AUTOMATIC SERICULTURE MONITORING USING IMAGE PROCESSING

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ABSTRACT:

Sericulture is the science that manages creation of silk by rising of silkworm. Creating silk is a protracted, complex process .Silkworm is perhaps the most significant domesticated insects, which produces silk string in type of cover by consuming leaves during larval period. The occasional differences in the natural parts extensively influence yield of silkworm harvest, for example, case weight, shell weight, and cocoon shell proportion. Sericulture industry consolidates the quality of both agriculture and industry If the leaf is influenced by infection Image securing is finished by OPENCV which is discover utilizing pixel concealing and division. Tainted leaf is move into the garbage plate and solid leaf is gathered in the natural plate. On the off chance that the container is full IR sensor sense the phase of plate and turned off the engine. This will helps the rancher in sericulture.

I.INTRODUCTION

Horticulture is the foundation of India. These days, ranchers are dealing with numerous financial issues. Thus there is an answer for our ranchers to emerge from their monetary emergency. Sericulture is perhaps the most ideal approaches to bring in more cash and it can give independent work and profitable returns. India positions second worldwide in the silk creation market, as indicated by the focal silk board report. On the contrary hand, just 15% of overall silk creation is contributed by India when contrasted with china which produces 85% of silk. Silkworms are brought up in request to deliver silk in sericulture. Silkworms are sustained for the readiness of silk in sericulture. Silk creation is very tedious, requires a ton of devotion and furthermore a troublesome cycle. Silkworm is viewed as quite possibly the most significant housetrained animals that gather dynamic cover formed silk-fiber by ingesting mulberry leaves during the underlying larval stage. The key factor which can be distinguished for an enormous distinction is the absence of automation in the sericulture division. The occasional changes likewise influences the casing and shell load proportion as casing consistency. In this manner, the silk quality is influenced in the silkworm raising house because of the natural change. To expand the quality and creation of silk string, this paper proposes the utilization of computerization in sericulture. Exploration shows that the components have a significant task to carry out inside the silk reap.

II EXISTING SYSTEM

In existing system, the silkworms are burning-through parcel of unfortunate leaves in inappropriate way and measure of leaves isn't checked.Also the silkworms are fill in ill-advised climate. Consequently prompts the lesser efficiency of the covers. Accordingly, creating second-quality silk and little length silks.

III PROPOSED METHOD

We Should take care of the silkworms required measure of food. The nature of the leaves is checked prior to taking care of to the silkworms. The measures of leaves are checked by Raspberry Pi utilizing picture handling.

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It is feasible to know ahead of time the measure of food to be given to the silkworm's every day utilizing information investigation. Along these lines this proposed technique prompts increment the efficiency rate, food the executives for silkworms consequently creates first quality and extensive silks. Regularly people groups feed the food to the casings in typical manner, leaves by putting one plate and the covers set on it. Due to this cycle, bundle of leaves put the three pointer, in the leave gatherings may found a harm and undesirable leaves, cases ate that, their wellbeing and security of silk it might decreased.
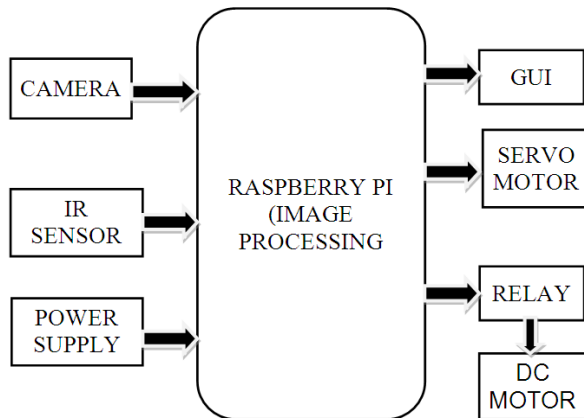

Fig 1 Block diagram

Power Supply:

A force supply is utilized to diminish the mains power at 240 volts AC down to something more helpful, say 12 volts DC. There are two kinds of force supply, direct and switch mode. A direct force supply utilizes a transformer to lessen the voltage. The AC signal is redressed and controlled to create a high DC voltage.

IR Sensor:

Dynamic infrared sensors both emanate and identify infrared radiation. ... At the point when an article approaches the sensor, the infrared light from the LED reflects off of the item and is recognized by the beneficiary. Dynamic IR sensors go about as closeness sensors, and they are normally utilized in snag identification frameworks.

Servo Motor:

Servos are constrained by sending an electrical beat of variable width, or heartbeat width adjustment (PWM), through the control wire.The PWM shipped off the engine decides position of the shaft, and dependent on the span of the beat sent by means of the control wire; the rotor will go to the ideal position.

GUI:

A GUI permits the client of a PC to speak with the PC by moving a pointer around on a screen and clicking a catch. ... A program on the PC is continually checking for the area of the pointer on the screen, any development of the mouse, and any catches squeezed.

IV EXPLANATION

The fundamental worry of the undertaking is to identify the solid leaves and increment the profitability of the silkworm. The taking care of transport engine is feed the leaves to the checking system. The checking framework measure all leaves and separate the great leaves. The checking framework have camera. With the use of camera the picture is gained and it is handled for additional cycle. In this handling technique leaves are recognized. In that bacterial influenced leaves and great leaves are isolated by dismissal servo. The great

leaves are gathered in the plate and IR sensor checks whether the plate is full. On the off chance that the plate is full, plate mover engine supplant the following void plate to gather the great leaves.

V ADVANTAGES

- Automated processing is a major advantage in this project.
- This project is economically feasible.
- Reduce manual operation.
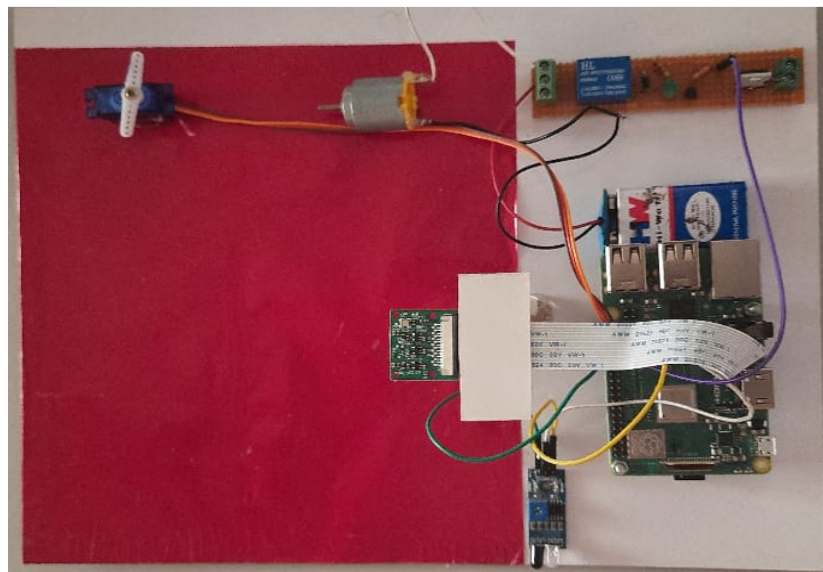- Improve productivity rate of silk warm.

VI CONCLUSION

The project deals with identifying the disease affected leaf. This is achieved through the Image acquisition using OPENCV and segmentation. If the leaf is affected by disease then infected leaf is move into the carbage basket and healthy leaf is collected in the organic basket. If the basket is full IR sensor sense the stage of basket and swithed off the motor. This will helps the farmer in sericulture.
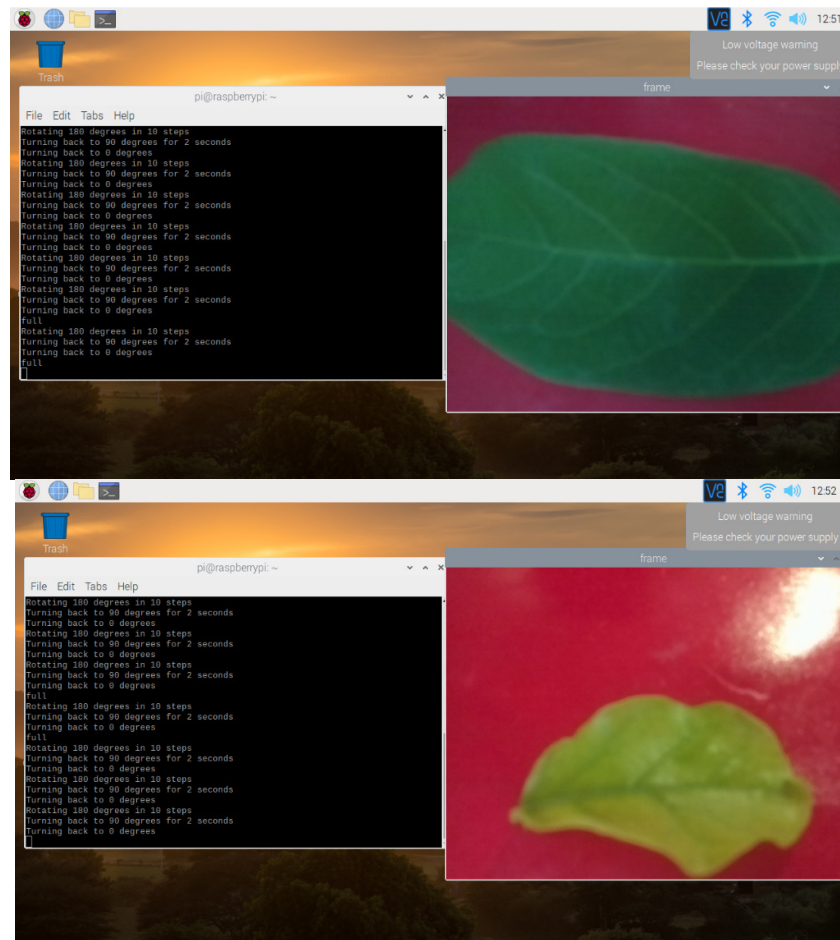
VII FUTURE WORK

In this paper, we have proposed a system using raspberry pi which can detect disease infected leaf. The project has many verticleint leaf detection. So far we have achieved in detecting the disease affected leaf. In future we will seggregate the disease whether it is affected by bacteria, fungi or viral and specify the solution to the farmer in the field.

HARDWARE SETUP

Hardware setup

OUTPUT

Final Output

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