DEVELOPMENT OF AN AUTOMATED SUGAR PALM "KAONG" GEL EXTRACTOR

Undergraduate Design Project
Submitted to the Faculty of the
College of Engineering and Information Technology (CEIT)
Cavite State University
Indang, Cavite

In partial fulfillment
of the requirements for the degree
Bachelor of Science in Computer Engineering

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ABSTRACT

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The design project aimed to construct a machine that would automatically extract the sugar palm “*kaong*” gel from the husk. The machine was based on the microcontroller board called “Gizduino Atmega328”. The concept of the machine was based on electro-pneumatic system which the sources were air pressure and electricity and controlled it. The testing and evaluation of the performance of the system was made based on the complete extraction process of the machine. The cost computation of the study was also conducted.

The system used the Gizduino based program to control the pneumatic cylinder which holds the extractor, the blade that cuts the crown of the “*kaong*” and the gel collector pan which collect and placed the extracted gels. The materials used in constructing the whole electro-pneumatic system were the power supply, relay driver, solenoid valve, air compressor, pneumatic cylinder, Gizduino Atmega328, and switches.