IntelliField

An intuitive dashboard that transforms field data collected by Aigen robots into clear, actionable insights for growers, focusing on weed pressure, crop health, and informed decision-making.

Problem

Modern agriculture faces a critical gap between data collection and data utilization. Aigen's autonomous robots effectively collect vast amounts of field data through RTK GPS, computer vision, and environmental sensors, but currently **lack a unified platform to present this information to growers**. There is a clear need for a system that can transform Aigen's rich data into accessible insights that support growers' decision-making processes.

Data Utilization Gap
Robots collect vast field data, but growers lack a way to interpret it.

Decision Challenge
No unified platform exists to provide clear and actionable insights.

Timely Insights
Growers lack real-time insights for timely action.

Solution

The Growers Insight Platform
Transform complex field data into an accessible dashboard for agricultural decision-making.

Key Features:
- Interactive weed pressure mapping
- Crop health monitoring dashboard
- Historical trend analysis
- Customizable field reporting
- Environmental data correlation

Data Collected:
- Weed pressure changes over time
- Crop development stages
- Field performance metrics
- Environmental conditions
- Robot operational coverage
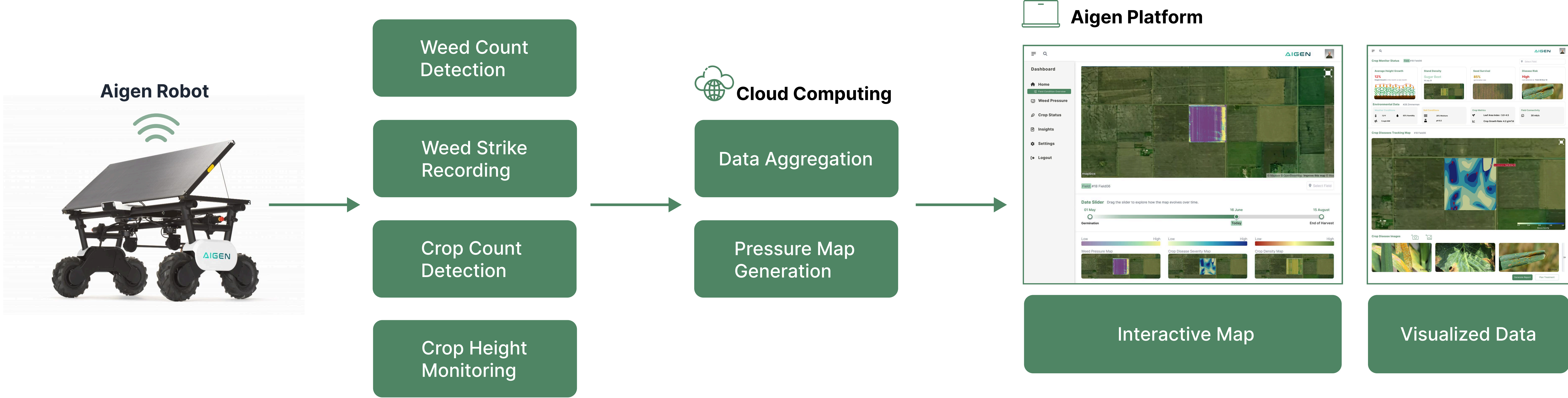
Process/Approach

Research

Conducted stakeholder interviews and field visits to understand grower needs.

Data Analysis

Evaluated Aigen's robot data capabilities for insight generation.

Prototyping

Developed iterative dashboard prototypes based on research findings.

Usability Testing & Refinement

Completed multiple rounds with growers and experts to ensure clarity, accuracy, and actionable insights.

Hardware & Software Diagrams

Aigen Robot → Weed Count Detection / Weed Strike Recording / Crop Count Detection / Crop Height Monitoring → Cloud Computing (Data Aggregation / Pressure Map Generation) → Aigen Platform (Interactive Map / Visualized Data)

User Scenario

1. Check-in to a Field
Select a field and access real-time data by clicking on the map.

- Log in and select a field on the dashboard.
- View real-time field location and crop type.
- Toggle data layers like weed density and crop health. (e.g., weed density, crop disease severity, crop density)

"Let me check how the sugar beet is growing this week."

2. Analyze Weed & Crop Data
Access real-time field data to plan actions for weeding and crop analysis.

- View a weed density map from Aigen's robots.
- Identify high-weed areas with suggested actions.
- See infected crop disease areas with clear images.
- Layer weather data to predict issues.

"The east side has too many weeds. I'll deploy the robots there tomorrow."

3. Make Data-driven Decision
Optimize farming strategies with historic and real-time data.

- Analyze historical trends on crop density and crop height.
- Compare crop growth between fields(Field A vs. Field B).
- Export reports for compliance and team sharing.

"These growth trends will help me plan next season's planting."

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