ABSTRACT

Aquaculture plays a big part in the global food industry. As the demand for fish is increasing, aquaculture production is expected to take a role in fulfilling this demand. The rapid development of technology has made it possible to improve aquaculture production through intelligent aquaculture. Intelligent aquaculture utilizes modern technologies to control aquaculture production remotely. One of many important components of this product is the User Interface (UI) that allows the user to monitor and control aquaculture facilities remotely. The design of UI is very important in displaying information that is being used to make a decision. UI with a good design will be able to increase human processing speed and reduce human error. This study aims to provide the UI design for intelligent aquaculture. Usability evaluation is conducted to evaluate the UI design and generate recommendations for further development of the intelligent aquaculture UI. UI design process in this study includes (1) User, task, and environment analysis and modelling; (2) Interface design; (3) Interface construction; and (4) Interface validation. During the interface validation process, a usability evaluation is conducted. The evaluation includes performance testing, System Usability Scale (SUS) and User Experience Questionnaire (UEQ) questionnaires, and interview. The participants of the usability evaluation are 20 Indonesian students and 20 Taiwanese students at National Taiwan University of Science and Technology. The UI created in this study is being compared to an existing UI. Based on the comparison, the newly designed UI is more suitable for novice users who only need basic functions of intelligent aquaculture. Most of the participants preferred this UI because it uses many icons, easy to use, easy to learn, and has interesting look.

Keywords: User Interface, Intelligent Aquaculture, Usability Evaluation