



Usage Scenario

Smart Agriculture Information System

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Usage Scenario

1) Account Management

1.1) Create Account

User Perspective:

A farmer must create an account to access the system. Required information includes:

- Full name
- Mobile number
- National ID
- Password
- Village/location

Once verified, a confirmation code is sent to the farmer's mobile number. Inputting this code activates the account.

1.2) Verification

The system verifies farmer credentials using local agricultural databases or government farmer registries to ensure authenticity.

1.3) Update Account

Farmers can update their profiles including:

- Mobile number
- Password

1.4) Password Recovery

Farmers who forget their passwords can recover access via:

- **Recover through Mobile:** An OTP is sent to the registered mobile number, which must be entered within 1 minute, then a new password can be set.

1.5) Log In

Farmers log in using their registered mobile number along with their password. Admins log in with predefined usernames and passwords.

2) Accessing Agricultural Information & Alerts

Farmers must be logged in to receive:

- Localized weather forecasts and climate alerts relevant to their farming location.
- Crop-specific farming tips and pest/disease alerts.
- Personalized farming calendar reminders (planting, fertilizing, harvesting).
- Market price updates for their crop types from nearby markets.

3) Market and Input Trading

Farmers can:

- Browse current crop prices from local markets.
- Post offers to sell their produce or place orders to buy seeds, fertilizers, or tools directly from other farmers or verified suppliers.
- Negotiate prices and confirm transactions within the system.
- Track orders, payment status, and delivery updates.

4) Financial Services Guidance

Based on farmer input (crop type, income), recommends:

- Suitable micro-loans and subsidy programs.
- Crop and livestock insurance packages.
Farmers can apply through integrated forms or receive contact details of relevant institutions. The system sends reminders for application deadlines, repayments, or renewals.

5) Personalized Farming Calendar & Task Management

- A dynamic calendar shows key farming tasks according to the crop cycle and location.
- Farmers receive alerts before important activities such as irrigation, fertilization, and harvesting.
- Tasks can be marked completed, rescheduled, or flagged for follow-up.

6) Community and Expert Support

- Farmers join community groups based on location or crop types to share experiences and advice.
- Agricultural officers and experts post advisories and respond to farmer questions.
- A helpdesk feature allows farmers to report urgent issues or request expert visits.

7) Database Management

- **Admin Database:** Stores farmer profiles, transaction records, financial service applications, alerts sent, and expert advisories.
- **User Database:** Stores farmer-specific data such as alert history, transaction records, and calendar tasks, synchronized with admin database for consistency.

8) Additional Features

- Frequently used inputs or crops are shown on the farmer's dashboard for quick access.
- System suggests sustainable farming practices and crop diversification ideas based on data analysis.
- Admin dashboard displays popular crops, and system usage metrics to improve services.

9) Administrative Management

9.1) Content & Alert Management

Admins update:

- Weather data sources
- Market price feeds
- Advisory content and pest/disease alerts
They customize notifications according to region and crop cycles.

9.2) User Monitoring and Support

- Admins monitor system activity, user feedback, and success rates of advisory messages.
- Generate reports on loan uptake, insurance enrollment, and market transactions to inform agricultural policy and support programs.