TABLE OF CONTENTS

DECLARATION OF ORIGINALITY ii
VALIDATION SHEET iii
PUBLICATION APPROVAL SHEET FOR ACADEMIC INTEREST iv
ACKNOWLEDGEMENTS v
ABSTRACT vi
TABLE OF CONTENTS vii
LIST OF FIGURES ix
LIST OF TABLES x
1. INTRODUCTION 1
    1.1 Background 1
    1.2 Related Work 2
    1.3 Problem Identification 2
    1.4 Purpose 2
    1.5 Limitation 2
    1.6 Benefit 3
    1.7 Writing Structure 3
    1.8 Schedule 4
2. REVIEW OF LITERATURE AND THEORETICAL BASIS 5
    2.1. Fundraisers and Orphanages Literature Review 5
        2.1.1. Fundraisers 5
        2.1.2. Orphanages 5
    2.2. Analysis and Development Methodology 6
        2.2.1. Data Collection 6
        2.2.2. UML 6
        2.2.3. Use Case Diagram 6
        2.2.4. Activity Diagram 7
        2.2.5. Sequence Diagram 8
        2.2.6. Rapid Application Development 9
    2.3. Programming Language Literature Review 10
        2.3.1. Java 10
    2.4. Application Operating System Literature Review 10
        2.4.1. Android Operating System 10
    2.5. Technologies Overview 11
        2.5.1. Firebase 11
        2.5.2. Google Maps and Google Maps API 13
3. ANALYSIS AND DESIGN 14
    3.1. System Requirement Specification 14
        3.1.1. Functional Requirement Analysis 14
        3.1.2. Non-functional Requirement Analysis 15
    3.2. Perspective Product 16
    3.3. Data Requirement Analysis 16
    3.4. Architecture Design 16
        3.4.1. System Architecture Design 16
        3.4.2. Use Case Diagram 17
        3.4.3. Activity Diagram 19
        3.4.4. Sequence Diagram 22
    3.5. User Interface Design 25
    3.6. Database Design 31

4. IMPLEMENTATION AND TESTING....32
4.1. Implementation....32
4.1.1. Hardware Development Specification....32
4.1.2. Software Development Tools....32
4.1.3. Implementation Functional Code....33
4.1.4. Implementation User Interface....39
4.2. Testing....44
5. SUMMARY....45
5.1. Conclusion....45
5.2. Suggestion....45
REFERENCES....46

LIST OF FIGURES

Figure 2.1. Rapid Application Development Phase..... 9
Figure 2.2. Firebase Authentication..... 12
Figure 2.3. Cloud Storage for Firebase..... 12
Figure 2.4. Firebase Realtime Database.....13
Figure 3.1. System Architecture Design.....17
Figure 3.2. Use Case Diagram.....17
Figure 3.3. Sign up Activity Diagram..... 19
Figure 3.4. Sign in activity diagram.....20
Figure 3.5. Update Activity Diagram.....21
Figure 3.6. Displaying information about the Orphanage.....21
Figure 3.7. Search an Orphanage with Google Maps Activity Diagram.....22
Figure 3.8. Sign up Sequence Diagram.....23
Figure 3.9. Sign in Sequence Diagram.....23
Figure 3.10. Update Orphanage's information Sequence Diagram.....24
Figure 3.11. Display Orphanage's information Sequence Diagram..... 24
Figure 3.12. Display Orphanage Location by Google Maps Sequence Diagram. 25
Figure 3.13. Splash Screen.....26
Figure 3.14. Option Page for Users.....26
Figure 3.15. Orphanage's List..... 27
Figure 3.16. Orphanage's account and needs information..... 27
Figure 3.17. Sign in or Sign up Page.....28
Figure 3.18. Sign in and Sign up Page..... 28
Figure 3.19. Orphanage's Homepage..... 29
Figure 3.20. Orphanage's Account Page.....29
Figure 3.21. Choose Category and Input Good Needs Page.....30
Figure 3.22. Orphanage's Needs Page.....30
Figure 3.23. Database Design.....31
Figure 4.1. Sign up using.....33
Figure 4.2. Sign in code.....33
Figure 4.3. Upload Image and Update data.....35
Figure 4.4. Display the Data Updated..... 36
Figure 4.5. Display RecyclerView..... 37
Figure 4.6. OnMapReady() Method.....38
Figure 4.7. Splash Screen UI.....39
Figure 4.8. Before-After Choosing Actor.....39
Figure 4.9. Sign in, Reset Password and Sign up UI.....40
Figure 4.10. Validating Orphanage's Data.....41
Figure 4.11. Bottom Navigation Function.....41
Figure 4.12. Edit Information and Needs page..... 42
Figure 4.13. Get Latitude and Longitude Information from Google Maps.....43
Figure 4.14. Orphanage List and Information of Orphanage’s..... 43

LIST OF TABLES

Table 1.1. Thesis Project Schedule....4
Table 2.1. Use Case Diagram Notations....7
Table 2.2. Activity Diagram Notations....7
Table 2.3. Sequence Diagram Notations.... 8
Table 3.1. Functional Requirement Description....15
Table 3.2. Non-Functional Requirement Description.... 15
Table 4.1. Software Development Tools.... 32
Table 4.2. BlackBox Testing.... 44