Smart Orchid Plant Monitoring System with IoT

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ABSTRACT

The Internet of Things (IoT) is becoming a phenomenon in the world of technology. It allows various devices to interact with each other through internet connection. IoT has been utilized in various industries, including agricultural. This technology also has a great potential in assisting Moth Orchid (Phalaenopsis) farming. The growth of the Moth Orchid is influenced by environmental factors such as temperature and humidity. If these factors are not monitored properly, it will affect the growth of the orchid plant. Therefore, the aim of this research is to design and develop a smart monitoring orchid plant using an IoT system. This system can monitor the current temperature and humidity and give a notification to the users if the temperature and humidity is not at the optimal condition. The Software Development Life Cycle (SDLC) with waterfall model has been chosen as the methodology for this study. This model consists of five phases including analysis, design, implementation, testing, and documentation. Functionality testing, IoT testing, and usability testing were conducted during the study to evaluate the system. Functionality Testing was done to ensure that all modules in the system are functioning effectively and efficiently. Usability Testing was conducted with thirty (30) users (Orchid Farmers and Agrotechnology Undergraduates) to investigates the usability aspect of this system. The result indicates that most of the users agreed that the system is useful and has a good information and interface quality. The suggestions from the users were also taken into consideration. In conclusion, this research has achieved the objectives which are to design, develop and evaluate a Smart Orchid Plant Monitoring with IoT System.

Keywords: IoT, Moth orchid, Waterfall model