
Project: উদ্যমকৃষি (Udyamkrishi)

AI-powered WEB & SMS advisory and companion for farmers

Problem: Limited access to agricultural knowledge and expertise for Bangladeshi farmers, hindering crop yields and income.

Solution: উদ্যমকৃষি (Udyamkrishi) is a web application and mobile SMS-based system that uses AI to provide farmers with personalized crop advice in English and Bangla.

Overview of the System :

- **Frontend:** N/A (SMS doesn't require a visual interface), Java, JSP (For web application)
- **Backend and Simple Aspects:**
- **SMS-based:** Reaches a wider audience without requiring smartphones or internet access. (Location based weather forecast, Subscription based tips services)
- **AI-powered advice:** Uses machine learning to analyze weather data, soil conditions, and historical trends to offer personalized recommendations plus disease recognition and giving its solution (This can be achieved through a cloud-based AI model interacting with the Spring Boot backend)
- **Bazar (Direct farmer to buyer)** - A market place for Farmers to easily sold their farm products directly to Wholesaler or Mass consumers
- **Bangla language support:** Makes information accessible to Bengali-speaking farmers. (optional)

Project Functionality:

1. Farmers can register them by web or by sending an SMS with their location.
2. There are three type of users:
 - Farmer
 - Buyer (Wholesaler or Mass consumers)
 - Administration
3. উদ্যমকৃষি (Udyamkrishi) uses location data to access weather forecasts and historical agricultural information for the subscription based services.
4. Farmer texts questions about specific crops, pests, or diseases.
5. উদ্যমকৃষি (Udyamkrishi) leverages the AI model to analyze data and generate personalized advice in Bangla via SMS. end: Spring Boot (Java)
6. Farmers can also receive regular SMS alerts on crucial crop stages, like irrigation or fertilization reminders.

Benefits of this Projects:

- Increased crop yields and farm income for Bangladeshi farmers.
- Improved decision-making through data-driven recommendations.

- Reduced reliance on traditional methods and guesswork.
- If you see farmers they don't get proper money for their hard work. This market system will help the farmers to get fair money for their crops.

উদ্যমকৃষি (Udyamkrishi) leverages the ubiquitous nature of SMS and combines it with AI to empower even the most remote farmers. It requires minimal technical knowledge from the user and provides crucial agricultural insights directly through their phones.
