

**SIMOBİ: SISTEM *MONITORING* SOLAR *HYDROPONIC* BERBASIS
INTERNET OF THINGS (IOT)
STUDI KASUS PT. DAGO ENGINEERING**

Oleh:

I Komang Yuda Muliawan, NIM 1815051098

Program Studi Pendidikan Informatika

Jurusan Teknik Informatika

Fakultas Teknik Informatika

Universitas Pendidikan Ganesha

Singaraja

Email: yuda.muliawan@undiksha.ac.id

ABSTRAK

Penelitian ini bertujuan untuk mengembangkan sistem *monitoring* solar *hydroponic* berbasis *Internet of Things* (IoT) yang dinamakan SIMOBI. SIMOBI dikembangkan sebagai solusi atau permasalahan yang ada pada solar *hydroponic* di PT. Dago Engineering. Metode yang digunakan untuk mengembangkan SIMOBI yaitu *Extreme Programming* (XP). Tahapan yang ditempuh peneliti sesuai dengan metode XP berupa tahap analisis, tahap desain, tahap coding, tahap testing, serta tahap *publish*. Hasil dari implementasinya adalah bahwa SIMOBI telah dikembangkan dengan fitur-fitur berupa *water monitoring*, *autofeeder*, serta *setting*. Ketiga fitur tersebut sudah melalui pengujian *blackbox* serta pengujian tingkat keakuratan sensor. Hasil dari pengujian yang telah dilakukan bahwa pada tingkat keakuratan sensor pH, suhu serta TDS berturut turut memiliki nilai sebesar 99,40 %, 99,88 % dan 99,87 %. Terdapat data dari respon pengguna yang mendukung kelayakan penggunaan SIMOBI. Hasilnya dari 10 responden rata-rata memiliki tingkat kelayakan dengan kategori Sangat Layak.

Kata Kunci: IoT, SIMOBI, Sistem *Monitoring*, Solar *Hydroponic*.

***SIMOBI: INTERNET OF THINGS (IOT) BASED SOLAR HYDROPONIC
MONITORING SYSTEM CASE STUDY
PT. DAGO ENGINEERING***

Oleh:

I Komang Yuda Muliawan, NIM 1815051098

Informatics Engineering Education Study Program

Informatics Engineering Department

Faculty of Engineering and Vocational

Ganesha Education University

Singaraja

Email: yuda.muliawan@undiksha.ac.id

ABSTRACT

This study aims to develop a solar hydroponic monitoring system based on the Internet of Things (IoT) called SIMOBI. SIMOBI was developed as a solution or problem that exists in solar hydroponic at PT. Dago Engineering. The method used to develop SIMOBI is Extreme Programming (XP). The stages taken by the researcher in accordance with the XP method are the analysis stage, the design stage, the coding stage, the testing stage, and the publish stage. The result of its implementation is that SIMOBI has been developed with features such as water monitoring, autofeeder, and settings. These three features have gone through blackbox testing and sensor accuracy testing. The results of the tests that have been carried out that the accuracy of the pH, temperature and TDS sensors have values of 99.40 %, 99.88% and 99.87%, respectively. There is data from user responses that support the feasibility of using SIMOBI. The result is that 10 respondents have an average level of eligibility with the Very Eligible category.

Keywords: IoT, SIMOBI, Monitoring System, Solar Hydroponic.