

## ABSTRACT

In Indonesia, tempeh is one of Indonesia's native food products that is often found in the community. Therefore, many have developed tempeh into various processed foods. One of them is tempeh chips. The production process of tempeh chips products that are still manual has a small production capacity level because it is influenced by the number of operators. The production process can then use machines that help human work. At CV. XYZ, the use of machines that are owned has several weaknesses including the flow of flour that is stuck in the funnel so that it requires the operator to carry out stirring activities to drain the flour and the filling position feels difficult because the filling position is horizontal. In addition, the filling process is done by manually pressing the on/off button so that the operator needs to press the button every time. Therefore, this final project proposes to design an automation system and build a prototype as an additional mechanism. In doing this design, the method used is the Ulrich & Eppinger design method. The Ulrich & Eppinger method is a product development design method that starts from the planning stage to the production process. The stages of the Ulrich & Eppinger method are planning, concept development, system-level design, detailed design, testing & refinement and production ramp-up. The design results of this final project are in the form of an automation system that will be run and a prototype that contains mechanisms and features added to overcome problems. The results of the design will be compared with the actual machine to see the differences obtained and analyze the advantages and disadvantages of the design that has been made. The benefits of this design are expected to increase production capacity by reducing process time without increasing the number of existing operators..

**Keywords - *flour dough, actual machine, automation system, prototype***