

TABLE OF CONTENT

APPROVAL SHEET	i
FINAL PROJECT REPORT CAPSTONE DESIGN	i
STATEMENT OF ORIGINALITY	ii
FOREWORD	iv
ACKNOWLEDGEMENT	v
TABLE OF CONTENT	vi
LIST OF IMAGE	ix
LIST OF TABLE	x
LIST OF ABBREVIATION	xi
ABSTRAK	xii
ABSTRACT	xiii
Chapter 1 REQUIREMENT ANALYSIS	1
1.1 Background Problem	1
1.2 Supporting Information	3
1.3 Constraint.....	4
1.4 Direct Needs	5
1.5 Objective.....	5
Chapter 2 SPECIFICATION AND VERIFICATION.....	6
2.1 Product Specification.....	6
2.1.1 Specification 1 : Baby’s Tracking Position	6
2.1.2 Specification 2 : Baby’s Crying Detector	6
2.1.3 Specification 3 : Pop-up Notification	6
2.1.4 Specification 4 : Long Distance Monitoring	7
2.1.5 Specification 5 : White Noise Automation.....	7
2.2 Verification.....	8

2.2.1 Specification Verification 1	8
2.2.2 Specification Verification 2	9
2.2.3 Specification Verification 3	9
2.2.4 Specification Verification 4	9
2.2.5 Specification Verification 5	10
Chapter 3 SOLUTION CONCEPT DESIGN	11
3.1 Solution Concept	11
3.1.1 Function Charts	11
3.1.2 Alternative Solution of System	11
3.2 System Selection	15
3.3 Decision Matrix	16
3.4 Selected System Would be Develop	16
3.5 System Design Plan	16
3.6 Component Selection	24
3.7 Work Schedule	27
Chapter 4 SYSTEM IMPLEMENTATION	28
4.1 Implementation System	28
4.1.1 Monitoring Unit (Camera)	28
4.1.2 Baby Position Tracking Algorithm	32
4.1.3 Baby Crying Detection Algorithm	37
4.1.4 White Noise System	42
4.1.5 Application System	46
4.2 System Implementation Work Analysis	50
4.3 Final Result of System Integration System	51
Chapter 5 SYSTEM TESTING	52
5.1 System Testing	52
5.1.1 Baby's Tracking Position Testing:	52

5.1.2 Baby’s Crying Detector Testing:	56
5.1.3 Notification and Alarm Testing:	57
5.1.4 Long Distance Monitoring Testing:.....	59
5.1.5 White Noise Automation Testing:	61
5.2 Conclusion and Recommendation	64
5.2.1 Conclusion.....	64
5.2.2 Recommendation	64
REFERENCE.....	65
APPENDIX CD-1	66
APPENDIX CD-2.....	74
APPENDIX CD-3.....	75
APPENDIX CD-4.....	78
APPENDIX CD-5.....	79