International Interdisciplinary Congress on Renewable Energies, Industrial Maintenance, Mechatronics and Informatics
Booklets

RENIECYT 1702902 CONACYT

RENIECYT - LATINDEX - Research Gate - DULCINEA - CLASE - Sudoc - HISPANA - SHERPA UNIVERSIA - Google Scholar DOI - REDIB - Mendeley - DIALNET - ROAD - ORCID

Title: Vermicompost production monitoring and the internet of things

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Editorial label ECORFAN: 607-8695
BCIERMMI Control Number: 2021-01
BCIERMMI Classification (2021): 271021-0001

Pages: 07
RNA: 03-2010-032610115700-14

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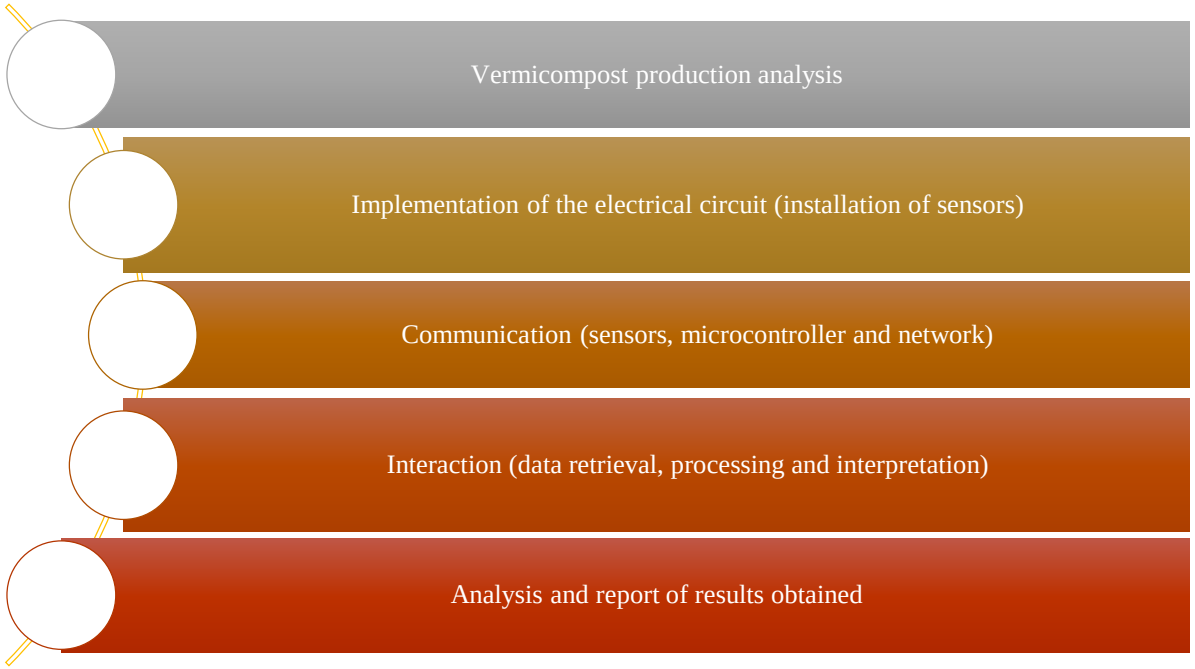
Introduction

- Vermicompost: is located in the vermiculture section, and this is nothing more than the management of organic waste through the cultivation of worms
- Internet of Things: The internet of things allows communication between different devices implementing embedded systems, mobile applications and cloud computing,

- This project will change the way in which the parameters of humidity, temperature and pH of the soil are monitored, although it is normally done in person using techniques such as pressing a fist of vermicompost to determine the percentage of humidity; with this project sensors will be implemented to obtain readings in real time that will allow some action to be taken for the best production of vermicompost and thus only be in the vermicompost area when it is necessary to make any adjustment in the aforementioned parameters

Methodology

For this research project, a quantitative method was applied to collect statistical data on temperature, humidity and pH by means of sensors.

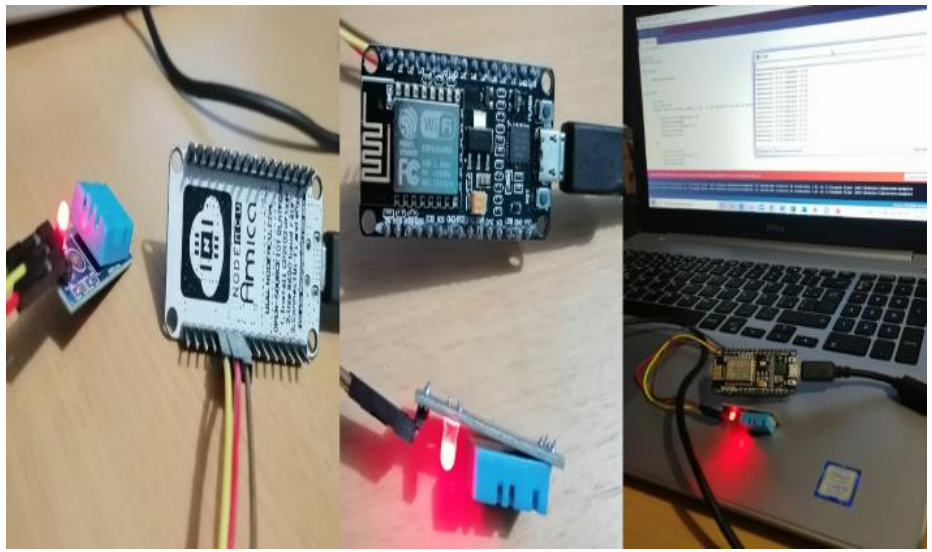


Results

In the expected results in the architecture that was implemented, based on the IoT for the production of vermicompost, where an interface is implemented with which you can monitor and collect temperature and humidity data, the ranges for temperature are 20-29 ºC, for what corresponds to the humidity the range is 35-50%, and finally the PH should be monitored where the estimated range is 6. 5 to 7.5 %,

Annexes

- Wifi module, sensor, Program running
- Application Control Compost



Conclusions

- The prototype of the vermicompost module and the design and development of the mobile application, meet its objective which is to collect data on temperature, humidity and pH, considering these parameters can lead to good production of vermicompost.
- But not only fulfilled this objective, but also allowed to explore and learn about areas of knowledge such as cloud computing, mobile applications and especially the Internet of Things.

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