ABSTRACT

Petrokimia Gresik Swimming Club is one of the swimming sports organizations owned by Petrokimia Gresik that aims to develop the potential of its swimming athletes. During the course of its activities, the club faced several obstacles. KRPG coaches experienced difficulties in recording athlete training data. Coaches had to use two separate tools to record an athlete's data: a tool that stores reference data and another for recording the training data itself. The tool storing the athlete's training reference data does not present the specific information needed by the coach during a session, creating a challenge in identifying the benchmark an athlete must achieve for that particular training schedule. Furthermore, the data from these training results is not directly accessible to the athletes; they must request access from the coach to obtain it. Given these issues, the development of an application for use at the Petrokimia Gresik swimming pool area was necessary.

This research aims to develop a mobile application using an integration of the SCRUM and User-Centered Design methods. The mobile application was developed using the Flutter framework, which communicates with a Laravel back-end server via a REST API. It was tested using Blackbox Testing for its functionality and the User Experience Questionnaire-Short (UEQ-S) to test its user experience.

The results show that the application was successfully developed and passed all functionality test cases during the Blackbox testing, which was conducted over four sprint cycles. Additionally, the user experience testing with UEQ-S yielded an "Excellent" result, with average scores for Pragmatic Quality (2.125), Hedonic Quality (2.050), and Overall (2.038). This score places the application within the top 10% of the best results compared to other products, indicating that users find the application to be efficient, clear, and worthy of use.

Keywords: *Mobile, Scrum, User-Centered Design, Flutter, Laravel, User Experience Questionnaire-Short, Blacbox Testing, Sustainable Development Goals.*