DESIGN AND DEVELOPMENT OF AN AUTOMATED COCOLISAP SPRINKLER SYSTEM

Design Project

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DESIGN AND DEVELOPMENT OF AN AUTOMATED COCOLISAP SPRINKLER SYSTEM

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ABSTRACT

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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.

TABLE OF CONTENTS

Page

BIOGRAPHICAL DATA ii

ACKNOWLEDGEMENT iii

ABSTRACT v

LIST OF TABLES ix

LIST OF FIGURES x

LIST OF APPENDIX FIGURES xi

INTRODUCTION 1

Significance of Study 2

Objectives of the study 2

Time and Place of the Study 3

Scope and Limitations of the Study 3

Definition of Technical Terms 4

REVIEW OF RELATED LITERATURE 6

METHODOLOGY 16

Materials 16

Sprinkler System 16

Submersible water pump 16

Industrial motor 16

Pipe lines 16

Connectors and fittings 17

Motor body/casing 17
Microcontroller circuit 17
Micro-controller unit (MCU) 18
Power supply 18
Circuit body/casing 18
Methods 18
Construction of automated sprinkler system 18
Designing the pipeline structure 18
Design and construction of motor body/casing 21
Design and construction of the microcontroller unit 22
Design and construction of water level sensor 23
Design and construction of circuit body/casing 24
Software for the system 25
RESULTS AND DISCUSSION 27
Presentation and analysis of the design 27
Structure of the automated cocolisap sprinkler system 29
Microcontroller unit 29
Water level circuit 31
Circuit body casing 31
Testing and Evaluation 32
Initial testing 32
Final evaluation 32
Statistical analysis 35

Cost analysis 39

SUMMARY, CONCLUSION AND RECOMMENDATIONS 45

Summary 45

Conclusion 46

Recommendation 46

REFERENCES 47

APPENDICES 48

Appendix figures 49

Appendix computation 80

Program listing of Automated Cocolisap Sprinkler System 96

LIST OF TABLES

Table		Page
1	Microcontroller pin table.	28
2	Sprinkler head details for coconut no. 1-4	33
3	Time comparison of automated and manual method	34
4	Statistical data	36
5	Cost computation for automated cocolisap sprinkler system	39
6	Cost analysis of materials, equipment and manpower	44

LIST OF FIGURES

Figures		Page
1	The sprinkler system	20
2	The motor body/casing	21
3	The microcontroller unit	22
4	The water level circuit design	23
5	The circuit body/casing	24
6	The system flowchart	26
7	Input process output of system	29
8	Microcontroller unit	30
9	Water level circuit	31
10	Portable cocolisap sprinkler system	38

LIST OF APPENDIX FIGURES

Appendic Figures **Page**

1 24 x 24 x 18 plywood casing 50

2 Plywood casing with mixture tank 51

3 Water level sensor 52

4 Polyvinyl Chloride Union 2"Ø 53

5 Polyvinyl Chloride Elbow 2"Ø 54

6 Polyvinyl Chloride Coupling Reducer 2"Ø x 1 ½"Ø 55

7 Polyvinyl Chloride Tee 1 ½"Ø x 1"Ø 56

8 Polyvinyl Chloride Coupling Reducer 1 ½"Ø x 1"Ø 57

9 Polyvinyl Chloride Coupling Reducer 1"Ø x ¾ "Ø 58

10 Polyvinyl Chloride Coupling Reducer ¾"Ø x ½ "Ø 59

11 Polyvinyl Chloride Female Adaptor ½ "Ø 60

12 Polyvinyl Chloride Tee ½ "Ø 61

13 Polyvinyl Chloride Tee 1"Ø 62

14 Polyvinyl Chloride End Cup 1"Ø 63

15 250g detergent 64

16 350mL vinegar 65

17 Showfou submersible water pump 65

18 Microcontroller 67

19 Water level sensor circuit 68

20 Automated cocolisap sprinkler system circuit 69

21 Cannon power supply 70

22 Outlet terminal 71

23 12x12x6 #530 polyglass circuit casing 72

24 Terminal block 73

25 Automated cocolisap sprinkler system 74

26 Sprinkler system diagram 75

27 Sprinkler head details for coconut #1 76

28 Sprinkler head details for coconut #2 77

29 Sprinkler head details for coconut #3 78

30 Sprinkler head details for coconut #4 79

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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