# Use Cases

* Detecting Wildlife(done)
* Infrastructure damage detection(done)
* Equipment theft protection(done)
* Aggregate data to predict best harvest time(done)
* Sprinkler system control(done)
* Blight alert(done)
* Guiding user to designated location on farm(done)
* Scheduled evaluation of local soil conditions
* Ordering equipment when amount drops to a certain threshold
* Assigning necessary equipment for a calculated harvest size
* Taking an aerial shot of the farm and gridding it out and coming up with a path for the tractor to take(done)
* Severe weather damage
* Fire detection(done)
* Spot detection for disease kinda like how a plane flies over
* Crop security (joyriders/produce stealers)(done)
* Soil analytics testing ph of soil and soil sampling
* **Real-Time Soil Moisture Monitoring:** The dashboard provides farmers with real-time data on soil moisture levels across their fields. Farmers can optimize irrigation schedules, saving water and improving crop yield.
* **Crop Growth Tracking**: Large-scale farmers can track the growth of their crops using drone-captured images and sensor data. The dashboard visualizes growth patterns and helps identify potential issues early on.
* **Harvest Readiness Assessment**: Drones equipped with cameras and sensors can assess crop readiness. The dashboard offers insights on when crops are ripe for harvest, optimizing the timing of harvesting operations.
* **Pest and Disease Detection:** Drones equipped with imaging technology can identify signs of pests and diseases in crops. The dashboard provides alerts and visualizations, enabling timely intervention.
* **Crop Health Heatmaps:** The dashboard generates crop health heatmaps based on drone-collected data. These heatmaps highlight areas with potential issues, allowing farmers to target specific areas for intervention.
* **Weather Data Integration:** Weather data can be integrated into the dashboard to provide farmers with up-to-date weather forecasts and conditions. This information helps in planning farming activities effectively.
* **Yield Prediction**: By analyzing historical and real-time data, the dashboard can provide yield predictions for different areas of the farm. This helps with crop marketing and planning.
* **Fleet Management:** For large-scale farms with multiple drones, the dashboard offers fleet management capabilities. It allows monitoring the status of all drones, scheduling flights, and optimizing routes.
* **Regulatory Compliance**: The dashboard can include features to help farmers comply with regulations related to drone usage in agriculture. It may log flight data for reporting purposes.
* **Crop Rotation Planning**: By analyzing historical data on crop performance, the dashboard can assist farmers in planning crop rotations to improve soil health and yield.