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DEPARTMENT:MECHANICAL ENG.

ABUAD FARM APPLICATION PROGRAM

The following parameters are used increating the application for ABUAD Farm

application program which are:

1.Temperature

2.Level of Moisturization

3.Time interval for the water system

4.Alarm to indicate insufficient water in tank.

5.Ability to enable password to the system.

(A.) *Application creation for software development Cycle*

There are basically five steps involving software development

I.) Planning

Ii)Defining Requirements

Iii) Designing the product

Iv) Building the Product

V) Maintenance

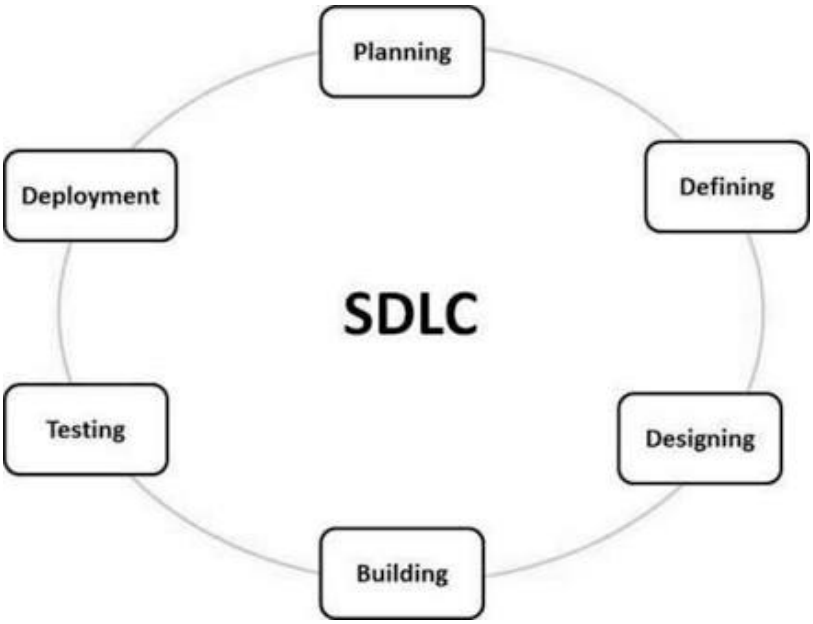
(I). Planning: is basically the the instrument and the different resources used in building the program.

ii).Defining Requirements:this is the second stage whereby programmer states and explain the his resources and his parameters.

iii) Designing the product: This is were the main part of application is built,it is also know as the skeletal system of the application.Write of the programs and inputting of code begins.

Iv.) Building the Product:In building the product,the basic requirement of software are inputted such as: temperature checking, determination of moisture, time interval(rate), Security such as passwords, biometrics etc.

V.) Maintenance: This is also a Vital aspect,it involves fixing bulks and update the software in other to introduce a new feature.



B.) ***SOFTWARE FEATURES***

Smart irrigation software programs come with a number of important features that are necessary to facilitate smart irrigation. Individual software products come with different features depending on the vendor.

Smart Scheduling – Smart irrigation software can create and automate irrigation schedules for specific land segments or zones using a timer and data from sensors.

Weather and Soil Monitoring – High-tech sensors monitor the weather, soil condition, humidity, and other factors to cut the water off if there is rain, snow, wind, or sufficient soil moisture

levels. Data about the weather and soil is continuously updated to automatically adjust irrigation schedules based on the most recent local weather forecasts and soil conditions.

Notifications – Users of smart irrigation software get alerts for water leaks, bad zone leaks, clogs, watering events, delayed schedules, and freeze warnings. Such alerts help users take the appropriate action to avoid potentially catastrophic outcomes.

Mobile Apps – With the help of mobile apps, smart irrigation software users are able to control and monitor their sprinkler systems from anywhere on the earth. You only need an Android, Windows, or iOS device to use the software. You can also use a browser. The mobile app communicates with the controllers via a WIFI connection.

Dashboard – A streamlined dashboard helps users view information about the weather, water usage, scheduled runs, and other important parameters.

HARDWARE FEATURES

soil thermometer

A thermometer used to measure the temperature of the soil.It has a particular range of values

Moisturizer Sensor:To check the moisture content of the soil.

STOPCLOCK:A Stopclock is an hardware built with a sensor to use and check different time intervals The Best Stopclock for this software is a digital software clock because it is free of errors.

Alarm Detector: is helps to detect any irregular event or abnormality in measurements.Such measurement of volume,length..etc.

Biometrics and Scanners: This helps in creating security which can detect Iris and fingerprint to prevent any unwanted intruder.

C.) ***Algorithm***

Parameters	Symbols
Temperature	T
Level of moisture	LO.S
Time Interval	T.I
Alarm	A
Password	P

1.Start

2.Enter A

3.I + A==T

Print Temperature

else if A ==LOS

Print level of moisture

Else if A==T.I

Print time interval

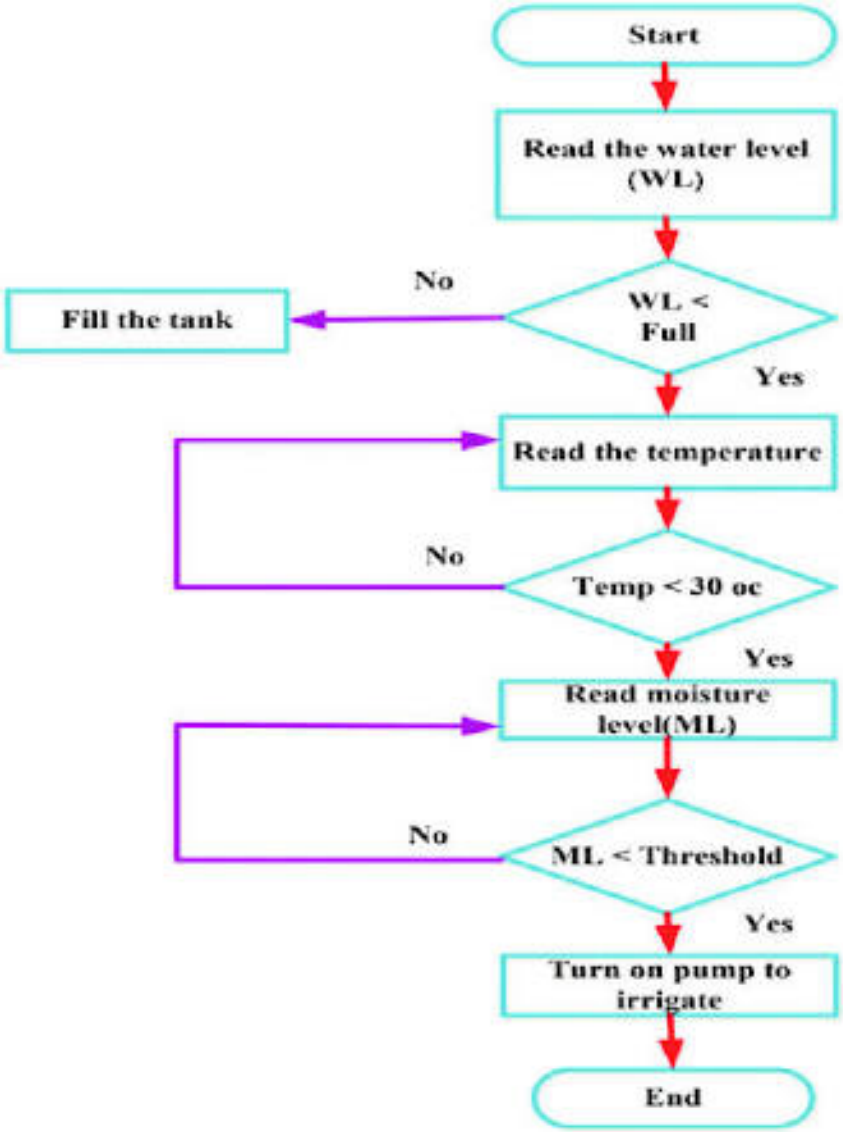
Else if A==A

Print Alarm

Else if A==P

Print for Password

7.)STOP.


Start
Read the water level (WL)
No
WL < Full
Fill the tank
Yes
Read the temperature
No
Temp < 30 oc
Yes
Read moisture level(ML)
No
ML < Threshold
Yes
Turn on pump to irrigate
End

TOP-DOWN DESIGN