



User Stories

No	User Story
US-D1	As an agricultural scientist, I want to display the camera's thermal imaging in real-time on the Raspberry Pi operating system, enabling future capabilities for remotely monitoring FarmBot's thermal imaging.
US-D2	As an agricultural scientist, I want to understand the FLIR camera's data interface type, whether Ethernet or USB, to develop a communication strategy that is compatible with FarmBot's mainboard.
US-D3	As an agricultural scientist, I want to know the sensor's dimensions and mounting details to design a stable and easily installable solution for FarmBot's operational environment.
US-D4	As an agricultural scientist, I want to adjust the hardware integration for adaptability, ensuring the FLIR camera supports plug-and-play functionality to reduce technical barriers and improve user experience.
US-D5	As an agricultural scientist, I want the camera's power cable to be compatible with the movement range of FarmBot's robotic arm for efficient thermal imaging capture.
US-D6	As an agricultural scientist, I want to specify the new sensor's power specifications, including the required voltage and current, so it can be safely powered by FarmBot's electrical system without equipment damage risk due to power incompatibility.
US-D7	As an agricultural scientist, I need to design and implement an efficient server architecture that can handle data requests and responses for FarmBot's thermal imaging data efficiently.
US-D8	As an agricultural scientist, I need to design a database that can store and manage thermal imaging data, ensuring efficient retrieval and secure storage of the data.
US-D9	As an agricultural scientist, I need to integrate the thermal imaging functionality into the existing FarmBot web application, such as adding a new page to display thermal imaging, so that we can offer thermal imaging monitoring features to users seamlessly.
US-D10	As an agricultural scientist, I need to provide the ability to download thermal imaging data as temperature matrices for data analysis.
US-D11	As an agricultural scientist, I need the web app to display the camera's relative coordinates on the FarmBot, allowing users to identify, record, and analyze thermal images captured at different positions.
US-D12	As an agricultural scientist, I need the FarmBot web app to support camera operation sequences, such as enabling both the normal camera and thermal imaging camera simultaneously during the robotic arm's movement.
US-U1	As a student, I want the FarmBot web application interface to be simple and easy to use so that I can view thermal imaging in real-time through a user-friendly UI, thereby simplifying the process of remotely monitoring crop health.
US-U2	As a student, I want to be able to view and download historical thermal imaging data on the FarmBot web application, so that I can conduct further analysis and keep records.

Change Log Entry

Date	User Story	Change Description	Rationale
2024-04-29	US-U2 & US-D10	Deprioritized and considered removing AI-driven pattern recognition.	Integration challenges and progress constraints led to a focus on core functionalities instead.
2024-04-29	US-D10	Added ability to download thermal imaging data as temperature matrices.	Client requested additional data analysis capabilities to provide more detailed insights.
2024-04-29	US-D11	Added new user story for displaying camera's relative coordinates on FarmBot.	To enhance usability by allowing users to identify, record, and analyze thermal images at different positions.
2024-05-17	US-D12	Added new user story for supporting camera operation sequences in the web app.	To improve user experience by enabling simultaneous control of both normal and thermal imaging cameras.