INDOOR PLANT MONITORING SYSTEM

ABSTRACT

- In recent times, there is a growing fascination among individuals towards cultivating their own gardens. Indoor gardening stands out due to its numerous benefits, which encompass the cultivation of organic vegetables, integration of plants into interior design, and their role in enhancing indoor air quality. However, the demanding nature of modern lifestyles poses a significant challenge to indoor gardening, primarily due to the plants' substantial need for consistent care and attention for optimal growth and vitality. This issue becomes particularly pronounced when individuals need to travel or are away from home, necessitating the engagement of a "plant sitter" to maintain their greenery during such periods.

- The deployment of a user-friendly Blynk application is a fundamental component of this IoT-based method. This program serves as a channel for critical data on each of the monitored parameters to be communicated to the user. Garden aficionados can use this interface to receive complete insights into the condition of their indoor garden, allowing them to make more educated decisions. The integration of technology and gardening via this IoT framework profoundly transforms the practice of indoor gardening. It liberates people from the restraints imposed by time and distance, paving the way for flourishing indoor gardens that grow even in the absence of their care providers.

PROBLEM STATEMENT

- To ensure optimal plant growth, a set temperature, appropriate lighting, controlled moisture, and balanced humidity levels must be consistently upheld. Additionally, the detection of bird activity necessitates the continuous monitoring and regulation of environmental conditions.
- Busy modern lifestyles frequently result in indoor plants being overlooked, leading to suboptimal growth and weakened vitality
- Due to hectic schedules, modern lifestyles frequently result in the neglect of indoor plants, resulting in reduced development and vitality.

OBJECTIVES

- The protection of plants from bird activity is accomplished through the implementation of overseeing mechanisms that ensure their survival.
- To secure the plants' survival, a system is in place to monitor plant health and protect them from bird activity.

- Plant monitoring instruments are used to protect the plants from bird disturbances, ensuring that they grow.

PROPOSED SYSTEM

- To solve the current system's inadequacies, we propose building a comprehensive solution." This system makes use of a combination of environmental sensors and smart devices such as a camera module. Solar exposure, temperature variations, and the presence of birds will all be regularly monitored by these sensors.
- The collected data will be processed through an intelligent analysis system that can distinguish between different types of animal activities, including bird activity. When any significant deviation from the desired conditions is detected, the system will initiate a series of actions to safeguard the plants.
- The proposed solution makes use of components such as the ESP8266 WiFi module, the ESP32 module, and the Blynk application

LECTURE SURVEY - 1

- Our approach involves integrating the NodeMCU (ESP8266) microcontroller as the core component, serving as a unifying element for the entire module. This consolidation incorporates an array of sensors that are intricately linked to the microcontroller. Leveraging the inherent Wi-Fi module embedded in the microcontroller, data transmission is efficiently orchestrated within the system.

LECTURE SURVEY – 2

- This paper undertakes an exploration of the soil moisture sensor's purpose, which is primarily centered on identifying moisture present within the soil.
- The focus of this paper revolves around the functionality of the soil moisture sensor, which is designed to identify the presence of moisture within the soil.

LECTURE SURVEY – 3

- The primary objective of this paper is to illuminate the utilization of the Blynk app within the framework of plant monitoring systems. The discussion underscores the prevalent adoption of Blynk as a user-friendly and effective avenue for remotely managing and monitoring plant conditions. Blynk stands out as an influential IoT platform, offering the tools to design and tailor mobile applications according to the specific demands of individual IoT projects.

- This research paper elucidates the utilization of the Blynk app within a plant monitoring system, showcasing its widespread adoption as a convenient approach for remotely overseeing and managing plant conditions. Blynk emerges as a prominent IoT platform, empowering users to craft personalized mobile applications tailored to their IoT ventures.