Capstone Project Proposal Submission
On

AgriConnect – "Empowering Farmers, Connecting Agriculture"

Submitted by

Name: Rayhanul Islam
Id: 2002003
Email: 2002003@icte.bdu.ac.bd

Name: MD Shohedozzaman Basunia
Id: 2002033
Email: 2002033@icte.bdu.ac.bd

Supervised by

Farhana Islam
Assistant Professor
Department of Educational Technology and Engineering

Bangabandhu Sheikh Mujibur Rahman Digital University, Bangladesh (BDU)

Date: ………...

Abstract

AgriConnect is an innovative online platform designed to bridge the gap between farmers, wholesalers, and agricultural suppliers, providing solutions to the problems faced by the farming community. This platform offers farmers an opportunity to post their issues, receive guidance, interact with industry experts, and access critical resources such as agricultural tools, medicines, and market prices. By integrating AI technology, the platform also helps in forecasting agricultural prices and facilitating access to relevant agricultural products. With a user-friendly interface, the platform will streamline the agricultural process, making it easier for farmers to connect with stakeholders and gain actionable insights.

Literature Review

The role of technology in modernizing agriculture has been increasingly acknowledged. Online platforms have demonstrated significant potential in improving the lives of farmers by offering timely advice, resources, and tools. Platforms such as *AgriHub* and *AgriSmart* have already shown that virtual forums for farmers can facilitate better decision-making, increase productivity, and empower farmers. Research in agricultural innovations indicates a shift towards digitizing farming-related activities, ranging from price predictions and weather forecasts to networking with wholesalers and agricultural experts. However, many of these existing platforms lack direct integration of AI to predict market trends or offer a comprehensive solution for all agricultural needs. **AgriConnect** seeks to fill this gap by combining chat functionalities, AI price predictions, and access to agricultural products all in one place, promoting a more interconnected and efficient agricultural ecosystem.

Core Features & Functionalities

1. **User Types & Roles**:
   - **Admin**: Oversee platform activities, manage users (farmers, wholesalers, suppliers), post announcements, and upload training content.
   - **Farmer**: Post agricultural issues, ask questions, access tutorials, get price forecasts, and connect with wholesalers and suppliers.
   - **Wholesaler**: List offers for buying agricultural products from farmers, communicate directly with farmers, and access market trends.

o **Supply**: Provide information on agricultural medicines (pesticides, fertilizers, etc.), offer purchasing options, and share product usage guides.

2. **AI Integration**:
   o Price prediction and market analysis for crops.
   o AI chatbots offering instant advice on farming problems.
   o Recommendations for optimal planting and harvesting times based on data.

3. **Discussion Forum**:
   o Chat and comment sections for farmers to discuss their problems and share advice.

4. **E-commerce Features**:
   o Platform for farmers to rent agricultural equipment and purchase inputs.
   o Wholesalers can directly offer bulk agricultural products to farmers.

5. **Training & Education**:
   o Access to online seminars, tutorials on seed planting, crop management, and farm technologies.
   o Video lectures and webinars on using modern agricultural techniques.

Methods of the Project

The development of **AgriConnect** will follow the Agile project management methodology, ensuring iterative progress and frequent testing. The core steps will include:

1. **Requirement Analysis**: Understanding the needs of farmers, wholesalers, and suppliers through surveys and focus groups.
2. **Design**: Creating wireframes and UI/UX designs for easy navigation.
3. **Development**:
   o Backend: Setting up the database, user roles, and AI models for price predictions.
   o Frontend: Building a responsive, user-friendly interface using HTML, CSS, and JavaScript.
   o AI Integration: Developing algorithms for price forecasting, chatbots, and suggestions.
4. **Testing**: Ensuring usability, functionality, and security through rigorous testing.
5. **Deployment**: Hosting the platform and making it available to users.

Timeline

Phase	Duration	Activities
Phase 1: Research & Planning	2 weeks	Requirement gathering, platform scope finalization.
Phase 2: Design	3 weeks	UI/UX design, wireframes, architecture planning.
Phase 3: Development	6 weeks	Backend and frontend development, AI integration.
Phase 4: Testing & Refinement	2 weeks	Usability and security testing, debugging.
Phase 5: Deployment & Launch	2 weeks	Platform deployment, final testing, go-live.
Phase 6: Post-Launch Support	Ongoing	Monitor platform, fix bugs, and release updates.

Implementation Process

1. **Initial Research & Conceptualization**: Researching farmers' challenges and identifying key functionalities that will address those challenges.
2. **Design & Prototyping**: Designing the platform's layout, wireframes, and basic flow.
3. **Development & AI Integration**: Coding the backend, integrating AI algorithms for market predictions, and setting up user profiles and access control.
4. **Testing**: Testing the platform for functionality, usability, and responsiveness.
5. **Launch**: Deploying the platform to a live environment, monitoring for bugs, and collecting user feedback.
6. **Continuous Improvement**: Regular updates based on user feedback, adding new features such as more precise price forecasting and additional training materials.

Final Product

The final product will be a fully functional **AgriConnect** platform that connects farmers with wholesalers, suppliers, and experts. It will feature:

- **Discussion forums** for farmers to post issues and solutions.
- **AI-powered price prediction tools** for agricultural products.
- **Real-time access to agricultural medicines and tools**.
- **A dashboard** for farmers to track their transactions, participation in seminars, and progress.

The platform will serve as a **one-stop solution** for agricultural needs, improving efficiency, knowledge sharing, and market connectivity.

Dissemination

Once **AgriConnect** is live, dissemination will take place through the following channels:

- **Online Marketing**: Utilizing social media platforms, agricultural blogs, and influencer collaborations to spread the word.
- **Workshops & Webinars**: Hosting events to demonstrate platform features to farmers, wholesalers, and suppliers.
- **Partnerships with Agricultural Organizations**: Collaborating with governmental and non-governmental bodies to ensure widespread adoption and engagement with farmers.