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# SOLAR POWERED AGRI-BOT USING IOT WITH DISEASE IDENTIFICATION

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**Abstract:**

Our rural India's rural economy is built on agriculture. It is difficult for farmers to get suitable labor since many rural individuals are moving to metropolitan regions. Farmer's workloads should be lowered by using robots in agriculture as a result Automating the procedure of spreading seeds and watering plants will be done by the robot built in this project. Gardening, farming, and harvesting are just few of the uses for this tool. cultivation techniques are designed to spread out the time and work required for farming and development. It is possible, for example, to seed, irrigate, and spray pesticides on the robot according to a user-defined route. How much water is needed to do a certain task?

The difference in soil moisture sensor data between the two plants.

To identify illness in plants and fields, Matlab analysis might be utilized.

**Keywords:** RaspberryPi,Security,IOT.

## .INTRODUCTION

Farmers in rural India are the ones who laid the basis for rural India. Among the many difficulties faced by farmers is a lack of competent personnel.

The country's rural regions have seen a tremendous influx of individuals moving to the cities. The goal of this project is to design a smart agricultural system that reduces the amount of time and energy needed to repeat the same farming activities and increase productivity, while also reducing the strain on farmers. As the robot can,

Insecticides should be used during planting and watering.

Using matlab analysis, we can also identify plant pathogens.

## EXISTINGMETHOD

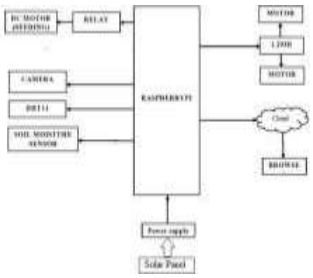
A seed-planting robot has been created to take use of the current plethora of sowing tools on the market. This robot may be operated in one of two ways: automatically or manually. It uses sensors to guide it to a predetermined destination. The only way to interact with this robot is vocally. At any one moment, only a small number of Bluetooth modules are in use.

## PROPOSEDMETHOD

This "agri-bot for automated sowing, and watering applications" is a solution to all of the present

system's inadequacies. With this plan, we will be able to converse across long distances. We can control the robot from any location in the world over the internet. The agriculture industry needs automation if it is to reduce the burden on farmers.

A diagram of a structure.



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HARDWAREREQUIREMENT

A) RaspberryPi3modelB+:

Currently, the credit card-sized Raspberry Pi microcontroller is on the market. It may function as a microcontroller and a minicomputer at the same time by connecting the relevant connections, such as HDMI and audio. The Raspberry Pi is a credit card-sized computer and microcontroller all in one. When compared to other controllers, this one is far quicker. Credit card sized Raspberry Pi microcontroller is now on the market It may function as a microcontroller and a minicomputer at the same time by connecting the relevant connections, such as HDMI and audio. The Raspberry Pi is a computer and microcontroller all in one the size of a credit card. When compared to other controllers, it's light years ahead of the pack.

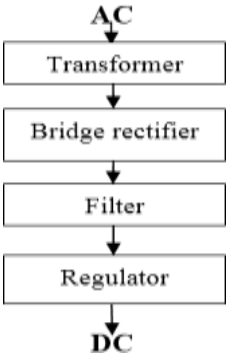
Fig2:RaspberryPi

B)

**PowerSupply:**

Electronic devices rely heavily on their power source, which offers the appropriate amount of capacity. The PC requires direct flow power, which is provided by converting AC (substituting flow) from an electrical source. Additionally, the voltage is kept under control, ensuring that the PC does not overheat. The force supply is a crucial part of the PC in order for the rest of it to function correctly.

An illustration of the movement of electricity:




The AC-to-DC voltage conversion process utilizes all of the mentioned components.

The webcam is utilized in this instance.

Cameras play a crucial part in explaining why robots are being developed. If you want to get a bird's eye view of an area, the camera comes in handy. To capture video, a USB camera is used as a recording device. Video buttons on HTML5-stacking internet pages allow customers to see videos from a comparison room. Therefor, MJPG is used with decoration. A room was monitored by the camera depicted in the picture below.

Using a motor driver, you may program and control electric motors. Using motor drivers, two motors may be used at the same time. Motor drivers are widely used in

Fig9:MotorDriver

A) DHT11sensor:

TheDHT11sensorusedfordetectingthehumidityand temperature.

FIG:DHT11SENSOR

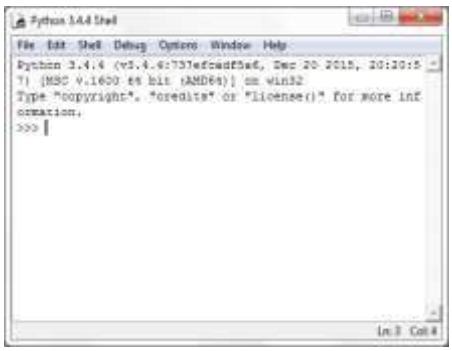
B) Soil moisture sensor: The temperature of the soil is used to calculate the moisture content of the soil.

B) SOLARPANEL:

Sunlight is received by solar panels, which convert it to electrical energy used to power electrical loads.

Python:

Python is a high-level, interactive, and general-purpose programming language that may be used for a wide range of applications. From 1985 through 1990, Guido van Rossum worked on the project. A broad public license allows anybody to download and use the source code. Instead of Python the snake, the show "Monty Python's Flying Circus" inspired the Python name. The development of software applications is made easier because to the support of an Object-Oriented methodology.




ADVANTAGES

- Efficientworkforce.
- Reducetheburdenoffarmers.
- Lowcost
- Safety
- Savesthetimeandenergy

APPLICATIONS

- Automatedharvestingsystem

- Weedcontrol

- Plough,spraying,thinning,seeding
- Nurseries
- Sortingandpacking
- Rowcrop,wineyardsetc…

## VI. WORKINGOFTHEPROJECT

Using robots to help farmers grow their crops is one option that has been proposed. This system uses robots to monitor and control planting, watering, and disease detection and prevention. The robots may be controlled from anywhere via an Android app.

## VII. RESULTS

The output image of an agribot where it is controlledusingblynkappmobile application.

Switches may be used to control the robot's movement, post data to the server via the data upload push button, and snap a photo and send it to matlab mail.

**CONCLUSION**

Disappointments don't faze the Agri-bot since it's more adaptable than humans. In a fraction of the time it takes to do a similar task, the five functions may be accomplished It saves a lot of money in the long term by making one investment. Automated astute development is expected to be the primary focus of this Agri-bot

Eighth, **OUR VISION FOR THE FUTURE:**

An autonomous Agri-bot, using this technology, might one day perform a wide range of rural tasks.

by itself. Research shows that rural cycles may considerably benefit from a self-sufficient framework that can be implemented with relatively little expenses. We should use artificial intelligence into our presentation in order to make this task more interesting... Night vision cameras may help us keep an eye on our property when the sun goes down. ' Plant infection self-framework and self-investigation should be automated utilizing machine learning and artificial intelligence.

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