INTERNET OF THINGS LABORATORY

IOT BASED SMART AGIRICULTURE SYSTEM

1. Purpose to develop Smart Agiriculture System:

~ Iot based smart agriculture helps to automates in agricultural fields.

~ When the soil moisture level is low it automatically irrigates the fields and live data can be viewed by using cloud server.

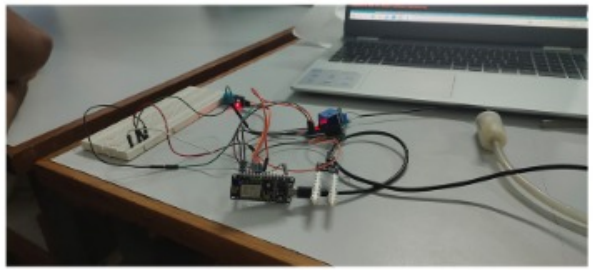


Figure 1: Design Of Smart Agiriculture System

2. Product Introduction:

* In order to improve productivity of crop the IoT irrigation system is pro posed using NodeMCU ESP8266.

* The Capacitive Soil Moisture Sensor helps to measure moisture content present in the soil.

* DHT 11 humidity temperature sensor is used to measure the air temperature and humidity in the atmosphere.

* The 5V Power relay is used to turn on or off the water pump whenever the soil moisture sensor detects the moisture content in the field.

* The Product helps the farmer to detect the moisture content, temperature and humidity in order to improve the productivity of crop.

* Our System helps the farmer to know the status of the field and also records the information through E - mail.

3.Work Plan:

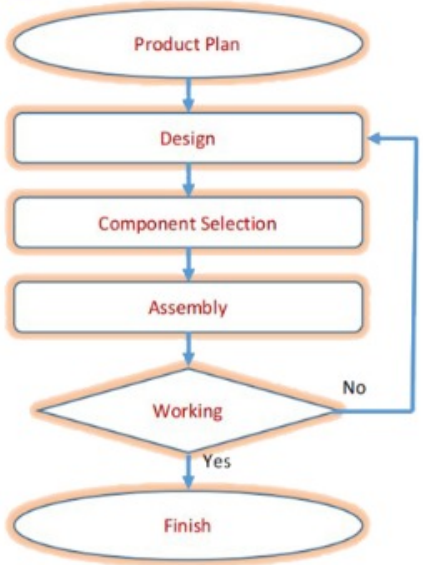


Figure 2 : Work Plan for Smart Agiriculture System

4. Materials Required:

4.1 Hardwares:

~ NodeMCU

~ OLED

~ Soil Moisture Sensor

~ DHT 11

~ Single Channel Relay Module

~ 3V DC Pump

4.2 Software:

~ Arduino IDE

~ Thingspeak

~ IFTTT

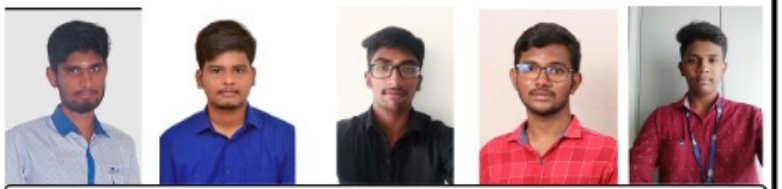
5. Finished Product:

Figure 3: Finished Smart Agiriculture Product

6. Cost Of Product Development:

S.no	Product	Cost per unit	cost
1	NodeMCU	350	350
2	DHT11	220	220
3	Soil Moisture sensor	160	160
4	Single channel Relay	70	70
5	3v dc pump	130	130
6	OLED display	300	300
TOTAL COST PER PRODUCT			1300

7. Students Involved in Smart Agiriculture System



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8.Outcome Of Product:

~ Submitted for most profitable EW Project Challenge 2021