

DIFFERENT TECHNOLOGIES USED FOR SERICULTURE FIELD: A SURVEY

Ajaya Kumar L¹, Charan Babu S.K², Dhanush K.A³, Dhanraj⁴, Mrs.Sangeetha V⁵

UG scholar¹, UG scholar², UG scholar³, UG scholar⁴, Asst. Professor⁵

¹ Electronics and Communication Engineering,

¹ K.S.Institute of Technology, Bangalore, India

Abstract: Sericulture insinuates the raising of silkworm to convey silk. India is the second greatest producer of silk by conveying 15% of the total silk creation nearby China. Temperature, Relative Humidity, Light power and Atmospheric air expect a basic part in the progression of sound silkworms and genuine urging should be finished by the requirements in each stage. This model resources and controls the regular factors like temperature, relative dampness. Sustenance feeder and arrangement sprayers are moreover mounted over the residence. This is going to give mechanized control the agriculturists using remote sensors and microcontroller

IndexTerms - Arduino Microcontroller, Temperature and Humidity Sensors, Motors.

I.INTRODUCTION:

Sericulture is the science that manages creation of silk by rising of silkworm. Delivering silk is a protracted, complex procedure. Silkworm is a standout amongst the most significant tamed bugs, which produces lively silk string in type of cover by expending mulberry leaves amid larval period. The regular contrasts in the natural segments impressively influence yield of silkworm harvest, for example, cover weight, shell weight, and casing shell proportion. The inspiration for this task originated from the nations where economy depends on horticulture and the climatic conditions lead to absence of downpours and shortage of water. The ranchers working in the homestead lands are exclusively subject to the downpours and bore wells for water system of the land. The vast majority of the ranchers are little land holders and rely upon different wellsprings of pay. Regardless of whether the homestead land has a water-siphon, manual mediation by ranchers is required to turn the siphon on/off at whatever point required.

II.RELATED WORKS

2.1 “Automation in sericulture farm”

Sericulture is a standout amongst the most ideal approaches to procure more cash and it can give independent work and gainful returns. The current strategy for silkworm raising requires greater advancement. This undertaking gives a total security to the ranch and each procedure has experienced improvement with the assistance of electrical and gadgets parts. It encourages ranchers by selection of robotization in temperature and dampness control, feed supplement. The development of silkworm includes three phases. These stages require diverse temperature and dampness level. This is built up with the assistance of temperature and dampness sensors and PIC16F877A small scale controller, since the complete procedure is controlled. Different procedures like feed supplement, security and therapeutic wellbeing for silkworm are given via mechanization through this venture. Power splitter is utilized and is driven by motordriveL2930. With the assistance of information keys, inputs are given. This undertaking could be completed both naturally and physically. This task will help ranchers financially with the goal that that they may not invest more energy in the sericulture ranch.

Date of Conference: 2016

Authors: S. Vijayanand, E. Immanuel Bright, and L. Vijay Anand

2.2 “Silkworm Growth Monitoring Smart Sericulture System based on Internet of Things (IOT) and Image Processing”

Moistness and temperature partake a basic position in the movement of strong silkworms in each stage, especially in the term of the improvement of hatchling. Disinfection is one of the essential parameter to be considered for strong and compelling silkworm supporting. The proposed structure presents an Internet of Things (IoT) enabled Wireless Personal Area Network (WPAN) framework so as to manage a ceaseless perception of silkworm advancement in sericulture and picture taking care of development to perceive the periods of silk worm life cycle. The proposed model is utilized using Arduino Software and sensors to measure the natural conditions inside the course of action of silkworms as indicated by the essentials for every single phases of silkworm life cycle. The whole model will be created using the Arduino Board stack incorporated with dampness and temperature sensors in the organization of a camera to get the photographs and to look at it using an image getting ready strategy to affirm the state of sericulture movement.

Date of Conference: 18 February-2018

Authors: Nivaashini M, Soundariya R. S and Dinesh Kumar A

2.3 “Implementation of Sericulture Farm Automation using Sensor Network and GSM Technology”

The framework includes the consolidated utilization of the Microcontroller and GSM module giving mechanized control highlights to the ranch and the client. The computerized framework detects the data sources, for example, the temperature, light power, stickiness, and gases, for example, the LPG, Carbon-di-oxide from the earth inside the sericulture ranch. At whatever point the recognized sources of info surpass the limit esteems then this data is passed on to the client through the remote system and essential measures are taken by the microcontroller so as to stay away from the fatalities that influence the ranch just as the development of the silkworms. The correspondence between the framework and the client is, accomplished by the utilization of GSM module. The GSM is made available to the client to complete the nourishment bolstering and the manure splashing task to the silk living beings. The framework at long last actualized is a modern set-up that responds to any climatic changes that happen inside and the framework reasonably reacts to the boosts adequately. The executed framework had a blemish, where the client was confined from getting the message from the framework when the portable was killed and there is a probability of low flag control quality that makes aggravations in the GSM arrange between the framework and client. The framework destroys these downsides via robotizing the homestead to such an extent that the activities will be done in opportune way and the idea of call sending is connected where the framework can send the message to the elective number as indicated and putting the GSM module in a territory where full flag quality is accessible for the correspondence. The framework works in the robotized route as proposed. The framework is without a doubt reasonable and an accommodating need to the ranchers. The framework is invaluable in expanding the creation of the silk.

Date of Conference: 2018

Authors: Gunasheela T, Renuka V, Prathiba S, Shilpa A

2.4 “Automated Smart Sericulture System based on 6LoWPAN and Image Processing Technique”

In this paper, they present a 6LoWPAN (IPv6 over Low power Wireless Personal Area Network) empowered IoT (Internet of Things) based way to deal with structure a constant sericulture checking and purification impelling framework with an incorporation of picture handling innovation to distinguish the phases of silk worm life cycle. Our model backings continuous information accumulation utilizing developing 6LoWPAN, CoAP (Constrained Application Protocol) and RPL (Routing Protocol for Low power and lossy Networks) conventions. The total framework is structured and actualized utilizing Contiki OS to control the barometrical condition inside the sericulture framework according to the prerequisites in each phase of sericulture life cycle. This total model was constructed utilizing the TelosB bits running 6LoWPAN stack interfaced to temperature and mugginess sensors with a sterilization activation framework and a sequential camera to auto catch the photos and to dissect it utilizing a picture preparing strategy to check the status on sericulture process.

Date of Conference: 07 January 2016

Authors: Divya, Darshini.B, Adarsh.B.U, Shivayogappa.H.J, Navya.K.N

2.5 “Arduino Based Automated Sericulture System”

Sericulture insinuates the raising of silkworm to convey silk. India is the second greatest creator of silk by conveying 15% of the total silk creation close by China. Temperature, Relative Humidity, Light power and Atmospheric air accept a basic part in the progression of sound silkworms and genuine urging should be finished by the requirements in each stage. Intermittent assortments accept a basic part in the improvement and headway of silkworm. Sericulture is the huge occupation in farmland of India and methods used by the agriculturists are up 'til now out of date. From now on there exists the need of using development in sericulture develop. This endeavour gives an idea with respect to giving computerization in sericulture develop. This model resources and controls the common factors like temperature, relative mugginess. Sustenance feeder and arrangement sprayers are also mounted over the residence. It is like manner propose the agriculturists about the conditions kept up in the homestead and fundamental moves to make put if there is any conditions encroachment. This is going to give computerized control the agriculturists using remote sensors, microcontroller and GSM.

Date of Conference: July- 2018

Authors: Mr. Manjunatha, Mr. Mahesh B.Neelagar

III.CONCLUSION

In the above papers pic microcontrollers (8051) are utilized and they are proposed with the different sensors for temperature and stickiness control, however we are proposing a framework with the single sensor DTH-11. This endeavour gives automation and supervisory control in sericulture develops by using microcontroller ARDUINO based advancement. This model resources and controls the climatic conditions to be kept up inside the raising condition. The actuators are turned on exactly when required and actuators used are successfully open and unassuming. The proposed structure is monetarily sharp and power successful game plan. Preliminary of the model exhibits that model can be worked dynamically to screen of characteristic conditions inside the farm. It reduces the Sericulturist's attracted out proximity the raising unit. The system is anything but difficult to utilize. Future work fuses the usage of broadband/Wi-Fi and Internet of Things (IOT) for correspondence procedure and data verifying.

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