PROJECT 5 DESCRIPTION:

* The system should be able to power itself through the solar. ( Solar specification research)
* Manual and automatic control of the pump for the irrigation from the garden’s water reservoir on the user UI
* Parameters to be monitored include :

1. PH of the soil
2. Moisture content
3. Temperature
4. Humidity
5. Level of water on both the overhead and reservoir
6. Current and voltage from the solar plant.

* The sensors easily hooked on to the PCB.
* The parameters to be visually presented with a workable UI for the prototype.
* The Farm should be able to be monitored remotely .
* Logging of the data and graphs to be drawn on a section on the UI.
* Easy to join the module and start up the project. Easy setup but detailed.

**CODE GENERAL FUNCTION**

* The system to gather data on PH, Moisture content of the soil, Temperature of the soil and the environmental temperature , Humidity, The level of water on both the overhead and the reservoir, Current and voltage from the solar plant, Rainfall sensor that detects rainfall.
* PH data to be used to trigger the fertilizer application process.
* Moisture content in the soil data to be used to control the pumping of the water to the field.
* Temperature of the soil to be used to be monitored ( iteration 1 )
* Temperature of the environment to be monitored (iteration 1)
* Humidity of the soil to be monitored
* The level of water from both the overhead tank and underground tank to be monitored and balancing the level of the tanks to be automated e.g. the pump should not run when the level of water is below the critical threshold level.
* Whenever the rainfall sensor detects rainfall

**More development:**

* **The system to be linked with a weather api that serves the system with** 
  + - **Past , present and future data on** 
      * **Radiation level.**
      * **Soil Moisture data.**
      * **Rainfall forecast data.**
      * **Temperature data.**
      * **Wind data 🡪 critical when using drones to spray.**