

WCE HACKATHON

Code, Create, Conquer

2024

Round 1: Idea Submission

Team Name: Ferocious Four

Team Leader: Harshavardhan Bamane

Domain/Theme: Smart Agriculture

Problem Statement: Farmers grapple with a convoluted and slow loan approval process. Our project aims to expedite this by creating a web platform for direct data sharing between farmers and loan officers, simplifying loan sanctioning.

Track: Expert

Problem identified:

Our project aims to address this issue by developing a web platform that facilitates direct communication and data sharing between **farmers** and **loan officers**. By streamlining the loan approval process, we aim to expedite the sanctioning of agricultural loans, empowering farmers to access the financial support they need more efficiently.

Market Research:

In this, we are going to develop a web-based portal that will develop a digital platform that addresses the identified challenges and facilitates seamless loan approval for farmers. By integrating geographical sensing technology and simplifying the application process, the proposed solution has the potential to significantly improve access to financial services and enhance agricultural productivity.

The current process for loan approval involves numerous intermediaries and complicated procedures, leading to delays and frustration for farmers. Farmers often face difficulties in understanding the requirements and procedures for loan approval, Even many farmers, especially those in rural areas, struggle to access traditional banking services, further complicating the loan application process.

Nowadays there is a substantial demand for agricultural loans worldwide, driven by the need for capital investment in farming activities such as purchasing equipment, seeds, and fertilizers.

Farmers consistently report challenges in securing loans, citing complex application procedures, lengthy approval times, and limited accessibility to banking services

Our proposed solution Provides a website to define their land area and assess soil quality through geographical sensing technology. Also, the integration with soil analysis tools provides detailed insights into soil health and composition. It will have a User-friendly interface for farmers to submit loan applications directly through the website.

Automated verification of submitted land and soil data to expedite the loan approval process will be provided and the algorithms to assess creditworthiness based on the provided information and historical data.

Project Name: Kshetra Vridhhi (क्षेत्र वृद्धि)

Describe your solution:

- **Web-Based Portal:** The core of the solution is a user-friendly web-based portal accessible to farmers. This portal serves as a digital platform where farmers can apply for loans, track the progress of their applications, and access relevant information and resources.
- **Geographical Sensing Technology:** The integration of geographical sensing technology allows for efficient assessment of farm locations, land quality, and other relevant environmental factors. This technology helps in evaluating the feasibility and potential risks associated with loan applications based on the geographic data collected.
- **Simplified Application Process:** The application process is redesigned to be straightforward and intuitive, eliminating unnecessary paperwork and bureaucratic hurdles. Farmers are guided through the process step-by-step, with clear instructions and prompts to provide the required information.
- **Accessibility:** The portal is designed to be accessible to farmers regardless of their location, including those in rural areas with limited access to traditional banking services. This could involve provisions for accessing the portal via mobile devices and ensuring compatibility with low-bandwidth internet connections.
- **Educational Resources:** To address the challenge of understanding loan requirements and procedures, the portal provides educational resources such as guides, tutorials, and FAQs. These resources help farmers navigate the loan application process with confidence and clarity.
- **Efficient Approval Process:** By streamlining procedures and reducing reliance on intermediaries, the solution aims to minimize delays in loan approval. Automated workflows and decision-making algorithms help expedite the review process while maintaining accuracy and compliance with regulatory requirements.
- **Scalability and Adaptability:** The solution is designed to be scalable, allowing for expansion to accommodate the growing demand for agricultural loans. It is also adaptable to evolving technological advancements and changes in regulatory frameworks.

Technology Stack:

Frontend - HTML, CSS, REACT JS
Backend - Django
Database - MongoDB
Version Control - Git

Innovativeness:

Integration of GIS and Maps: Utilizing GIS and maps for land assessment brings innovation by streamlining data collection: Automating land area and basic soil quality data retrieval through geo-sensing reduces manual effort and potential errors.

Enhancing transparency: Farmers can visualize their land on maps, and loan officers can share relevant data layers for clear communication. Improving decision-making: GIS data provides valuable insights into land potential and potential risks, leading to more informed loan decisions.

Farmer Input Integration: Allowing farmers to provide additional information like crop rotation plans and harvest projections is innovative by

Empowering farmers: Farmers can actively contribute to their loan application, showcasing their expertise and plans.

Enabling holistic assessment: Loan officers can consider the farmer's perspective and plans alongside other data for a more comprehensive evaluation.

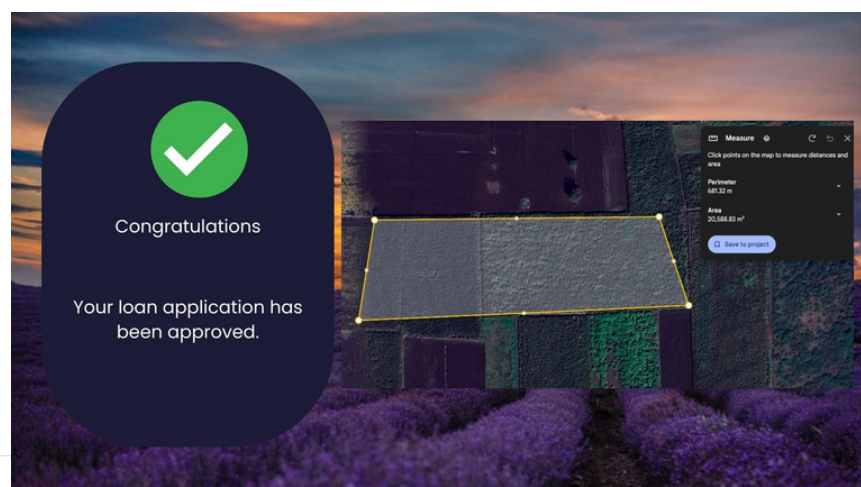
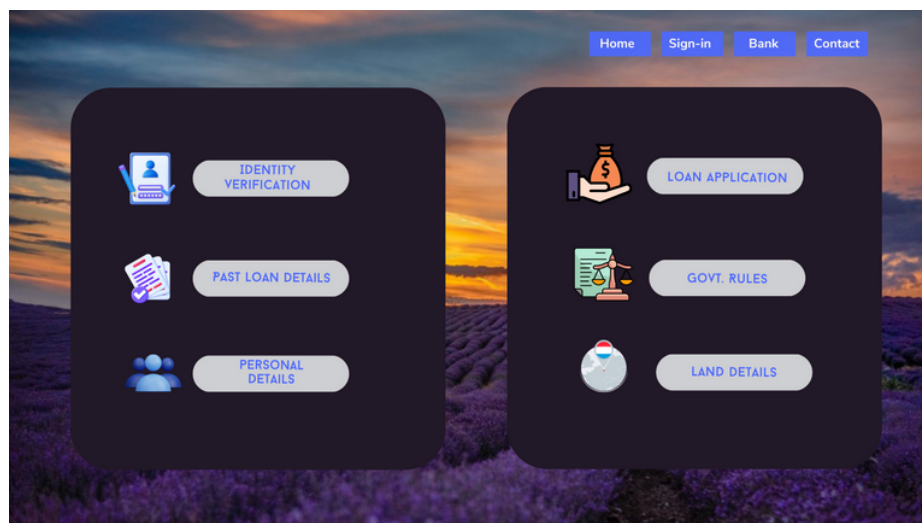
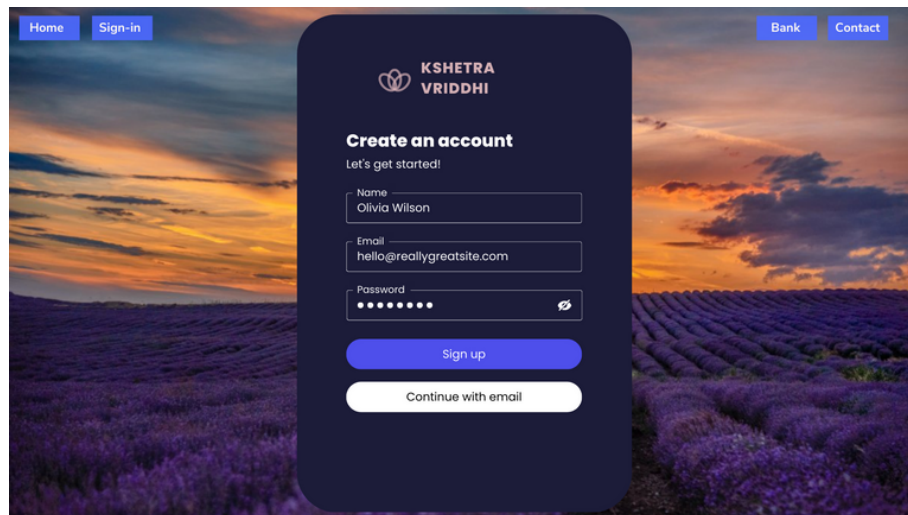
Show Stoppers:

Data Availability and Accuracy: The success of the project hinges on the: Availability of relevant GIS data layers in the specific region. Accuracy and reliability of the geo-sensing and underlying GIS data. Inaccurate data can lead to flawed assessments and hinder project effectiveness.

Technology Adoption: Both farmers and loan officers need to be comfortable using the website and its functionalities: Digital literacy: Farmers with limited digital literacy might face challenges in using the platform. Institutional buy-in: Loan officers and banks need to adopt the website and integrate it into their existing processes.

Security and Privacy Concerns: Ensuring the secure storage and handling of sensitive farmer data, including land ownership details and loan information, is crucial.

Prototype:



Use Case Diagram/Flow Diagram:

