module** | **Description** |
| **Farmer Management** | Add/view farmers' basic info |
| **Land Management** | Manage land plots, assign crops |
| **Crop Management** | Add crops, view growth/harvest status |
| **Equipment Management** | Assign tools/equipment to land |
| **Inventory Module** | Track and use farming items (seeds, fertilizer) |
| **Weather Module** (Optional) | Show simple weather info for sowing help |

**UML Diagram for Farming Management System**

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### 5. Tool & Technology:

* **Programming Language:** C++
* **IDE:** - Dev C++
* **Modeling Tool:** - UML diagrams (Class Diagram)
* **Database:** - File Handling

***OOP Concepts Used*:**

* + Classes and Objects
  + Inheritance
  + Polymorphism
  + Encapsulation
  + Abstraction

### 6. Benefits of the System:

* Makes farming tasks easier to plan and organize.
* Helps track crops and equipment usage.
* Improves decision-making with record-keeping.
* Demonstrates real-world application of OOP concepts.

### 7. Conclusion:

This project will not only serve as a helpful tool for managing farming operations but also enhance the understanding and practical application of object-oriented programming principles in real-world scenarios.