

**DEVELOPMENT OF A SOLAR POWERED MICROCONTROLLER  
BASED VEGETABLE GARDEN SPRINKLER**

**Design Project**

**JASON JHON B. ALMONTE**

**College of Engineering and Information Technology**

**CAVITE STATE UNIVERSITY**

**Indang, Cavite**

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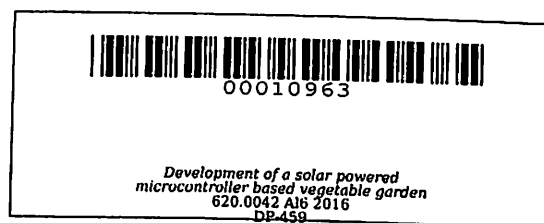
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**✓DEVELOPMENT OF A SOLAR POWERED MICROCONTROLLER BASED  
VEGETABLE GARDEN SPRINKLER**

**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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Bachelor of Industrial Technology**



**JASON JHON B. ~~ALMONTE~~**

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## **ABSTRACT**

**ALMONTE, JASON JHON B. Development of Solar Powered Microcontroller Based Vegetable Garden Sprinkler.** Undergraduate Design Project. Bachelor of Industrial Technology. Cavite State University, Indang, Cavite. April 2016. Adviser: Ronald E. Araño.

The main objective of this project is to construct and evaluate a solar powered microcontroller based vegetable garden sprinkler. With the availability of the materials, the construction of the designed project was made possible.

Based on the findings of the study, the solar powered microcontroller based vegetable garden sprinkler proved that the design and specification is useful and easy to operate texting and manual function.

To determine the efficiency of the designed project, an evaluation was administered. Based on the evaluation conducted, it was found out that the development of solar powered microcontroller based vegetable garden sprinkler was useful. It was evaluated based on its functionality, workability, efficiency, durability and safety. The overall result of the evaluation is 4.58 which equivalent of Outstanding.

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# **DEVELOPMENT OF A SOLAR POWERED MICROCONTROLLER BASED VEGETABLE GARDEN SPRINKLER**

**Jason Jhon B. Almonte**

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An Undergraduate design project submitted to the faculty of the Department of Industrial Engineering and Technology, College of Engineering and Information Technology, Cavite State University, Indang Cavite in partial fulfillment of the requirements for the degree of Bachelor of Industrial Technology major in Electronics Technology with Contribution No.CEIT-2015-16-2-114. Prepared under the supervision of Mr. Ronald E. Araño.

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## **INTRODUCTION**

Vegetable is one major source of food for humankind. Through time individuals found many ways to sustain their needs of nutrients through other sources, but still up to now it cannot be doubted that vegetables plays an important role to maintain one's balanced diet cause it contains many essential nutrients such as Vitamins A, B, and C and other minerals.

Farming is the specific process of growing these green leafy vegetables. Time and effort is a must to produce a good harvest. Watering these plants at a specific time per day needs to be observed carefully. This plants needs to restore more water during dry seasons and on rainy seasons, watering is not that much needed.

Today, technology is united with agriculture through water sprinkler automation. The researchers observed that this technology is not present in Cavite State University (CvSU) thus the study entitled "Development of a Solar Powered Microcontroller Based Vegetable Garden Sprinkler" was proposed.