Macdonald Alaye Samuel L.

18/ENG06/040

Mechanical Engineering

ENG 224 Assignment

CONCEPTUALIZATION:

The aim of this software is to able to tackle the dry seasonal unproductivity in the farm by determining the temperature of the soil and level of moisture content through its acidity and alkalinity also timing the irrigation system to produce water for the plants and giving alerts when the water level is high or low

Specifications:

This includes the characteristics of the software and the descriptions of the various actions, such as the soil sampling, temperature monitor, alarm system, water supply.

HARDWARE AND SOFTWARE

Hardware:

1. Control computers
2. Soil monitoring equipment
3. Irrigation devices
4. Thermometer

Software:

1. Irrigation control system
2. Soil monitoring system
3. User interface
4. Indicators

Algorithm used for the temperature of the soil

- Start
- Get the soil temperature
- Read the temperature of the soil
- Print
- Stop

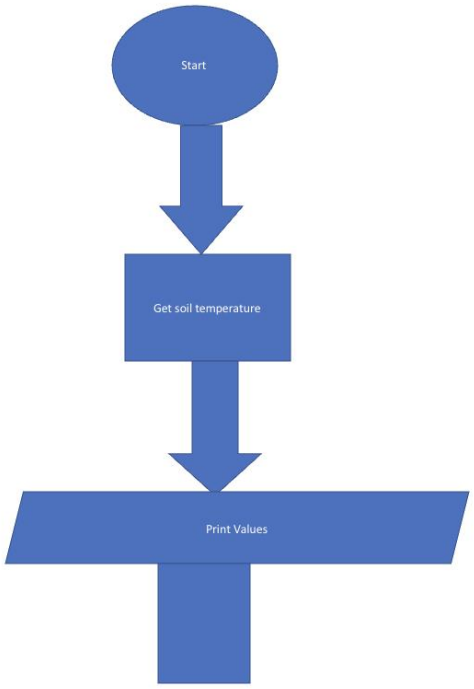
Algorithm used for the moisture of the soil

- Start
- Monitor the soil
- Read soil content
- Print
- Stop

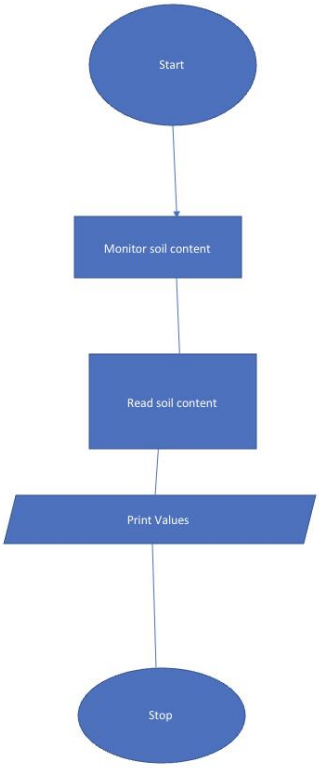
Algorithm used for the water supply

- Start
- Set intervals for water supply to maintain regular soil moisture
- If water level low initiate pump else maintain soil moisture
- Print readings
- Srop

Flow chart for the temperature of the soil



Flow chart for the moisture of the soil


Start
Monitor soil content
Read soil content
Print Values
Stop