DEVELOPMENT OF HUMAN MACHINE INTERFACE (HMI) AND PROGRAMMABLE LOGIC CONTROLLER (PLC) TRAINING KIT AS A LEARNING MEDIA FOR INDUSTRIAL AUTOMATION ENGINEERING PRACTICAL COURSES

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ABSTRACT

Learning media is one of the learning tools that is needed so that the learning process can run smoothly and students can have competencies in accordance with the expected competency goals. This paper discusses: (1) developing a Human Machine Interface (HMI) training kit as a learning medium in the Industrial Automation Engineering Practical Course; (2) the performance of the HMI training kit; (3) the feasibility of the HMI training kit based on the assessment of media experts, material experts and student responses as training kit users. In developing this training kit using the ADDIE model which consists of Analysis, Design, Development, Implementation and Evaluation. Data collection was carried out by testing the performance of the media, and giving a questionnaire to media experts to assess the feasibility of the media aspect, a material expert questionnaire to assess the appropriateness of the material and a questionnaire to determine student responses as users. The data were analyzed by means of quantitative descriptive analysis which were then categorized. The result of this development is HMI practice learning media for industrial automation engineering practice courses which consist of HMI practice hardware, and jobsheets. The performance of the HMI training kit for input and output parameters, visualization of engine control in the form of buttons, sliders, output visualization, indicator lights, and overall graphics have a 100% correct performance. Based on media experts, design aspects, technical aspects and usefulness aspects were rated very well, so that overall the media aspect received an assessment in the very proper category Based on material experts, technical aspects and aspects of usefullness received an assessment in the very good category, so that overall the material aspect received an assessment in the very proper category. Based on assesment of students as users, the average score student response falls into the very good category.

Kata Kunci: *Training Kit, HMI, Industrial Automation Engineering*