

ABSTRACT

The development in one of the industrial revolutions 4.0 is the Human Machine Interface (HMI), one of the applications of industrial revolution 4.0 technology in Indonesia occurs in the education sector which has a percentage of 10%. Vocational High School (SMK) is one form of formal education that organizes vocational education at the secondary education level. The HMI simulation can be an alternative teaching aid that is suitable for vocational students, especially those majoring in industrial electronics engineering. The design of HMI teaching aids aims to make it easier for SMK students to recognize and understand the HMI system working on every Packing Line process in the industry and operating it, then students can monitor the number of boxes in real-time on the Packing Line and control input on the Packing system. Lines. The method used to design a teaching aid system for the HMI Packing Line simulation is the waterfall method. The data collection technique is by conducting voice of customers and interviews with SMK teachers. The system design on the Intouch HMI consists of the Windows Login and Windows Engineer displays, while the SQL database receives the results of the Intouch HMI monitoring. The procedure for the implementation of reporting the number of large and small boxes as well as error information in the SQL database with the help of a local server, then the number of large and small boxes and the description of the error can be monitored in real-time. So it can be concluded that the Teaching Aid system aims to assist in understanding the HMI has been successfully designed, the user can monitor and control the Packing Line system to study the HMI, then the user can find out the number of boxes and error conditions in the Packing Line system in real-time every 1 second.

Keywords: HMI, Teaching Aid, Packing Line