# AgroUSSD Project Design Document

This document presents the comprehensive system design for the AgroUSSD project, a USSD-based agricultural information and marketplace system for Nigerian farmers and buyers. It includes system flow, object-oriented class structure, sequence flows for core operations, and the underlying data model for persistence.
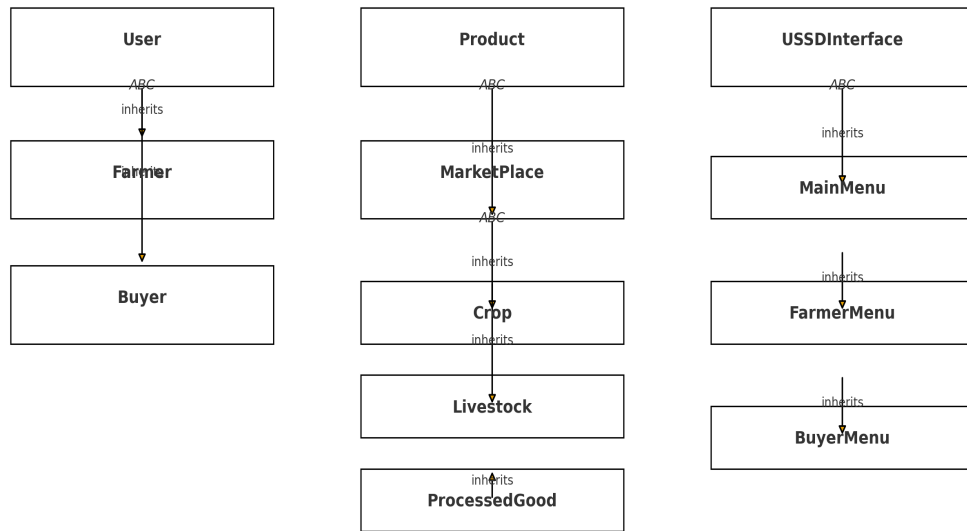
1. System Flowchart

The flowchart illustrates the main menus and navigation for both farmers and buyers.
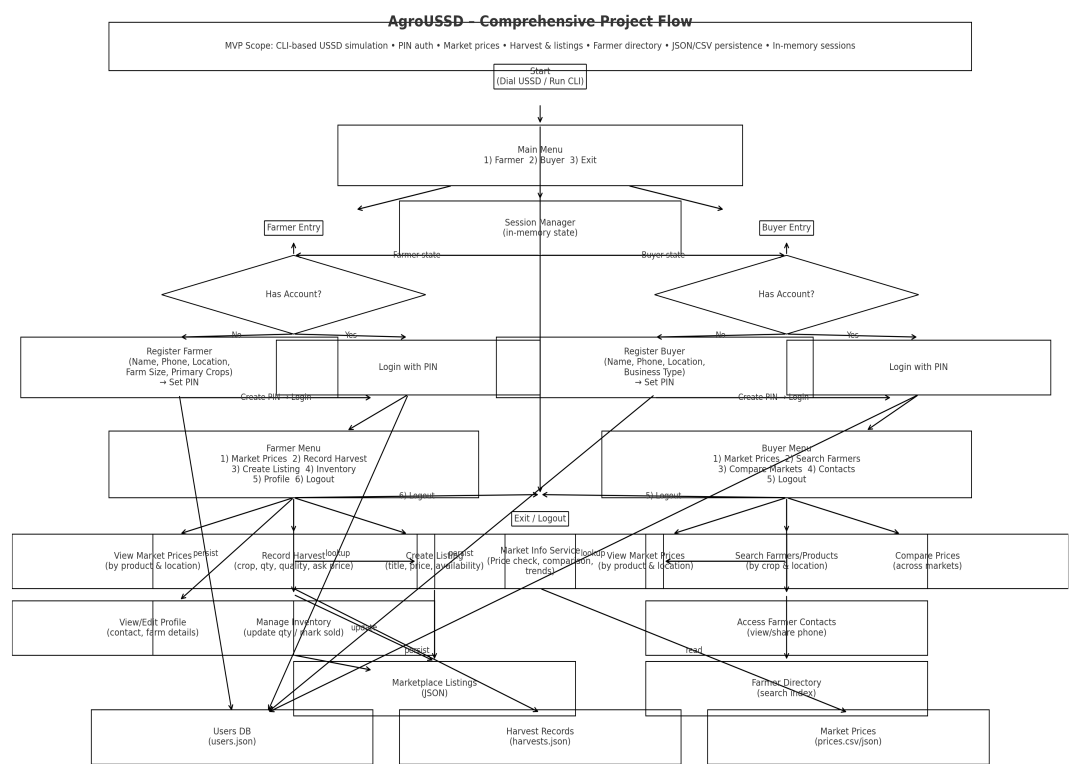
2. Class Diagram

This diagram shows the object-oriented design, including abstract base classes and inheritance.
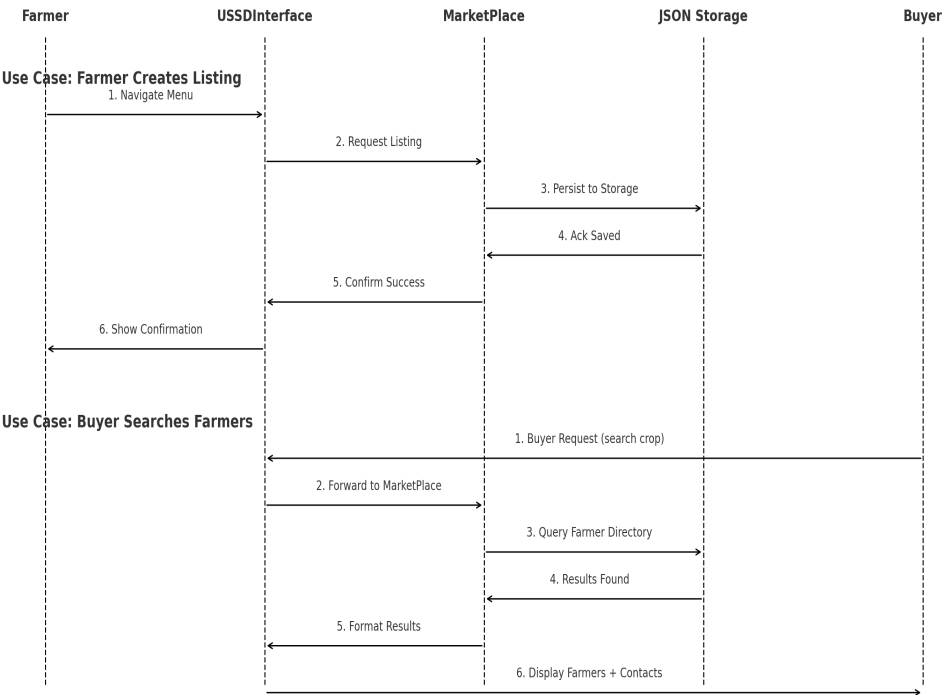
AgroUSSD – Class / Component Diagram

User
ABC

inherits

Farmer

Buyer

Product
ABC

inherits

MarketPlace
ABC

inherits

Crop

inherits

Livestock

inherits

ProcessedGood

USSDInterface
ABC

inherits

MainMenu

inherits

FarmerMenu

inherits

BuyerMenu

3. Sequence Diagram

The sequence diagram details interactions for critical journeys such as creating listings and searching farmers.

AgroUSSD – Sequence Diagram (Key Use Cases)

Farmer	USSDInterface	MarketPlace	JSON Storage	Buyer

Use Case: Farmer Creates Listing

1. Navigate Menu

2. Request Listing

3. Persist to Storage

4. Ack Saved

5. Confirm Success

6. Show Confirmation

Use Case: Buyer Searches Farmers

1. Buyer Request (search crop)

2. Forward to MarketPlace

3. Query Farmer Directory

4. Results Found

5. Format Results

6. Display Farmers + Contacts

4. Entity-Relationship Diagram

The ER diagram outlines the data model and persistence layer structure, including farmers, buyers, products, harvests, and market prices.
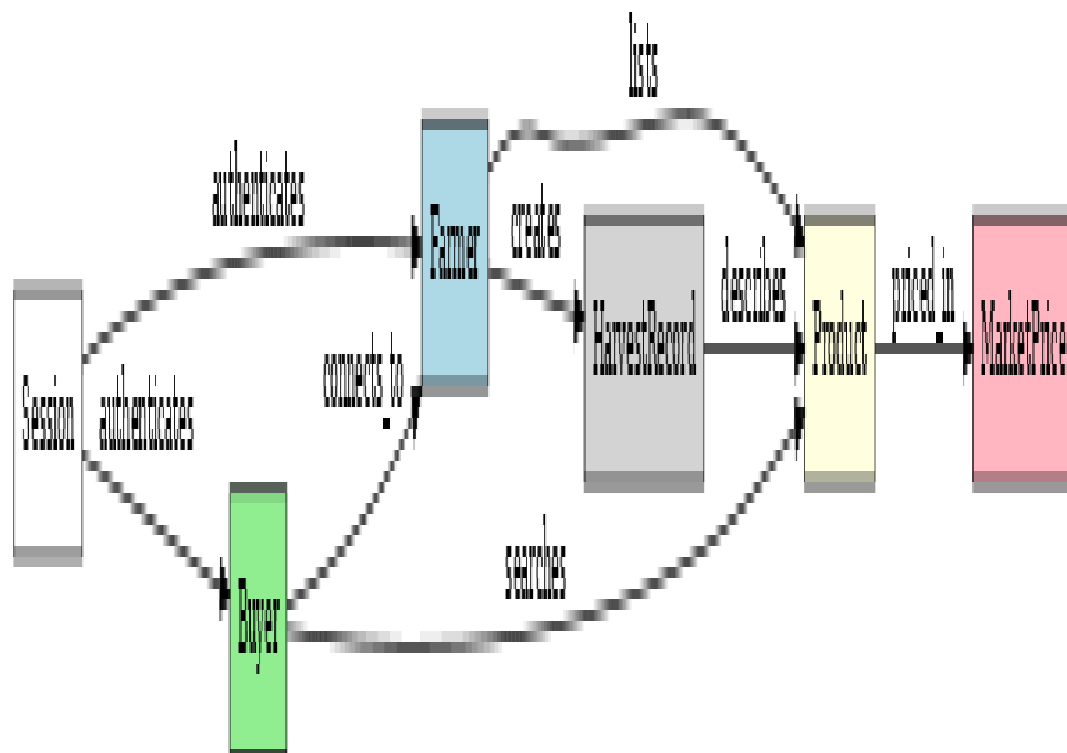
Conclusion

With these diagrams, the AgroUSSD team has a clear blueprint for development. The flowchart defines the user experience, the class diagram guides implementation, the sequence diagram captures user interactions, and the ER diagram ensures proper data management.