# THE IMPLEMENTATION OF SCADA FOR AUTOMATIC FEEDING SYSTEM AT RABBIT FARM

MOHD AIZUDDIN BIN MOHD ZOL

## FACULTY OF ELECTRICAL ENGINEERING

UNIVERSITI TEKNOLOGI MARA

MALAYSIA

#### ACKNOWLEDGMENT

The author would like to thank the supervisor, En. Mohd Zikrul Hakim Bin Noor for his support, guidance and contribution during completing this project. Thank also to the all research assistant, Mohd Hafizuddin, Nur Zaimah and Mohd Asyraf especially Mohd Hafizuddin who give giving his support and guidance in order to understand the program and the SCADA TBOX system.

Besides that, thanks also to En. Aswadi who continuous assistance either directly or indirectly involve in contributing. Also thanks to En Zainal Abidin who share all the information about his rabbit farm. Special thanks to my parents who fully support my study and last but not least to all friends that have been contributed by supporting my work and help during the project progress.

#### ABSTRACT

Throughout this paper, it will briefly describe the design and development of automatic feeding system for the rabbits at rabbit farm. The purpose of this work is to reduce manpower at the rabbit farm. The conventional way to feed the rabbit is by hiring the workers to feed them at certain times. In this work, we replaced the use of workers by using automatic feeding system that is controlled by Supervisory Control and Data Acquisition (SCADA). The SCADA system that used is from T-BOX MS. The scopes of this project are to develop the prototype of automatic feeding system for rabbits and design the ladder diagram as a programming. T-BOX will use that program to control the automatic feeding system. Using T-BOX as the controller will allow the automatic feeding system to operate automatically at the certain time as we set in the programming. The process will repeat until the foods in the foods need to be restored. In this project, Global System for Mobile (GSM) is used to communicate between the operator and the T-BOX module. The notification will be sent through SMS to the operator. Human Machine Interface (HMI) is used to review and control the operation from the SCADA control panel.

### **TABLE OF CONTENTS**

APPROVAL	Π
DECLARATION	III
ACKNOWLEDGEMENT	IV
ABSTRACT	V
LIST OF FIGURES	VIII
LIST OF TABLES	IX
LIST OF ABBREVIATIONS	X

#### **CHAPTER 1: INTRODUCTION**

1.1 Background of Study	1
1.2 Problem Statement	2
1.2.1 Problem Identification	2
1.2.2 Significant of Study	2
1.3 Objective	3
1.4 Scope of Work	3
1.5 Thesis Organization	4

#### **CHAPTER 2: LITERATURE REVIEW**

2.1 Introduction	5
2.2 SCADA System	5
2.3 Automatic Feeding System	6

#### **CHAPTER 3: METHODOLOGY**

3.1 Introduction	10
3.2 Flow Chart	10
3.3 Software Design	12
3.4 Hardware Design	14
3.4.1 Four card of T-BOX	14
3.4.2 Hardware Connections	17
3.4.3 Feeding Mechanism	18
3.5 SMS Configuration	19
3.6 Motor Driver	21

### **CHAPTER 4: RESULT AND ANALYSIS**

4.1 Introduction	24
4.2 Running Mode Test	24
4.3 Frequency of Motor Rotation	26
4.4 Motor Driver Analysis	27
4.5 HMI Control	28
4.6 SMS Notification	30

### **CHAPTER 5: CONCLUSION**

#### CHAPTER 6: RECOMMENDATION 32

REFERENCES	33

# APPENDICES 34

31