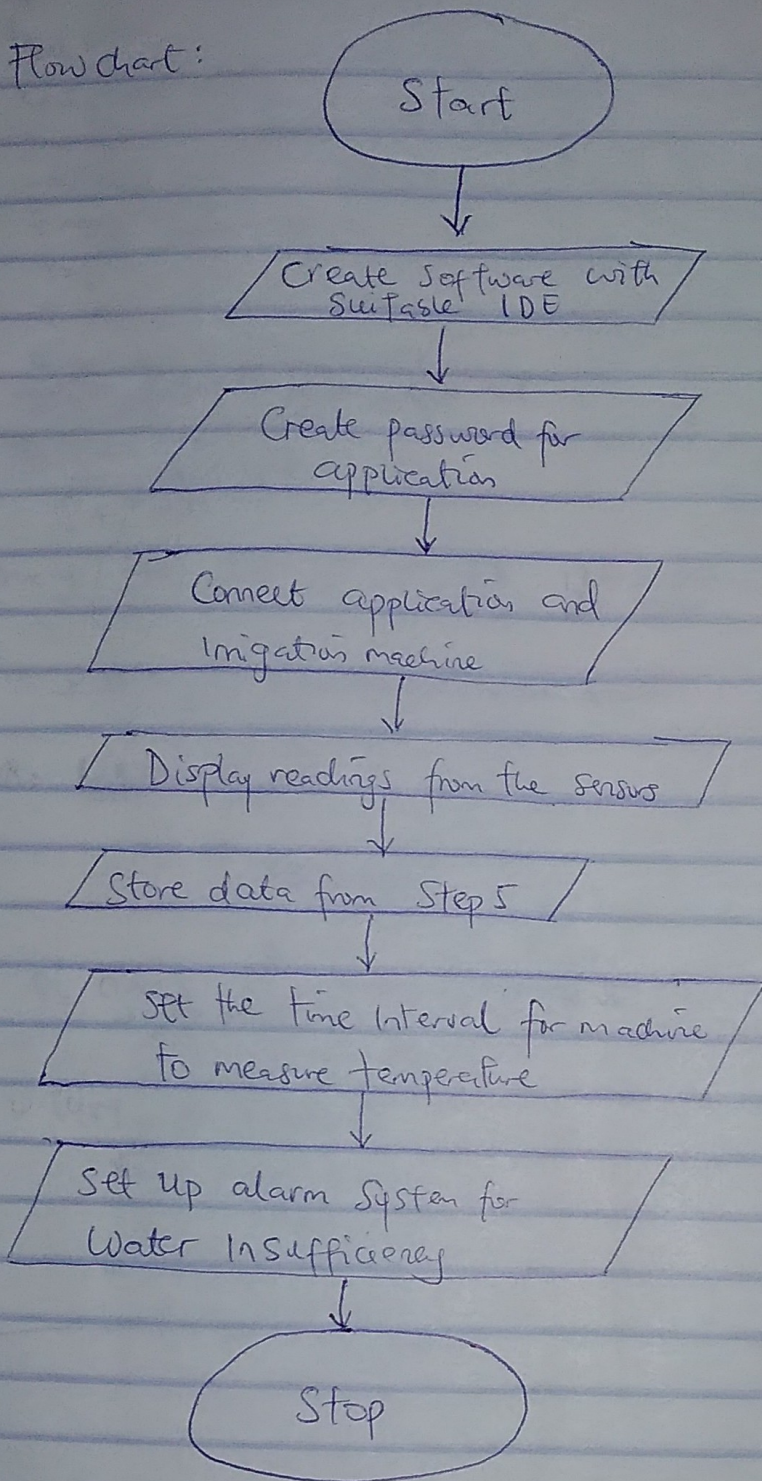


Flow chart:



5) tests the soil and releases water based on the results, per square plot of the farm.

vi) release and update: my device Application has been released for general public use. I have tested the commands and functions of my device and have updated my software based on the feedback of my users.

B) Hardware and Software features:

Hardware: my device has an Over head medium - Sized tank which does the function of storing and holding the water that is to be used for the irrigation. It also is designed to have a remote control with which the entire machine moves, in order to release human stress. It also has a hygrometer which which is the most important role in my Irrigator which is to test the temperature and humidity of the soil in order to know exactly how much water to release out. Lastly, my device is created to have an alarm system which triggers an alarm if there's no sufficient water in the tank for the irrigation.

Software: my device is programmed to have a time interval in which the water is supposed to flow and stop. This is done to prevent flooding of the farm. Also, my device is programmed to have a password system which denies access to any user who doesn't input the correct user password. The sensor is tasked to display the password at general intervals.

C) Step 1: Start

Step 2: Create software with suitable IDE

Steps: Create password for application

Step 4: Connect application and irrigation machine

Steps: Display readings from the sensors

Steps: Store data gotten from step 5

Steps: Set the time interval for machine to measure temperature.

Steps: Set the alarm system for water insufficiency.

MIKE - OSARO NATHAN
Petroleum Engineering

181ENG071009

Structured Programming Assignment 2

Saturday, May 16, 2020

Name of Machine: Automatic Irrigator. (AI)
Name of Software: Automated Irrigation Software (AIS)

Application development using software development cycle:

Conceptualization: my automated irrigation software should be able to read the temperature of the soil at a very high precision rate, and is secured with a "user identity password" which is between 5-13 letters. The automated irrigation software tells the automatic irrigator exactly when to release water for the plants.

Specification: my Application is divided into hardware (AI) and software (AIS). The time interval for my AIS is 15 seconds after each release of water through an irrigation pipe. The AIS has a hygrometer rod which determines the moisture content of the soil to be able to know exactly how much water to release out to the plants.

Design: The AIS makes the AI display a "user identity password" which is specific to any owner to improve security of my machine/device.

Implementation: Like I have said before, my AIS helps improve efficiency of irrigation operation in Abroad farm by having well tested features such as: a password for entering access to this machine/device, A hygrometer rod that is designed to help the amount of water being released to the plant

Testing and debugging: my device has been thoroughly tested to perform the following steps;
~~the~~ remotely controlled, it moves over a plot and then inserts the hygrometer rod