

## ABSTRACT

### USER EXPERIENCE OPTIMIZATION ON THESIS SYSTEM DEPARTMENT OF COMPUTER SCIENCE AND ELECTRONICS GADJAH MADA UNIVERSITY USING EVOLVED DOUBLE DIAMOND FRAMEWORK OF DESIGN THINKING METHODOLOGY

by

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The development of a thesis management system website in universities or colleges is a step in the goal of optimizing the thesis management process and increasing the efficiency and effectiveness of scholars in pursuing their undergraduate, postgraduate, and doctoral degrees. The Department of Computer Science and Electronics, Faculty of Mathematics and Natural Science, Gadjah Mada University already has a thesis management system website in order to support scholar academic activities, especially in sector of thesis, internship programs, industrial lecture programs, and MBKM program. However, based on the results of the preliminary questionnaire to find out how the insight of 12 scholars on accessing current thesis system, important notes were obtained regarding issues related to the low level of user experience of the web thesis system.

Researchers conducted research using the evolved double diamond framework in the design thinking methodology in order to explore problems, map problems, formulate solutions, and execute solutions. Data collection was carried out using mixed methodology, and in quantitative methodology the c4.5 decision tree algorithm was implemented in order to determine the factors that determine user satisfaction/dissatisfaction. It was found that there were 5-point problems that occurred in 6 different pages/features in the thesis system website. The output of this research is a high-fidelity prototype design followed by analysis and testing with qualitative and quantitative usability testing methods to measure usability metrics including efficiency, effectiveness, and satisfaction. Efficiency metrics are measured by the implementation of the Time-based efficiency (TBE) measurement with a result of 0.02656 goals/sec. Effectiveness metrics are measured by the Completion Rate (CR) measurement with a result of 92.59%. Satisfaction metrics are measured using a combination of the implementation of the c4.5 decision tree algorithm, user experience questionnaire (UEQ), and system usability scale (SUS) with the result that the determining factor of user satisfaction is the dependability aspect.

**Keywords:** Thesis System, Evolved Double-Diamond Framework, Design Thinking, C4.5 Decision Tree Algorithm, Usability Testing, User Experience (UX), User Interface (UI)