Smart IOT helps for smart farming.

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**Abstract**

This paper presents the idea of how internet of things (IOT) innovation has influenced land and farming. In a world increasingly connected by technology, IoT has emerged as a pivotal force, revolutionizing various aspects of our lives. Its impact on agriculture, particularly in the context of land and plant farming. As global population growth and environmental concerns intensify, the demand for more efficient, sustainable, data-driven farming approaches has surged. This paper highlights how IoT empowers farmers and citizens with remote monitoring capabilities, enabling real-time updates and insights accessible through smartphones and other personal devices.

1. **INTRODUCTION**
   1. **Background**

Nowadays, the advent of the Internet of Things (IoT) has marked a transformative moment in the technological landscape and revolutionizing the way we interact with the world around us. One area where IOT’s influence has been particularly pronounced is in the domain of land, plant farming with the interconnectivity of devices and the harnessing of data. This paper explores the multifaceted impact of IoT innovation on agriculture from precision farming to sustainable practices, and reshaping the future of agriculture as we know it. Traditionally, agriculture has been a sector deeply rooted in tradition and manual labor. With the increase of global population and environmental concerns, the need for more efficient, sustainable, and data-driven approaches to farming has become increasingly evident. Entering IoT, a technological frontier that has seamlessly integrated itself into the heart of agriculture in many countries nowadays, offering transformative solutions to age-old challenges. Farmers now can remotely oversee their land and crops, receiving critical updates and insights on their smartphones or their personal devices. This level of connectivity provides an unprecedented level of control and responsiveness. Whether it can help the farmers, IoT-enabled solutions empower the farmers and nowadays citizens to take timely action and mitigating potential risks and losses with plants to grow the plants, to protect the environment and produce a lot of agriculture products.

* 1. **Internet of Things in Farming**

The integration of the IoT into farming practices has ushered in a new era of agricultural management and efficiency. Moreover, sustainable farming practices are significantly bolstered by IoT technologies. The continuous monitoring of environmental conditions, facilitated by IoT, assists in pest management and disease prevention.

1. **CURRENT STATE OF THE ART**
   1. **Wireless Plant sensor for farming**

The examination of the system's prototype architecture reveals its composition of five distinct modules: the power supply system, sensor system, output and actuation system, control system, and the internet communication system. The sensors incorporated in the design are characterized by their affordability and commercial off-the-shelf nature, ensuring the production of reliable measurements. The objective is to employ a variety of dependable and cost-effective sensors to monitor environmental parameters crucial for crop growth. This is achieved by utilizing high-quality components while maintaining a focus on minimizing the overall bill of materials. In this experiment, the authors will test different sensors and send them to the online server for storage and analysis and control the growth parameters.

However, the utilization of low-cost materials imposes certain limitations on the approaches. While exploring soil moisture, numerous methods are available, but high-cost alternatives typically deliver more accurate results. In contrast, the low-cost method employed here exhibits a lack of precision and is susceptible to external factors such as temperature variations and the ionic content within the soil.

When the authors employed the system to investigate soil moisture, they conducted the experiment twice to ensure reliability. The encouraging news is that both results were consistent, underscoring the authors' meticulous approach to validate the effectiveness of the system's sensor. The authors demonstrated a comprehensive understanding of the materials utilized, documenting their reasons for selecting each component before commencing the experiment. This documentation serves to instill confidence in readers, emphasizing the cost-effectiveness of the materials without compromising reliability. Additionally, the authors exhibited profound knowledge in biology, physics, and technology theories, presenting these concepts in an easily comprehensible manner. They successfully demonstrated the system's adaptability by integrating it with various technologies, optimizing both portability and lifespan. But I think that there still are some flaws in their experiment because they only mention one limitation and it has been solved.

* 1. **Plant Disease Detection**
  2. **Agriculture**

Methods and approaches

Limitations

Opinion

1. **CONCLUSION**
2. BIBLIOGRAPHY

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* [Plant Disease Detection](https://d1wqtxts1xzle7.cloudfront.net/87714922/Paper_62-Plant_Disease_Detection-libre.pdf?1655611806=&response-content-disposition=inline%3B+filename%3DPlant_Disease_Detection_using_Internet_o.pdf&Expires=1695174423&Signature=X8iJAK-HO0kUcCN3Tgs-Q1AQI3dg4V9AeJpwe31KkGiEwDUYqXl1Sj4OTexTBKFqVr6L6uG3AeL8NtYtsSu0zffkadwfDarelnkq5~iwqtTv7wkyOD092fCzeCIb7HN0qJr38RL0NWuI1wRqesGKsPV2GTS1ZmPebNeVN90nVM6~2Iy59HbkqqdsBOyf4f-jbzgaeuKZ~zkMc-d35lHN40OtuJKUay9ng5BtN-eLnp3dUvWnZZVPw8I1rVql4q~8RK7FAKzUzcQtndapjIf2QIVxqsWTiIKgyoe1hp1mhi5W85JMpT-huH1zrsoTJC1-jHdPfCoCPYCe1EmNUXhgQg__&Key-Pair-Id=APKAJLOHF5GGSLRBV4ZA) [Link](chrome-extension://efaidnbmnnnibpcajpcglclefindmkaj/https:/d1wqtxts1xzle7.cloudfront.net/87714922/Paper_62-Plant_Disease_Detection-libre.pdf?1655611806=&response-content-disposition=inline%3B+filename%3DPlant_Disease_Detection_using_Internet_o.pdf&Expires=1696164756&Signature=HR74-mW0QchhvMLvZIDE2HYDy2ld7FYhdvvyDSR5Bq8kxGYAOVEQlt4Y22wdn4b2ZwWnVBBawejM1~WilpYZpyDMXni7UvIJN0skzcsKjVVdMVcusqiCvwFhimx2wSn-DgrxlPelGJER6sCEWm2VG831g5k32Ykv~cj69sAabFwIPZ2oekHIn~sCzLTuylilAslxTs8yfhsG~VYWdje~7VVr34pE1xFwen0RoCXVmgl30ZYw7n1T-9maN3XLb48GECYIX-mK3tcAyYfGvcLOtCR~Kkly2L48M8SReA4APmBEVgFy6Lb-YPro~ZNvlla39FkPVbBZ5zmiSXJgYpyryA__&Key-Pair-Id=APKAJLOHF5GGSLRBV4ZA)
* [Agriculture](https://ieeexplore.ieee.org/abstract/document/9139962)

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