

TABLE OF CONTENTS

DECLARATION OF ORIGINALITY	ii
VALIDATION SHEET	iii
PUBLICATION APPROVAL SHEET FOR ACADEMIC INTEREST	iv
ACKNOWLEDGMENT.....	v
ABSTRACT.....	vii
TABLE OF CONTENT.....	viii
LIST OF FIGURES	xii
LIST OF TABLES	xv
CHAPTER 1. INTRODUCTION	1
1.1 Background	1
1.2 Problem Identification.....	3
1.3 Purpose of the Study.....	4
1.4 Limitation	4
1.5 Benefits of the Study	4
1.6 Related Works	5
1.7 Writings Structure	6
1.8 Schedule	7
CHAPTER 2. REVIEW OF LITERATURE	8
2.1 Basic Theory.....	8
2.1.1 Mountaineering.....	8

2.1.2	Android	8
2.1.3	Android Studio.....	9
2.1.4	Java	10
2.1.5	Location-Based-Service.....	10
2.1.6	Global Positioning System (GPS)	11
2.1.7	Google Maps.....	12
2.1.8	Google Maps API	12
2.1.9	Firebase.....	12
2.2	Unified Modelling Language (UML).....	14
2.2.1	Use Case Diagram	14
2.2.2	Activity Diagram	16
2.2.3	Sequence Diagram	16
2.3	Analysis and Development Methodology	17
2.3.1	Rapid Application Development Method	17
2.3.2	Data Collection Method.....	19
2.3.3	Conceptual Framework.....	19
CHAPTER 3.	Analysis and design	21
3.1	Analysis of the Current System.....	21
3.1.1	Manual System Analysis.....	21
3.1.2	Application System Analysis.....	21
3.1.3	Weakness of Current System.....	22
3.2	Phase of Requirements Planning	23
3.2.1	Analysis of Needs	24
3.3	Phase of UML Design	25

3.3.1	Use Case Diagram	25
3.3.2	Activity Diagram	28
3.3.3	Sequence Diagram	34
3.4	User Interface Design.....	39
3.4.1	Splash Screen and On Boarding Page	39
3.4.2	Login Module Interface Design.....	40
3.4.3	Register Module Interface Design	41
3.4.4	Homepage Interface Design	41
3.4.5	Mountaineering Guide Module Interface Design	42
3.4.6	Mountain Information Interface Design	42
3.4.7	Basecamp Information Interface Design	43
3.4.8	Mountain Maps Interface Design	43
3.4.9	Basecamp Maps Interface Design	44
3.5	Database Design	45
3.6	Phase of Constructing.....	48
3.6.1	Application Programming	48
3.7	Phase of Implementation	49
CHAPTER 4.	Implementation and test.....	50
4.1	System Environment Development.....	50
4.1.1	Hardware Development Specification.....	50
4.1.2	Software Development Tools	50
4.2	Front-end System Implementation	51
4.2.1	Splash Screen and On Boarding Screen	51
4.2.2	Login Module User Interface.....	52

4.2.3	Register User Interface	52
4.2.4	Homepage User Interface	53
4.2.5	Mountaineering Guide Module User Interface.....	54
4.2.6	Mountain Information Module User Interface.....	55
4.2.7	Basecamp Information Module User Interface.....	56
4.2.8	Mountain Maps Module User Interface.....	57
4.2.9	Basecamp Maps Module User Interface.....	58
4.3	Back-end System Implementation.....	59
4.3.1	Installed Package and Library	59
4.3.2	System Database Implementation.....	60
4.3.3	Functional Code Implementation	64
4.4	Blackbox Testing.....	67
4.2.1	Blackbox Testing Result.....	67
CHAPTER 5.	SUMMARY.....	69
5.2	Conclusion.....	69
5.3	Suggestion	69
CHAPTER 6.	References.....	71