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A

The designed application is used <sup>for</sup> measurement, calculating, storing, transmitting and identifying data on a ~~modified~~ modified electronic device for the applications purpose. The application will have different profiles for different soil testing samples.

The application also request for the information of the soil when creating a new profile for testing. Also, it request for a soil sample immediately after the profile has been created.

The application shall measure the content ( $H_2O$  (water) contents) by finding the difference ~~of mass~~ ~~measure the water content by~~ finding the difference of mass ~~measure the water content by~~ ~~finding the difference of mass~~.

between the sample before and after being ~~heat~~ heated. The value given will then be divided by the volume of the soil sample. The value gotten from this calculation is the moisture content of the soil.

However, if the value of the moisture content should desipher then it is below a certain figure, alarms shall be triggered and sprinklers shall be enable across the farm land.

A sensor should be placed inbetween the soil to monitor the temperature changes.

TABLE 2

B

FEATURES

SOFTWARE FEATURES

- \* The storage: The data of profiles details and their moisture content details.
- \* Graphical user interface: The texts displayed on the monitor will aid communication between the program and user.
- \* cloud: - for transmitting data to other applications for the back up of such information.

HARDWARE FEATURES

- \* Sensors: For detecting
- \* Monitors: This displays interactions between the user and application.
- \* Speakers: The alarms triggers certain sound waves will be carried out to notify the individual.

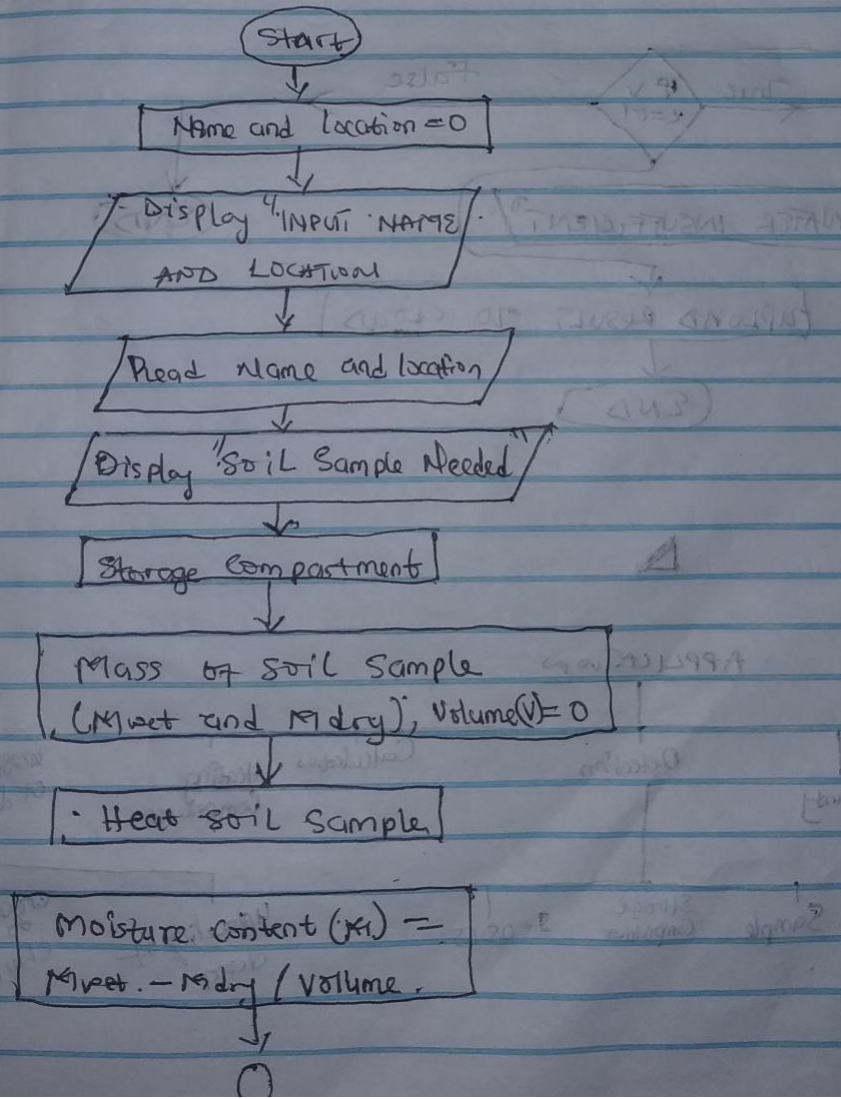
C (ALGORITHM)

- Step 1: Start
- Step 2: Name and Location = 0
- Step 3: Display "INPUT NAME AND DIRECTION"
- Step 4: Read name and location
- Step 5: Display "SAMPLE SOIL NEEDED"
- Step 6: Storage compartment open
- Step 7: Mass of soil sample  $M_{dry}$  and  $M_{wet}$  and Volume  $(V) = 0$
- Step 8: Heat storage compartment
- Step 9: Moisture content  $(M) = \frac{M_{wet} - M_{dry}}{V}$
- Step 10: Get mass of soil sample  $(M_{wet} - M_{dry})$

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- ~~Step 1: ...~~
- Step 11: Display "RESULT LOADING"
- Step 12: Calculate "M"
- Step 13: If ( $M \leq 0.2$ ) Display (water Needed)  
Then Alarm will trigger
- Step 14: If ( $V \leq 0.1$ )  
Display (WATER IS INSUFFICIENT).
- Step 15: Upload Result to cloud
- Step 16: END

FLOWCHART



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