

CONTENTS

APPROVAL PAGE	ii
ORIGINALITY STATEMENT	iii
ABSTRACT	iv
GRATITUDE NOTE.....	v
PREFACE.....	viii
CONTENTS.....	ix
LIST OF FIGURES.....	xi
LIST OF TABLES.....	xii
LIST OF APPENDICES.....	xiii
CHAPTER I INTRODUCTION.....	1
1.1. Background	1
1.2. Problem Formulation	2
1.3. Objectives	2
1.4. Scope of Work.....	2
1.5. Research Methods	3
1.6. Bachelor’s Thesis Organization	3
CHAPTER II BASIC CONCEPT.....	5
2.1. Parking Zone	5
2.2. Smart Parking	5
2.3. Web Service	5
2.4. Internet of Things	6
2.5. AWS.....	6
2.6. Express.js	7
2.7. React.js.....	7
2.8. PostgreSQL	8

CHAPTER III SYSTEM DESIGN AND IMPLEMENTATION	9
3.1. Design System.....	9
3.2. Workflow of the System	10
3.3. Designing Devices on the System	11
3.4. Parking Model Designer	12
3.5. Softwares.....	12
CHAPTER IV SYSTEM DESIGN AND IMPLEMENTATION	13
4.1. Tool Design Result	13
4.2. Reservation System Workflow Using Ultrasonic Sensors.....	14
4.3. Hardware Test.....	17
4.4. Parameter Testing Quality of Service	17
4.4.1. Response Time Test.....	17
4.5. Subjective Testing (Quality of Experience/QoE)	18
CHAPTER V CONCLUSION AND SUGGESTION.....	23
5.1. Conclusion	23
5.2. Suggestion.....	24
BIBLIOGRAPHY	25