

Environment

Sensors

Camera

pH sensor
Water Level sensor
2x Temperature sensor
Carbon Dioxide sensor
Humidity sensor
Light Intensity sensor
Electrical Conductivity sensor

Actuators

Thermoelectric Cooler
Refrigerative Cooler
Humidifier and Dehumidifier
2x Solenoid Valve
Water Pump
pH Buffer
Air Pump

Arduino Nano

Raspberry Pi 4

Database

Arduino Mega

Graphical User
Interface (GUI)

