Contents

1. Chapter I - Introduction **1**

1.1 Introduction 1

1.2 Problem Statement and Scope 2

1.3 Objective 2

1.4 Writing Organization 3

2. Chapter II - Literature Review **4**

2.1 Damaged Road 4

2.2 Device 5

2.2.1 Android Device 6

2.2.2 Andriod Sensor Technology 6

2.3 Threshold 9

2.4 Summary 10

3. Chapter III - System Design **11**

3.1 Overview System 11

3.1.1 Smartphone position 12

3.1.2 Collecting data 12

3.1.3 Tool specifications 12

3.2 Application Design 13

3.3 Summary 14

4. Chapter IV - Evaluation and Analysis **16**

4.1 Device Setup 16

4.2 Finding Threshold Data 16

4.3 Testing Scenario 18

4.4 Study Case 21

4.4.1 Batununggal street 22

4.4.2 Sukapura Street 24

4.4.3 Sukabirus street 26

4.4.4 Testing Result 30

4.5 Summary 31

5. Chapter V - Conclusion **32**