ABSTRACT

Developments in the industrial sector are now increasingly rapid, marked by the concept of industry 4.0 which encourages progress in the industrial sector. This concept is motivated by digital developments and increasingly sophisticated computing information technology. Telkom University provides Bottling Plant Simulator facilities for academics to support and prepare to face developments in industrial technology. This simulator is a simulation of the drinking water industry production process, from the water filling process to bottle packaging. The existing production system has implemented the SCADA system concept to monitor, control and acquire production data. However, the existing SCADA machine interface system is still classified as a basic SCADA or HMI type, where the use and accessibility of the system still has limitations and uses embedded display features, embedded or physical buttons and a basic database. This research contains the development and design of an HMI system on distribution workstations using the waterfall development method. The use of the waterfall method is considered more appropriate and effective in helping to complete the system development design which will be more structured and sequential. This design is expected to provide suggestions that can increase the ease, productivity, and effectiveness of using SCADA in the Botling Plant Simulator.

Keywords — Industry 4.0, SCADA, Machine Interface (HMI), Waterfall.