

ABSTRACT

The Covid-19 pandemic has an impact on various fields that require social distancing, in the manufacturing industry the pandemic has an effect on limiting employees or company staff who work, referring to government instructions, most employees Work From Home (WFH), so that for employees or staff are not always able to do their work directly or Work From Office (WFO). To overcome this, we need a system that can help to carry out the process of monitoring and controlling at a work station, so that in this final project research an approach is carried out on a tool which is a bottling plant simulator tool where the tool can represent a production process at the company. bottled drinks. The bottling plant simulator is a tool that can simulate the process of filling liquid into bottles to the bottle packaging process, there are several stations representing each process such as the filling process at the filling station, the bottle separation process at the separating station, the process of installing bottle caps at the processing station, the process distribution box at the distribution box station, to the packaging process at the pick & place station. To solve this problem, a monitoring and controlling system is designed using a smartphone, where there is an android application that is connected to the Programmable Logic Controller (PLC) so that it can be used for monitoring and controlling in real-time. The system is designed using the v-model method, where the v-model method develops the system in which each step is tested for appropriate development, where the next stage can be started when the previous stage has been completed. Based on the simulation results, it is found that the system is functioning properly where the read function on the PLC and the conversion (write) to the PLC can be carried out in real-time as expected.

Keywords: Real-time Monitoring & Controlling, Programmable Logic Controller (PLC), V-Model