

TABLE OF CONTENTS

THESIS	ii
APPROVAL SHEET	iii
DECLARATION AUTHENTICITY	iv
PREFACE	v
ABSTRACT	vi
TABLE OF CONTENTS.....	vii
LIST OF FIGURE	ix
LIST OF TABLE	x
CHAPTER I INTRODUCTION.....	1
I.1 Research Background	1
I.2 Research Question	1
I.3 Research Objective and Benefits.....	1
I.4 Problem Limitations.....	2
I.5 Research Methods.....	2
CHAPTER II LITERATURE REVIEW	4
II.1 Solution Concept Design.....	4
II.2 Waste Detection Devices	4
II.2.1 Organic Waste	5
II.2.2 Non-Organic Waste	5
II.3 Inductive Sensor	5
II.4 Capacitive Proximity Sensor.....	6
II.5 Ultrasonic Sensor	7
II.6 Servo motor	8
II.7 Microcontroller	8
II.8 Confusion Matrix	9
CHAPTER III SYSTEM PLANNING.....	10
III.1 System Design	10

III.1.1 Block Diagram	10
III.1.2 Functions and Features.....	10
III.2 Hardware Design	11
III.2.1 Component Specification.....	12
III.3 System Flowchart	18
CHAPTER IV.....	20
RESULT AND ANALYSIS.....	20
IV.1 Results of System Design for Identifying Waste.....	20
IV.2 Results of Organic Waste Testing	21
IV.3 Results of Non-Organic Waste Testing.....	23
IV.4 Results and Analysis Confusion Matrix Method	25
CHAPTER V	28
V.1 Conclusion.....	28
V.2 Suggestion	28
BIBLIOGRAPHY	29
APPENDIX	30