

DESIGN AND DEVELOPMENT OF AN AUTOMATED
COCOLISAP SPRINKLER SYSTEM

Design Project

LOWIE ALLEN C. OLOROSO

College of Engineering and Information Technology

CAVITE STATE UNIVERSITY

Indang, Cavite

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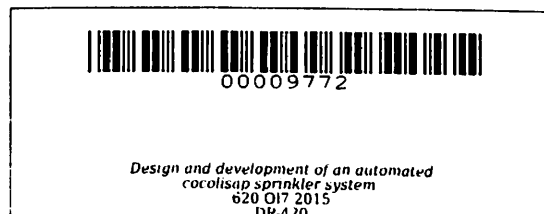
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DESIGN AND DEVELOPMENT OF AN AUTOMATED COCOLISAP SPRINKLER SYSTEM

**Undergraduate Design Project
Submitted to the Faculty of the
College of Engineering and Information Technology
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**In partial fulfillment
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LOWIE ALLEN C. OLOROSO

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ABSTRACT

OLOROSO, LOWIE ALLEN C. Design and Development of an Automated Cocolisap Sprinkler System. Undergraduate Design Project. Bachelor of Science in Computer Engineering. Cavite State University, Indang, Cavite. April 2015, Adviser: Mrs. Florence M. Banasihan.

The study, Design and development of an automated cocolisap sprinkler system was designed and constructed at Cavite State University Main Campus (Saka) from August 2014 to February 2015. This was tested and evaluated at the Cavite State University Main Campus (Saka) from February 24 to March 3, 2015.

The design project was conducted to develop an automated coconut sprinkler system. Specifically, it aimed to design and develop a sprinkler system that is being controlled by a micro-controller based circuit. Develop an application using the Arduino Framework, and a pipeline system that houses the nozzle sprinkler heads.

The sprinkler system starts its process using by a push button. The mixer mixes the solution in a designated amount. After the mixing process, the system will then begin the sprinkling process to all target areas. The process will continue until the water reaches the two critical levels, the low level and the empty level. When the water level reaches the low level, the first buzzer alarm will sound, warning the user that the water in the container has been depleted to a low level. The buzzer alarm sound will continue until the water level reaches the empty level. When the water level reaches the zero or empty level, this triggers the system to automatically turn off the system.

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Lowie Allen C. Oloroso

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INTRODUCTION

The coconut is considered as a “tree of life” by many communities in developing countries who depend on it as a source of food, drink, medicine, wood, shelter, fuel and energy, lumber and furniture, and handicrafts, among others. It is an important agricultural and livelihood crop for many people in Southeast Asia, the Pacific region, Africa and some countries in Latin America (Bureau of Agricultural Research).

Protection from pests is an important factor in agricultural operations particularly in coconut plantation, and calls for continual monitoring and prompt action when needed. In many cases, the equipment, pesticides and manpower required for this purpose account for the majority of production expenses.

The recent epidemic of coconut scale insect outbreak began and continues to spread in CALABARZON, the Luzon region with the biggest coconut industry. Coconut production in the region is highest in the whole of Luzon, bringing in more than 1.5