Table of Contents

Title	Page
Certificate……..……..…….	i
Abstract……..……..…….	ii
Acknowledgments……..…….....	iii
List of Figures……..……..……...	x
List of Tables……..……..…….	xiv
Company Profile. ……..……..…….	xvi
Chapter 1: Introduction……..……..	1
1.1 Project Definitions……..…….	2
1.2 Project Overview……..……...	2
1.3 Project Objective……..…….	3
1.4 Scope……..…….....	3
1.5 Organization……..……...	3
1.6 Platform……..…….....	4
1.7 Technology Used……..……...	4
1.8 Database……..…….	4
1.9 Methodology……..……..	4
1.10 Tools used……..……	5
1.11 Project Execution Type…….....	5
1.12 Project Type……..…….	5
1.13 Project Duration……..…….....	5

Chapter 2: About the System……..……. 6

2.1 About ‘Stay Fit’……..……. 7

2.2 Requirement for ‘Stay Fit’……..... 7

2.2.1 Hardware Requirements……..... 7

2.2.2 Software Requirements……..... 7

2.3 Feasibility Study……...…… 8

2.3.1 Technical Feasibility……..... 8

2.3.2 Time Schedule Feasibility…….. 8

2.3.3 Operational Feasibility……..... 8

2.3.4 Implementation Feasibility…… 8

2.4 Project Planning……...……. 9

2.4.1 Project Development Approach & Justification..... 9

2.4.2 Milestones & Deliverables……. 11

2.4.3 Roles & Responsibilities……..... 11

2.4.4 Group Dependencies……..... 13

2.4.5 Project Scheduling Chart……... 14

Chapter 3: System Analysis……...…… 15

3.1 Introduction……...……..... 16

3.1.1 Purpose……...…… 16

3.1.2 Scope……...……... 16

3.1.3 How to Use This Document……..... 16

3.1.4 List of Abbreviations……..... 16

3.2 Requirement Specifications……..... 17

3.2.1 Functional Requirements……... 17

3.2.2 Non Functional Requirements……... 23

3.3 Use Case Diagram……...…… 25

3.4 Class Diagram……..... 26

3.5 Sequence Diagrams……... 27

3.6 State Diagrams…….....……..... 31

3.7 Activity Diagram……..... 34

Chapter 4: Design……..... 35

4.1 Entity Relationship Diagram……..... 36

4.2 Data Dictionary……..... 37

4.3 Front-End Interface, Validations & Navigation Design..... 39

Chapter 5: Implementation……..... 42

5.1 Implementation Environment……... 43

5.2 Technology & Literature Review……..... 44

5.2.1 Xcode 5……..... 44

5.2.2 Ios……..... 45

5.3 Modules Specification……..... 46

5.3.1 User Profile…… 46

5.3.2 Workout……..... 46

5.3.3 Reminder……..... 47

5.3.4 BLE Connection……. 47

5.3.5 HR Distributor…… 47

5.3.6 Voice Assistance…… 47

5.3.7 Music Player…….. 47

5.3.8 Social Network Sharing……..... 48

5.4 Coding Standards……..... 48

5.4.1 General Principals……..... 48

5.4.2 Methods……..... 49

5.4.3 Properties……... 50

Chapter 6: Testing…… 52

6.1 Testing Plan…….. 53

6.2 Testing Strategies……..... 54

6.2.1 Unit Testing…… 54

6.3 Testing Methods……..... 55

6.4 Test Cases……. 56

6.4.1 Save User Profile ……..... 56

6.4.2 Edit User Profile……..... 56

6.4.3 Connect BLE Peripheral……..... 57

6.4.4 Disconnect BLE Peripheral……..... 57

6.4.5 Save Workout Goal……..... 58

6.4.6 Enable Workout Goal……..... 58

6.4.7 Disable Workout Goal……..... 59

6.4.8 Play Music……. 59

6.4.9 Delete Today's Workout Report…… 60

6.4.10 Delete Random Workout Report……. 60

6.4.11 Share Workout Report……..... 61

6.4.12 Share Workout Statistics……..... 61

6.4.13 Plot HR……..... 62

6.4.14 Add New Reminder……..... 62

6.4.15 Edit Reminder……..... 63

6.4.16 Delete Reminder…….. 63

Chapter 7: User Manual……..... 64

7.1 Splash Screen……..... 65

7.2 Registration……..... 66

7.3 Connection Manager……. 70

7.4 Location Services……..... 73

7.5 Workout……..... 75

7.5.1 Workout Path……..... 75

7.5.2 Workout Reports…… 77

7.6 Workout Goal……..... 82

7.7 Workout Reminder……..... 87

7.7.1 Reminder Permission……..... 87

7.7.2 Add Reminder…… 88

7.7.3 Edit/Delete Reminder……..... 95

7.8 Heart Rate Monitor……... 100

7.9 Music Player……. 103

7.10 Reset All Data……..... 105

7.11 Social Network Sharing…….. 107

Chapter 8: Conclusion and Future Extensions……..... 110

8.1 Limitations……..... 111

8.2 Discussion……. 111

8.2.1 Self Analysis of Project Viabilities……..... 111

8.2.2 Problems Encountered & Possible Solutions……. 112

8.2.3 Summary of Work Done……..... 113

8.3 Conclusion……..... 113

8.4 Future Extensions……..... 114

Bibliography……..... 115

Project Guide Detail……... 116