

# 1. Customer Statement of Requirements

## 1.1 The Current Need for Fitness

There are many reasons for which people strive to improve their health and fitness level, unfortunately there are equally as many reasons for which these same people do not reach their goals. Regardless of the reason for setting health and fitness goals, everyone could benefit from a system that addresses the most common deterrents that people face while trying to improve their health by embarking on a fitness program or regimen. A system that minimizes these deterrents would allow an individual to remain more focused on achieving their health goals. Some common problems faced when committing to improving one's fitness are listed below.

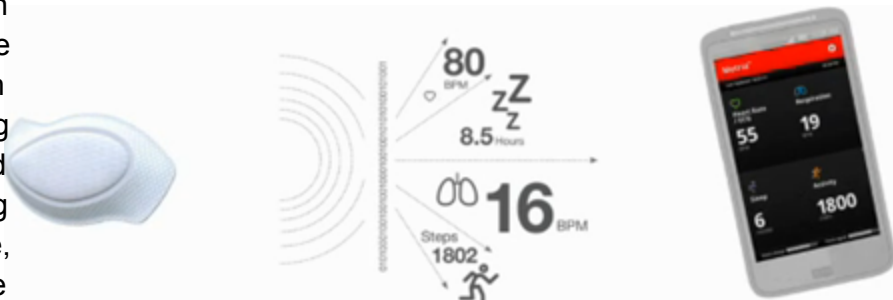
- Self consciousness and insecurity
- Lack of health knowledge
- Lack of motivation
- Gym and training costs

There are currently two solutions commonly available to address these issues. The first being joining a gym and hiring a trainer. Although this addresses many of the listed issues by providing the knowledge and motivational skills of a trainer, this solution can often be costly and often requires the participant to maintain regular appointments with a trainer and make routine trips to the gym. The main alternative to this is to utilize at home training exercises such as P90X, Insanity or simply jogging and eating right on your own. This alternative is often more cost effective and allows an individual to train in the comfort and security of their own home or around their neighborhood. The biggest drawbacks to this alternative is that without professional knowledge it can be difficult for someone to monitor their own progress and make effective changes to their diet and workout regimen. Even with the use of health monitoring devices and diet trackers it can be difficult and inconvenient for an individual to compile and analyze their fitness data on their own. What would really help in making fitness goals more easily attainable would be a single product that could bring together all the benefits of both solutions without the drawbacks. Such a product should do all or most of the following.

- Make fitness fun
- Make fitness affordable
- Make fitness easy to track
- Make it easy to analyze tracked data
- Provide relevant information and fitness suggestions based on progress and tracked data
- Make important health data easily and readily available

## 1.2 Health Data Analysis

As stated previously there are an assortment of monitoring devices capable of providing a user with various health and fitness data such as the Metria Wearable Sensor (below). While technology has been rapidly improving, the capabilities of such devices are expanding and can monitor and record data regarding everything from heart rate, to hours slept, to the amount a person perspires. Despite this improvement in medical



technology, most of these devices are design to provide nurses and doctors with data on patients under their direct care. It is less common to have these devices directly provide the user with data on their own health, mainly because the user is unlikely to know the best course of action to take based upon such data. What would be very useful to health and fitness conscious consumers would be a system that in a sense cuts out the need for regular check ups by not only providing the user with pertinent data but providing professional analysis of long and short term data and making health and fitness suggestions based on a combination of recorded data and user inputs. For example the system may suggest, that a user whose breaths per minute sharply rises with their number of steps take, should exercise more often to increase their stamina. Another example would be combining a user provided symptom such as Chronic Fatigue Syndrome (CFS), with a long history of having less than 5 hours of sleep per night, to suggest that the person consider changing one's sleep schedule to ensure a greater amount of sleep per day.

## 1.3 Making Fitness Fun

One of the most common reasons people fail to reach their fitness goals is a lack of motivation due to the large amount of effort fitness often requires for small increments of progress. Often people lose their motivation because they do not immediately begin to see results and decide that the large amount of effort is not worth the incremental gains. Two things people often look for when embarking on a fitness regimen are a way to make fitness fun and a way to track small improvements in order to keep one's self motivated. One common way to do this is to work out in pairs or groups in order to observe each other's progress and to keep each other motivated, however this is sometimes difficult if friend's and partner's schedules do not perfectly line up. With today's heavy presence of social networking sites and mobile apps

everyone uses sites such as Facebook and Twitter to tell their friends about everything from the meals they eat to the movies they go see. Being able to directly share fitness data and progress with friends on these social networking sites could potentially be a great motivator, allowing friends, family, coworkers, etc to post supporting comments to help maintain motivation. These social networking sites could also easily be used to turn fitness into a game amongst friends by providing a platform on which friends can compete with each other and brag or comment about their progress. Simple games could be created from data logged by various health monitoring devices such as pitting a group of friends against each other to see who can jog the longest distance in an hour, day, week, month, etc.

#### **1.4 Making Fitness Affordable**

One misconception that usually occurs is that people think that the only way to get fit is to exercise at the gym. Most of the time, this misconception turns people away from improving their fitness level, due to the monthly membership payment which is normally very costly, especially in the case of using a personal trainer. What most people often do not know is, maintaining the regularity along with a consistent diet is definitely enough to make running the most efficient way to improve fitness level. What we need is a system that can help people analyze their exercise routine and give useful feedbacks to help people reach their fitness goals, so that it can substitute the presence of a trainer. By providing such system, we believe we are able to offer significant benefits to general people, not only by just helping people get fit properly, but also cut down their expenses for such a simple goal of getting healthy. With just one health monitoring device and our application downloaded on their smartphone, we believe they can easily exercise and improve their health without even worrying about not progressing towards their fitness goal.

#### **1.5 Ease of Use**

When it comes to using a device, people will prefer a system that is simple and does not require too much of manual input. We are aware that a complicated system usually fails to appeal customers and provokes negative user experience, thus removing the software off the competition. Being easy to use is arguably one of the most important factors in making great software, regardless of how many functions the software offers, how sophisticated the system is, or even how beautiful the user interface looks. Obviously, our intention is to make software which is simple and easy to use without sacrificing any key functions, because we want our software to be used by not only the young generation, but everyone.

Our proposed system requires virtually no user manual input. We believe that this is very important to us, as we strive for great accessibility. As we said before, we want our software to be used by everyone, even physically disabled people. Given the fact that our software works in tandem with a health monitoring device, the user is only required to wear the device and set up their fitness goals, for example, their target weight. Our software will actively track, analyze, and provide instantaneous information about user's progress. It will also constantly give useful feedbacks via notification, making it easy for user to receive suggestion to their training regime.

## 2. Glossary of Terms

### **Diet Trackers**

A device that measures the amount of calorie intake and calories burned.

### **Heart Beat**

A number of heartbeats per unit of time, typically expressed as beats per minute(bpm).

### **Symptom**

Subjective evidence of disease or physical disturbance.

### **Chronic Fatigue Syndrome(CFS)**

severe, continued tiredness that is not relieved by rest and is not directly caused by other medical conditions.

### **Personal Trainer**

A fitness professional involved in exercise prescription and instruction. They motivate clients by setting goals and providing feedback and accountability to clients.

### **System**

A set of health monitoring device, application, and user interface working together as a group.

### **User Experience (UX or UE)**

User experience involves a person's emotions about using a particular product, system or service.

## 3. System Requirements

1. As a first time user, I want to be prompt to enter username, password, name, email, height, and weight.
2. As a user, I want to load data from any computer or supported device.
3. As an administrator, I want to access/delete any account.
4. As a user, I want to modify/add information about myself.
5. As a user, I want to insert calorie intake.
6. The system takes information/data from user.
7. The system creates a graph to output to user.

ID	Priority Weight	Requirement
REQ - 1	5	System keeps a database for all users
REQ - 2	5	System retrieves data and returns on screen
REQ - 3	5	System takes data and creates graphs
REQ - 4	4	System allows users to verify login
REQ - 5	3	User is allowed to login
REQ - 6	2	User is allowed to change user information
REQ - 7	2	User is allowed to input data
REQ - 8	1	The administrator should be able to access user account data.
REQ - 9	1	The administrator should be able to retire a user's account.

### On Screen Appearance Requirements

1. Home/Main Page
2. Refresh - allow user to refresh page if page is not loading or needs to load new information
3. Login
  - a. New user - allow a register for new users
  - b. Current members - allow login to their data
  - c. Lost password/username - sends request to system to verify user and create new password or retrieve username account
  - d. Old members - those who deleted their account could retrieve and restore old accounts
4. Performance tracker - user's on screen output of their data and how well they are doing compared to average user
5. Account Setting - add/modify changes to account settings and/or information about user
6. Help - FAQ's, send feedback, ask for help from administrators
7. About App - users can find more info (links) about health, training and tips, also information about how to use the app