

TABLE OF CONTENTS

APPROVAL PAGE	i
CAPSTONE DESIGN BOOK.....	i
ORIGINALITY STATEMENT SHEET	ii
ORIGINALITY STATEMENT SHEET	iii
ORIGINALITY STATEMENT SHEET	iv
ORIGINALITY STATEMENT SHEET	v
ABSTRACT.....	vi
PREFACE.....	vii
ACKNOWLEDGMENT.....	viii
TABLE OF CONTENTS.....	x
LIST OF FIGURES	xiii
LIST OF TABLES.....	xv
LIST OF ABBREVIATIONS.....	1
CHAPTER 1 PROPOSAL IDEAS	2
1.1 General Description of the Problem Background.....	2
1.2 Problem Analysis.....	2
1.2.1 Health Aspects	3
1.2.2 Economic Aspects.....	3
1.3 Capstone Objectives.....	3
1.4 Existing Solution Analysis.....	3
CHAPTER 2 LITERATURE REVIEW	5
2.1 Stable Connection for Distributed Database Access	6
2.2 Machine Learning	6
CHAPTER 3 DETAILED DESIGN OF THE SELECTED SOLUTION.....	8
3.1 Design of the Selection Solution.....	8

3.1.1	Intended Design System	8
3.1.2	Machine Learning	10
3.1.3	Website	11
3.2	Constraint and Specification	14
3.2.1	Constraint	14
3.2.2	Specification	14
3.3	Measurement or Verification Specifications	16
3.3.1	Patient’s Dataset.....	16
3.3.2	Internet Connection.....	17
3.3.3	Result Visualization	18
3.3.4	Real-Time and Dataset Integration	19
3.3.5	Accuracy	19
3.3.6	Machine Learning	20
CHAPTER 4 IMPLEMENTATION.....		22
4.1	General Description of Implementation.....	22
4.2	Detail of The Implementation	22
4.2.1	Implementation of ANN	22
4.2.2	Implementation of Website.....	29
4.2.3	Implementation of Cloud Computing	32
4.3	Operating Procedures	38
CHAPTER 5 TESTING.....		43
5.1	General Testing Scenarios	43
5.1.1	SUS Testing Scenario	43
5.1.2	ANN Model Testing Scenarios	43
5.1.3	Model Deployment	44
5.1.4	Data Processing and Integration Testing Scenarios.....	44
5.1.5	Black Box Testing Scenario.....	45

5.2	Testing Details and Analysis	45
5.2.1	SUS	46
5.2.2	ANN Model with 30 Features Testing Details	48
5.2.3	ANN Model with 6 Features Testing Details	50
5.2.4	Model Deployment	53
5.2.5	Data Processing and Integration Testing Details	55
5.2.6	Black Box Testing Details	59
5.3	Operating Procedures	60
5.3.1	SUS Analysis Testing Result	60
5.3.2	ANN Model with 30 Features Testing Analysis	61
5.3.3	ANN Model with 6 features Testing Analysis	65
5.3.4	Model Deployment Testing Analysis	69
5.3.5	Data Processing and Integration Testing Analysis	69
5.3.6	Black Box Testing Analysis	69
CHAPTER 6 CONCLUSION AND SUGGESTIONS.....		70
6.1	Conclusion	70
6.2	Suggestions	71
BIBLIOGRAPHY		72
APPENDIX.....		75
APPENDIX A.....		76
SYSTEM USABILITY SCALE TESTING		76
APPENDIX B		77
BLACK BOX TESTING		77
APPENDIX C		81
BLACK BOX VISUAL EVIDENCE		81