## **Table of Contents**

Title Page	i
Table of Contents	ii
Chapter I	1
Introduction	1
Project Context	4
Theoretical Framework	11
Conceptual Framework	13
Objective of the Study	15
Scope and Limitation	16
Chapter II	18
Related Literature	18
Related Systems	23
Chapter III	27
Current System	27
Proposed System	27
Software	29
Hardware	32
Peopleware	32
Chapter IV	35
System Design	35
Modified Waterfall	35
Planning	36
Analysis	37
Design	37

Coding	38
Testing	38
Implementation	39
Maintenance	39
Blackbox Testing	39
Whitebox Testing	42
Gantt Chart	44
Pert Chart	46
Context Diagram-Current System	47
Context Diagram-Proposed System	47
Data Flow Diagram	48
Data Flow Diagram Level-0	48
Data Flow Diagram Level-1	49
Data Flow Diagram Level-2	50
System Flowchart	
Admin Account	51
Captain and Secretary Account	57
Kagawad and SK Chairman Account	64
Treasurer Account	70
Resident's Account	72
Entity Relationship Diagram	75
Normalization	76
Use Case	82
Input-Process-Output Diagram	83
Program Considerations	83
Program Issues	84
Program Tools	84

Software Requirement Specification	85
Hardware Requirement Specification	86
Instrument	86
Validation	86
Data Gathering Procedure	86
Chapter V	88
Results and Discussion	88
System Development Life Cycle Results	97
Testing Plan Results	97
Alpha Test	98
Beta Test	99
Implementation Plan Results	120
Chapter VI	121
Conclusion	121
Recommendation	122
References	123
List of Figures	
Figure 1. Illustration of Conceptual Framework of the Proposed System	13
Figure 2. Modified Waterfall	36
Figure 3. Gantt Chart	45
Figure 4. Pert Chart	46
Figure 5. Context Diagram of Current and Proposed System	47
Figure 6. Data Flow Diagram Level-0	48
Figure 7. Data Flow Diagram Level-1	49
Figure 8. Data Flow Diagram Level-2	50

Figure 7. Ad	dmin Account System Flowchart56	6
Figure 8. Ca	aptain and Secretary Account System Flowchart63	3
Figure 9. Ka	agawad and SK Chairman Account System Flowchart69	9
Figure 10. 7	Treasurer Account System Flowchart7	1
Figure 11. F	Resident Account System Flowchart74	4
Figure 14. E	Entity Relationship Diagram75	5
Figure 15. l	Use Case Diagram82	2
Figure 16. I	nput-Process-Output Diagram83	3
Figure 17. l	User interface when residents is requesting documents6	7
Figure 18. l	User Interface of adding blotter/incident report89	9
Figure 19. l	User interface of choosing mode of payment to pay the requested	
•	certificate90	С
Figure 20. l	User interface of different hotlines of government departments for disaste	er
ŗ	preparedness and response92	2
Figure 21. l	User Interface of the Analytics for population growth93	3
Figure 22. [	Dashboard of the System99	5
Figure 23. F	Feedback from the respondents in terms of Functionality96	6
Figure 24. F	Feedback from the respondents in terms of Usability96	6
Figure 25. F	Feedback from the respondents in terms of Reliability96	6
Figure 26. F	Feedback from the respondents in terms of Portability9	7
Figure 27. S	System evaluation of the Alpha Test in terms of Functionality9	8
Figure 28. S	System evaluation of the Alpha Test in terms of Usability9	9
Figure 29. S	System evaluation of the Alpha Test in terms of Reliability9	9
Figure 30. S	System evaluation of the Alpha Test in terms of Portability99	9
Figure 31. F	Results of the 1st question in the Functionality category10	0

Figure 32. Results of the 2nd question in the Functionality category101	
Figure 33. Results of the 3rd question in the Functionality category102	
Figure 34. Results of the 4th question in the Functionality category103	
Figure 35. Results of the 5th question in the Functionality category103	
Figure 36. Results of the 6th question in the Functionality category104	
Figure 37. Results of the 7th question in the Functionality category105	
Figure 38. Results of the 1 <sup>st</sup> question in the Usability category105	
Figure 39. Results of the 2 <sup>nd</sup> question in the Usability category106	
Figure 40. Results of the 3 <sup>rd</sup> question in the Usability category107	
Figure 41. Results of the 4 <sup>th</sup> question in the Usability category107	
Figure 42. Results of the 5 <sup>th</sup> question in the Usability category108	
Figure 43. Results of the 6 <sup>th</sup> question in the Usability category109	
Figure 44. Results of the 7 <sup>th</sup> question in the Usability category109	
Figure 45. Results of the 1st question in the Reliability category110	
Figure 46. Results of the 2nd question in the Reliability category111	
Figure 47. Results of the 3rd question in the Reliability category111	
Figure 48. Results of the 4th question in the Reliability category112	
Figure 49. Results of the 5th question in the Reliability category113	
Figure 50. Results of the 6th question in the Reliability category113	
Figure 51. Results of the 7th question in the Reliability category114	
Figure 52. Results of the 1 <sup>st</sup> question in the Portability category115	
Figure 53. Results of the 2 <sup>nd</sup> question in the Portability category115	
Figure 54. Results of the 3 <sup>rd</sup> question in the Portability category116	
Figure 55. Results of the 4 <sup>th</sup> question in the Portability category117	

Figure 56. Results of the 5 <sup>th</sup> question in the Portability category	117
Figure 57. Results of the 6 <sup>th</sup> question in the Portability category	118
Figure 58. Results of the 7 <sup>th</sup> question in the Portability category	119
List of Tables	
Table 1. Software and Descriptions	.29
Table 2. Hardware and Descriptions	.32
Table 3. Black Box Testing	.40
Table 4. White Box Testing	.42
Table 5. Database Normalization	.76
Table 6. The computed mean for Functionality	119
Table 7. The Computed Mean for Usability	119
Table 8. The Computed Mean for Reliability	119
Table 9. The Computed Mean for Portability1	120