

## ABSTRAK

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Program Studi : Teknik Informatika  
Judul Laporan Skripsi : Penerapan Teknologi Internet of Things berbasis Website pada Sistem Pemantauan dan Penyiraman Otomatis di Kebun PT. Tesco Indomaritim  
Pembimbing : Andi Nugroho, S.T., M.Kom

Penelitian ini bertujuan menerapkan Teknologi Internet of Things (IoT) berbasis website untuk memantau dan menyiram tanaman secara otomatis di kebun PT Tesco Indomaritim. Dalam era pertanian modern, perkembangan pesat teknologi informasi dan komunikasi menyoroti pentingnya pemanfaatan IoT dalam mengelola kebun. PT Tesco Indomaritim menggunakan lahan kosongnya untuk menanam sayuran konsumsi, dengan fokus utama pada pemantauan suhu, kelembapan, dan penyiraman tanaman.

Metode penelitian ini menggunakan pendekatan Metodologi Agile, memungkinkan pengembangan sistem secara bertahap dan fleksibel. Sensor Hygrometer Module dan DS18B20 terhubung dengan NodeMCU untuk mengukur suhu dan kelembapan udara. Proses pengumpulan data melibatkan analisis kebutuhan, pemasangan sensor, pengembangan website, serta pengujian dan evaluasi secara berkelanjutan.

Hasil penelitian menunjukkan bahwa penerapan IoT berbasis website dapat meningkatkan efisiensi pengelolaan kebun. Pengukuran suhu dan kelembapan yang akurat melalui sensor memberikan dasar bagi sistem penyiraman otomatis. Kesimpulan dari penelitian ini memberikan wawasan berharga bagi pengelola kebun tentang manfaat IoT dalam memantau dan mengelola kebun secara efisien.

**Kata Kunci:** Internet of Things (IoT), IoT berbasis Website, Pemantauan otomatis kebun, Sistem penyiraman tanaman, Efisiensi pertanian modern

## ABSTRACT

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Thesis Title : Implementation of Internet of Things Technology based on Website in the Monitoring and Automatic Irrigation System at PT. Tesco Indomaritim's Garden  
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This research aims to implement Internet of Things (IoT) technology based on a website to monitor and automatically irrigate plants in the garden of PT Tesco Indomaritim. In the era of modern agriculture, the rapid development of information and communication technology highlights the importance of utilizing IoT in managing gardens. PT Tesco Indomaritim utilizes its vacant land to cultivate consumer vegetables, with a primary focus on monitoring temperature, humidity, and plant irrigation.

This research method employs the Agile Methodology approach, allowing the gradual and flexible development of the system. The Hygrometer Module and DS18B20 sensors are connected to NodeMCU to measure air temperature and humidity. The data collection process involves requirements analysis, sensor installation, website development, as well as continuous testing and evaluation.

The research results indicate that the implementation of website-based IoT enhances garden management efficiency. Accurate temperature and humidity measurements through sensors provide the foundation for an automatic irrigation system. The conclusion of this study provides valuable insights for garden managers regarding the benefits of IoT in efficiently monitoring and managing the garden.

Keywords: Internet of Things (IoT), Website-based IoT, Automatic garden monitoring, Plant irrigation system, Modern agriculture efficiency.