

Gymtrack

THE FUTURE OF FITNESS

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Submitted: December 11, 2015

Executive Summary

This white paper introduces Gymtrack, an application of Internet of Things (IoT) technology, to fitness centre owners. Gymtrack's patent-pending sensor system is comprised of three elements: a wearable device which can be hooked up to a gym user's smartphone, a sensor system in the fitness centre, and software that allows personal trainers to monitor and assess user workout data. This paper explains how the three-part system is an improvement over the conventional hiring of personal trainers, who monitor and direct a gym user's workout. It describes the underlying technology and how the elements work together to enhance a gym user's experience.

In addition, this paper describes four key benefits for fitness centre owners who install the Gymtrack system:

1. Gymtrack enables personal trainers to offer more effective workout plans. The system allows them to monitor a user's actions and provide immediate feedback. They can also monitor and guide multiple users simultaneously.
2. Gymtrack enables personal trainers to build and update personalized workout plans for individual gym users.
3. Gymtrack enables personal trainers to track clients' long term progress by comparing workouts over time.
4. Gymtrack enables fitness centres to more effectively serve their existing clientele and attract new members.

The major sections to this white paper include an introduction (Technology Hits the Gym), a discussion of current fitness centre trends (The Gym as we Know it), a history of Gymtrack and a description of the Gymtrack system (Get to Know Gymtrack), the features and benefits of Gymtrack (The Best of Gymtrack), a summary (What Gymtrack Can do for You), and a contact list for more Gymtrack information (Where Can You Get the Gymtrack Experience?).

With Gymtrack, fitness centre owners gain a unique new way to deliver personal training services to gym users. Having a Gymtrack system in place helps retain existing customers and attract new clientele to your ultra-modern fitness centre.

Explanation

The original intention of this assignment was to write a white paper for a hypothetical Product Manager (PM) at Lobo Inc. about a newly released product. However, Gymtrack is an actual product of the Ottawa-based start-up Gymtrack Inc. Therefore, this white paper was written for the modified hypothetical scenario where:

- Gymtrack Inc. has contracted TRW Technical Communications to write a white paper about Gymtrack.
- Gymtrack Inc. has requested that the paper describe 1) the technology behind Gymtrack; 2) the features that make up Gymtrack.
- Gymtrack Inc. plans to post the white paper to their company website and distribute it to a group of interested fitness centre owners.
- The persona of Anita Findlay, Fitness Coordinator/Owner of Findlay Fitness, was created to focus the writing of this white paper.

Glossary

Android app	An Android app is a software application designed for mobile devices such as smartphones and tablet PCs that run on the Android OS.
Auditory feedback	Using Gymtrack’s Android or iOS app on a smartphone, a gym user can receive workout guidance from their personal trainer in the form of voice communication.
Dashboard	The Gymtrack Dashboard is a real-time user interface that displays the current status and historical summary of a gym user’s workout metrics.
Internet of Things	The Internet of Things (IoT) is the network of everyday objects or ‘things’ embedded with sensors, electronics, software, and network connectivity that enables the ‘things’ to send and receive data over the Internet [1].
iOS app	An iOS app is a software application designed for mobile devices such as iPhones and iPads that run iOS.
Sensor	A sensor is an electronic device that detects and measures physical properties such as weight, tension, or heart rate for use by a computing device.
Smartphone	A smartphone is a mobile phone with many of the capabilities of a computer such as web browsing, WiFi connectivity, a touch screen display, and the ability to run complex software applications.
Smart pin	A smart pin is a metal peg used in the weight stack of a weight machine that has been enhanced with an embedded sensor to communicate information to the Gymtrack Dashboard software about the weight being used.
Wearable device	A wearable device is a clothing accessory such as a bracelet or watch with an embedded computer system capable of communicating information with other computers or devices in its environment.
Workout metrics	Workout metrics are detailed numerical measurements that characterize a gym user’s activity such as tempo, range of motion, number of repetitions, and weight used.

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Technology Hits the Gym

This white paper introduces Gymtrack, an application of Internet of Things (IoT) technology for fitness centres. Gymtrack provides automated workout training and feedback to gym users that helps them track, adjust, and progress through their fitness plans. They are thus more likely to remain motivated and achieve their health and wellness goals. By installing Gymtrack, fitness centres are able to offer their members an affordable and easy-to-use alternative to personal fitness trainers.

Because Gymtrack was a new start-up product in 2014 and is being piloted at two Ottawa locations, this discussion is limited to available information. This white paper will explain the technology behind Gymtrack and describe its features. The paper includes the following main sections: Technology Hits the Gym, The Gym as we Know it, Get to Know Gymtrack, The Best of Gymtrack, What Gymtrack Can do for You, and Where Can You Get the Gymtrack Experience?

If some of the technical words or terms are unfamiliar, please refer to the Glossary on page iii for a short definition.

The Gym as we Know it

Fitness centres are businesses and as such they need to find ways to attract new members and retain existing ones. Having a personal trainer on staff can give you a competitive edge and be a differentiating feature when people choose a fitness centre. On-site trainers help keep gym users motivated and on track with their fitness goals. However, trainers come with a price that has to be passed on to the end user, and thus not all gym users can afford them. The average user fee is about \$55/hr, with an 18 session commitment [2]. Furthermore, only about 10% of gym users take advantage of on-site personal trainers [3].

To target the other 90% of gym members and help attract new ones, fitness centres need a way to either reduce the user fee or offer an alternative to the on-site personal fitness trainer. Consider also that a personal trainer is limited in the number of gym users that can be counselled at one time. To be effective, these trainers also spend considerable time keeping records and developing individual workout plans, activities that factor into the cost of having an on-site trainer.

With the widespread use of smartphones and the availability of low-cost IoT sensors, replacing the traditional expertise of a single personal trainer with the ability to guide multiple gym users simultaneously makes good business sense.

Get to Know Gymtrack

Gymtrack is an application of IoT technology for fitness centres that provides automated workout tracking and feedback to gym users through the use of a patent-pending sensor system.

Origin of Gymtrack

Gymtrack was created by the Ottawa-based start-up Gymtrack Inc., the brainchild of young entrepreneurs Lee Silverstone and Pablo Srugo [4]. They combined their passion for new

technology and entrepreneurial endeavours in creating this novel product that caught the attention of 500 Startups [5], a San Francisco-based seed accelerator. They invited Gymtrack Inc. to participate in their accelerator program in 2014. Within a year Gymtrack Inc. has grown to 20 employees and four contractors, with a head office on Bank Street [4]. So far, Gymtrack software is available in fitness centres at Algonquin College, the Soloway Jewish Community Centre, and one Greco Lean and Fit location.

Gymtrack Inc. developed the product in response to a perceived need for personalized virtual trainers. With the widespread use of smartphones and IoT applications for personal use (e.g. Fitbit™), they saw an opportunity to transform individual workout experiences. Their patent-pending system consists of three elements: a wearable device that can be hooked up to a gym user's smartphone, a sensor system in the fitness centre, and software to allow a personal trainer to monitor and assess user data [3].

Gymtrack at a Glance

The Gymtrack wearable [3] is a flexible wraparound bracelet made of high-density plastic designed not to interfere with a gym user's motions. The initial product (see Figure 1) comes in basic black and contains an embedded computer system.

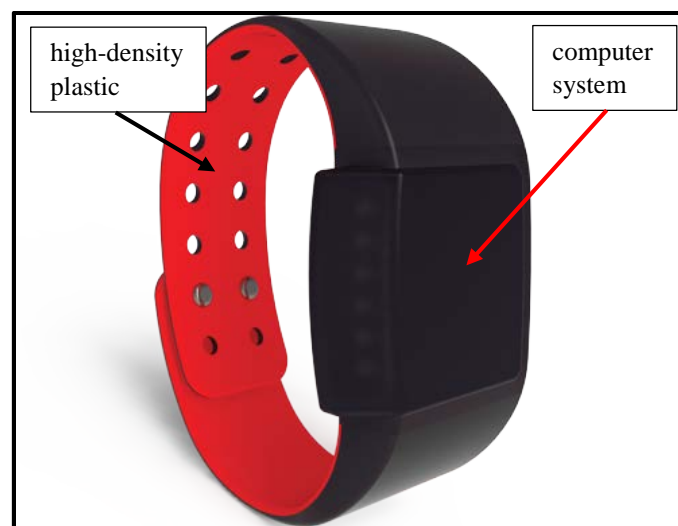


Figure 1 Gymtrack wearable [3]

The wearable device of Figure 1 identifies the individual user to the Gymtrack Dashboard software and collects metrics such as heart rate and calories burned. The wearable communicates with Gymtrack software over the internet, allowing the user to receive personalized feedback about their workout in real time.

With the addition of a smartphone (see Figure 2) or app-enabled device, a gym user can receive additional auditory feedback in real time [6].

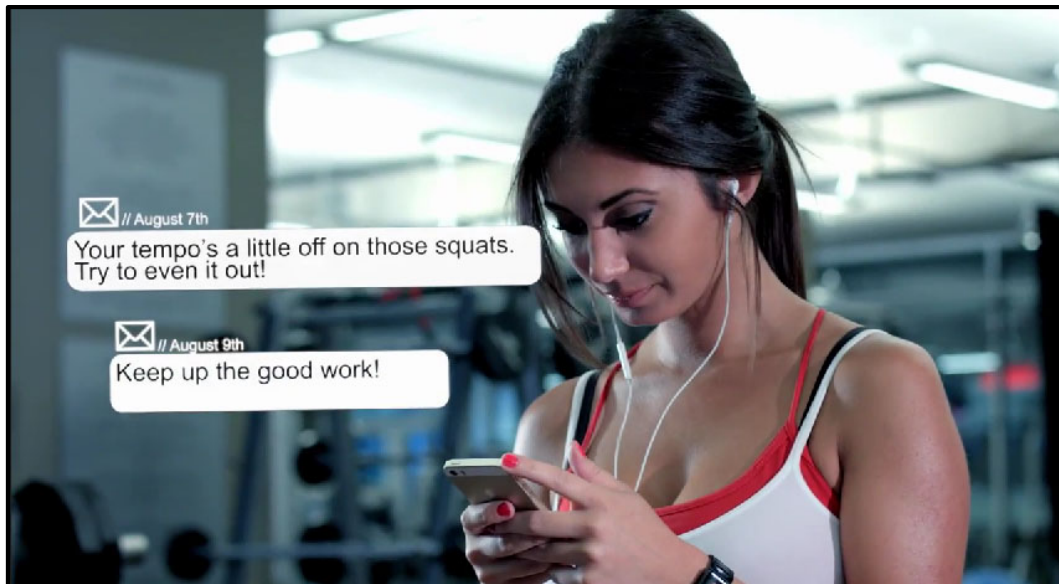


Figure 2 Gym user with her smartphone connected to Gymtrack [3]

Figure 2 shows a user interacting with a personal fitness trainer during her workout.

The Gymtrack sensor system in the fitness centre uses existing fitness equipment along with Gymtrack barbell attachment sensors and smart pins for weight machines [3]. These elements are illustrated below in Figures 3 and 4.

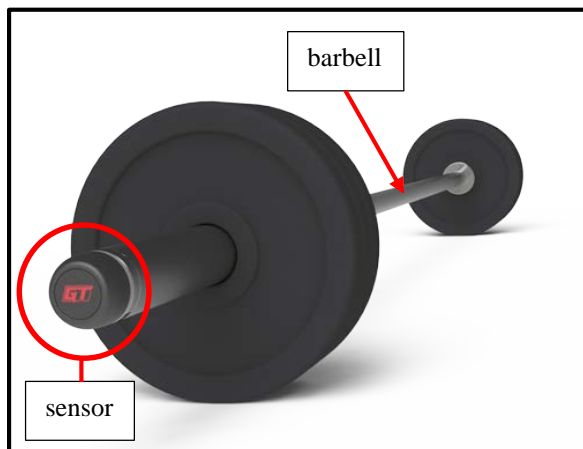


Figure 3 Gymtrack barbell attachment sensor [3]

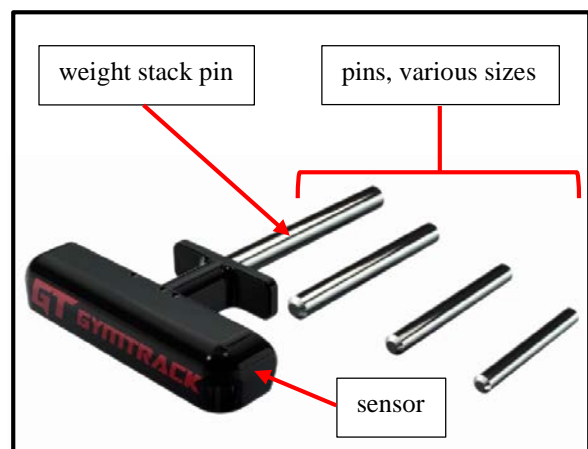


Figure 4 Gymtrack smart pins [3]

The sensors shown in Figures 3 and 4 transform the fitness centre's weights and weight machines into a network of smart fitness equipment. They communicate metrics such as tempo, range of motion, and time under tension to the Gymtrack software over the internet.

The Gymtrack Dashboard software [3] tracks and monitors an individual user's workout data in terms of the collected metrics mentioned above. A fitness centre's personal trainer then reviews the data and provides instant feedback to help users track, adjust, and progress through their fitness plans [6].

As shown in the above illustrations, the main elements of the Gymtrack system are small (e.g. the size of a watch or weight stack pin) and inconspicuous. Black-colored smart pins blend with most manufacturers' gym equipment and are not obtrusive. The gym user dons a simple bracelet that at once identifies and connects them to the Gymtrack Dashboard software. This software is designed to run on the fitness centre's existing computers and therefore takes up no additional space at the reception desk or fitness centre office. No infrastructure changes are necessary. Gymtrack systems can be installed in most fitness centres in less than a day.

The Best of Gymtrack

The Gymtrack platform consists of four features, as summarized in Table 1.

Table 1 Features of Gymtrack

Feature	What does it do?	How does it work?
Workout Builder	Allows gym users to build their own workout plans before going to the fitness centre.	Users select exercises and specify the number of reps, sets, seat position, and weight. Workout Builder sends the data to the Gymtrack iOS and Android Apps. At the fitness centre, users log on to the iOS or Android App.
Dashboard Metrics	Allows gym users and personal trainers to track how gym users are progressing through their workout plans.	Dashboard software records gym user metrics from the Hardware + Wearable (such as calories burned, range of motion, stability, and time under tension). Fitness centre staff monitor the Dashboard data and counsel gym users accordingly.
iOS + Android App	Allow gym users to refer to and carry out their workout plan in real-time at the fitness centre.	At the fitness centre, gym users access the App with their smartphone to interact with the workout plan they created earlier with Workout Builder. The App also displays metrics such as heart rate and calories burned.
Hardware + Wearable	Allows automatic recording of gym user metrics.	Gymtrack's proprietary Smart Pin, Barbell Attachment, and Wearable collect and relay information (such as reps, sets, amount of weight lifted) to the Dashboard.

The Gymtrack system will benefit fitness centre owners in the following ways:

1. Gymtrack enables personal trainers to offer more effective workout plans. The system allows them to monitor a user's actions and provide immediate feedback. They can also monitor and guide multiple users simultaneously.
2. Gymtrack enables personal trainers to build and update personalized workout plans for individual gym users.
3. Gymtrack enables personal trainers to track clients' long term progress by comparing workouts over time.

Through the provision of the above mentioned benefits, Gymtrack enables fitness centres to more effectively serve their existing clientele and attract new members.

Under traditional personal training service models, personal trainers do not have access to the metrics provided by Gymtrack's Dashboard Metrics and Hardware + Wearable. This valuable information enables personal trainers to offer more effective workout plans to help clients achieve their fitness goals.

In providing Gymtrack's accessible virtual personal training, and thus revolutionizing the fitness centre experience for gym users, fitness centre owners can increase retention rates of existing members, gain referrals and attract new members.

Gym users will love Gymtrack because they will feel supported in pursuing their fitness goals by having their workouts monitored by personal trainers. The Dashboard Metrics and Workout Builder remember workout history (e.g. reps, sets, amount of weight) and eliminate the need to manually track workouts. Users will have immediate, accessible, personalized fitness guidance with little additional cost to them. A small user fee of approximately \$10/month (on average a monthly fitness centre membership fee in Ottawa is \$60/month) could be charged by the fitness centre to recover costs within the first year of buying into the Gymtrack system [3].

What Gymtrack Can do for You

Installation of Gymtrack allows a fitness centre to offer personalized workouts as a service to their customers by acting as a virtual personal trainer. This helps gym users remain motivated and more effectively achieve their health and wellness goals.

The Gymtrack system has a lot to offer fitness centres. Gymtrack's use of IoT sensors to gather client workout metrics provides a wealth of accurate information with minimal disruption to the gym user's workout. The metrics gathered by the Dashboard remove guesswork about the effectiveness of the client's workout and provide Personal Trainers with information that allows them to improve the client's workout plan more effectively. The virtual nature of the Gymtrack system allows Personal Trainers to provide service to more clients than they could under the direct model. The smartphone app provides feedback that the client cares about directly to them, helping them adhere to their fitness plan and meet their health and wellness goals. The hardware is retrofitted into the gym's existing fitness equipment, allowing you to provide this new service with a minimal capital investment.

Gymtrack can revolutionize the way clients will see and feel about your gym, and allow you to offer more personalized, affordable service to your clients.

Where Can You Get the Gymtrack Experience?

Join the future of fitness today! Get a quote in as little as 48 hours when you pre-order from the Gymtrack Inc. website:

<http://www.home.gymtrack.co/preorder/>

Have questions? Learn more about Gymtrack and check out the FAQ on the Gymtrack Inc. website:

<http://www.home.gymtrack.co/faq/>

Still have questions? Ready to talk? Get in touch with us:

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Website <http://www.gymtrack.co>

Twitter <https://twitter.com/gymtrackco>

Facebook <https://www.facebook.com/gymtrack.co/timeline>

To see Gymtrack in action, watch for a product launch near you:

The Fitness Zone, Algonquin College

1385 Woodroffe Avenue, Ottawa, ON K2G 1V8

(613) 727-4723 x7294

Soloway Jewish Community Centre

21 Nadolny Sachs Private, Ottawa, ON K2A 1R9

(613) 798-9818

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