

Project details

Background

The FarmBot project is an agricultural technology project started by Rory Aronson in 2011. Through robotic technology, various tasks can be completed on raised beds, such as precise sowing, clearing weeds, watering plants, etc. It is the first robotic technology used in A revolutionary breakthrough in agriculture.

In agricultural scientific research, a hardware device that can accurately monitor crops in an experimental environment is needed to support researchers in exploring various planting conditions, optimizing planting strategies, and improving research efficiency. It is particularly important to integrate hardware devices, such as thermal imaging cameras, into FarmBot.

In the consumer market, consumers are particularly interested in specially cultivated healthy vegetables, such as organic vegetables and other crops. Efficiently cultivating crops requires farm robots to integrate diverse hardware facilities to accurately feedback effective information to growers.

Therefore, integrating thermal imaging cameras into FarmBot is of great significance to promote the development of agricultural scientific research and meet the needs of consumers and growers.

Project overview

Dr. Nir Lipovetzky uses this platform to research the development of new agricultural sensors at the University of Melbourne. This project will try to integrate thermal imaging cameras into the farmbot on the Parkville campus and use network technology to manage the device.

Project goals

- Integrating new agricultural sensors: thermal imaging cameras
- Using information technology to collect and visualize thermal camera data
- Operate farmbot to conduct agricultural experiments based on thermal imaging camera data

DO-BE-FEEL list

WHO	DO	BE	FEEL
Agricultural Scientists	real-time thermal imaging display on Raspberry Pi for FarmBot.	User-Friendly Interface	Easy to Use
Agricultural Scientists	integrate FLIR camera's data interface (Ethernet/USB) with FarmBot.	Scalable	
Agricultural Scientists	The sensor mount provides stable installation on the FarmBot.	Adaptable	Effortless
Agricultural Scientists	FLIR camera supports plug-and-play functionality for easy integration.	Adaptable	Effortless and worry-free

Agricultural Scientists	camera's power requirements for safe integration with FarmBot's electrical system.	Adaptable	Time-saving and efficient
Agricultural Scientists	managing thermal imaging data requests and responses	Security	
Agricultural Scientists	efficient retrieval of thermal imaging data.	Reliable and Security	
Agricultural Scientists	Integrate thermal imaging functionality into the FarmBot web application.		
Farmer	View thermal imaging in real time on the UI	User-Friendly Interface	Convenient
Farmer	Get alerts about changes in crop health		Peace of Mind
Farmer	View historical thermal imaging programs and reports	Accurate	Ease of Use

GOAL MODEL

