

Thanks!

Thanks to our sponsor Energy Canvas for the support and guidance as we navigated the project. His initial investment in the genesis product was essential to advancing our prototype.

Thanks to our instructors and our classmates at Camosun for helping us develop critical technical and writing skills.

Thanks to the open source community for the abundance of information



energycanvas



Solomon Lindsay

Project Manager

Solomon has always had an interest in sustainable technology and renewable energy so he was excited to work on, and manage, a project with such innovative applications as Fresh View.

sol.lauder.lindsay@gmail.com

Pawan Kuman

Software

Pawan has had a propensity for electronics and electrical engineering after tinkering on RC helicopter and planes at his home in India. He has since moved here and excelled at Camosun where he was excited to put his programming skills to use on Fresh View.

pawancan59@gmail.com



Varun Prabhakar

Hardware

Varun worked hard on Fresh View as he has on all things since coming to Camosun, determined as he is to prove himself in the demanding field of electrical engineering.

varunprabhakar31@gmail.com

Fresh View



**AUTOMATED
PLANT
MONITORING**

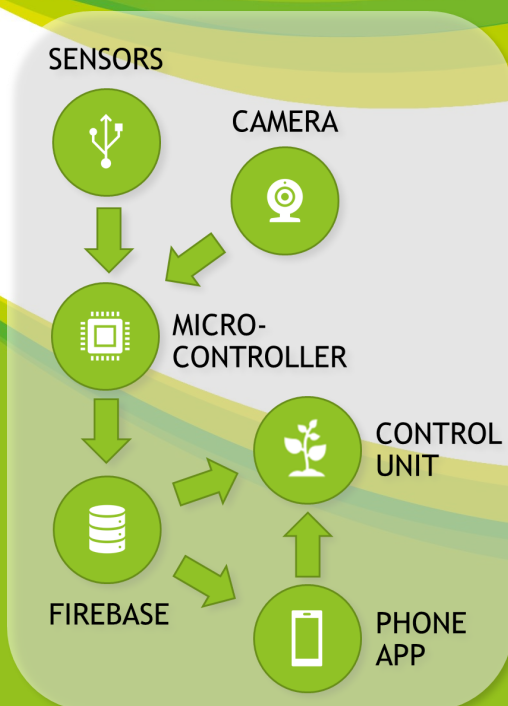


-Fresh View-

Fresh View is a cloud-based plant monitoring system that provides a numerical and visual history of plant growth with intelligent programming to identify and automate the ideal conditions for growth.

Fresh View accomplishes this by regularly measuring several parameters and uploading them to an online database accessible to the user through a portable phone application.

In addition to providing the user with useful growth information the Fresh View system allows the user to automatically control the plant environment through the phone application using light, ventilation, and irrigation control settings.



Parameters

Moisture Sensor:

Fresh View measures soil moisture to determine when crops need watering



HIH7120: Fresh View measures air temperature and humidity to determine when plants require ventilation

DS18B20: Fresh View measures water and soil temperature to identify problematic soil conditions



Photoresistor: Fresh View measures light intensity to determine when supplemental light is required

Hardware

Fresh View allows wireless plant monitoring and provides a visual time lapse in a compact, modular unit. To accomplish this we used two core devices:

Arducam Mini:

This 2MP camera uses SPI and I2C communication for easy interfacing with the ESP32 microcontroller and provides the flexibility needed for our prototype.



Heltec ESP32 Wi-Fi Board:

This board comes equipped with Wi-Fi connectivity, a built in OLED display, flexible GPIO for connecting all our sensors, and more than enough processing power to accomplish everything we need it to do.

