# **Literature Review**

# **Activity Tracker**

Swapnil Srivastava, Alex Thropp, and Jason Schulz

Abstract: This document contains research on the current state of Activity trackers.

**Introduction**

Activity trackers have gained a lot of popularity in recent years. These are convenient and practical gadgets that help us stay healthy. The following section discusses some of the existing activity tracker technologies.

# **Existing Activity Trackers**

1. Source: M. Sacramento. “Best personal health monitoring devices in 2019.” top5blog.net. <http://top5blog.net/2019/01/12/personal-health-monitoring-devices-2019/> (accessed Sept. 2, 2019)

This blog discusses the best personal health monitoring devices in 2019. It shows the great variety of products that are on the market right now. From a Smart Watch which has functionality with far more than an activity tracker to a much cheaper smart weight scales with only a few functions. This blog provides a short description and comparison of the following products: Series 4 Apple Watch, Zacurate Pro Series 500DL, ihealth feel Bluetooth Blood Pressure Monitor, EMAY portable EKG Monitor and the Mospro Smart weight scale. This gives us an overview of existing activity trackers.

2. Source: Fitbit. “Start sleeping better with Fitbit.” fitbit.com. <https://www.fitbit.com/sleep-better> (accessed Sept 2, 2019)

The company Fitbit measure your sleep with a heart rate sensor and motion detectors. They represent your sleep in four stages and visualize them on their app. In the morning you can see and “understand your sleep quality and learn whether you spent enough time in each sleep stage”. Furthermore, they have features like silent alarms, sleep schedules and sleep insights to improve the sleep quality. Sleep monitoring feature is an essential part of an activity tracker and this article provides a good model for it.

3. Source: Fitbit. “Our technology”.fitbit.com. <https://www.fitbit.com/technology> (accessed Sept. 2, 2019)

Here a deeper insight in the different sensors, their history, their benefits and how they work is given. Fitbit uses an automatic, continuous, chest-strap free heart rate technology to monitor heart rates. This technology allows for a more accurate calorie burn measurement.

4. Source: J. Morgan . “ A simple explanation of ‘The internet of things’. ” forbes.com. <https://www.forbes.com/sites/jacobmorgan/2014/05/13/simple-explanation-internet-things-that-anyone-can-understand/#4bc5174c1d09> ( accessed Sept. 2, 2019)

This article does a really good job at explaining what the internet of things is and how it connects to our lives. I thought this was a good article to read because it helped give me a better understanding into what the internet of things is. As well it provides some graphics and a video that helped me understand even more so how our world is inner connected and how these wearable health devices might work in a practical setting.

5. Source: “A bold way to look at your health.” apple.com. <https://www.apple.com/ios/health/> (accessed Sept. 2, 2019)

I wanted to take a look at a well-known company and how they do things. For this I choose apple because of the great strides they have been taking with their wearable technologies. This website basically just talks about all of the different features that they have implemented. For example, they have four areas Activity, Sleep, Mindfulness, and Nutrition. I like this because their focus isn't just on being active or counting steps they are trying to monitor and maintain every aspect of the process to give the user the best and most efficient means of health tracking.

6. Source: “Wearable technologies.” <https://www.wearable-technologies.com/> (accessed Sept. 2, 2019)

This website features all things in terms of wearable technology. The whole site is devoted to wearable technology and all new surrounding it. There is so much on this website that I can’t really pick one thing in particular that stands out but rather I think the whole site is extremely useful and will enable us to compare amongst all different types of wearable technology. Even more so there is a whole section devoted to health and wellness and I think this could be especially useful since the premise of the deals with health and wellness trackers such as the fit bit.

7. Source: D. Odhimbo. “Get Moving: The Pros and Cons of Using a Fitbit.” techserious.com. <http://techserious.com/fitbit-pros-and-cons/&imp=46959> (accessed Sept. 2, 2019)

This article takes a deep look at the pros and cons of the Fitbit activity tracker. The biggest plus of a Fitbit is how simple it is. Unlike the apple watch, this is a device centered towards the activity tracking features more than the smart watch features. The design and user interface are both simple yet functional. The biggest drawback of this device is the privacy issues and the limited features when compared to the apple watch.

8. Source: “How do I track my health and fitness goals with the Fitbit app?” fitbit.com. <https://help.fitbit.com/articles/en_US/Help_article/1955/?l=en_US&fs=Search&pn=1> (accessed Sept. 2. 2019)

This article gives helpful information to the general activity tracking process. First, the user sets their activity goal. Fitbit then monitors the activity through the wearable. The activity data is then synced with the mobile app. The user can then see the visualization of their activity on this app. This is the same standard process that apple watch uses too.

9. Source: L. Savvides. “Apple Watch 3 vs. Fitbit Versa: Which smartwatch should you buy?” cnet.com. <https://www.cnet.com/how-to/apple-watch-3-vs-fitbit-versa-best-smartwatch-fitness-tracker-comparison/> (accessed Sept. 2, 2019)

This article compares two of the top activity trackers. Fitbit is compatible with both IOS and android whereas apple watch is only IOS compatible. This largely limits the consumer availability for the apple watch. The user interface of watchOS is praised to be cleaner, simpler, more attractive, and easier to use compared to the Fitbit. Many Fitbit users have switched to the apple watch for its easy functionality. This highlights the importance of a good user interface for a wearable.

10. Source: B. Heater. “Fitbit is launching a $10 premium subscription service.” techcrunch.com. <https://techcrunch.com/2019/08/28/fitbit-is-launching-a-10-premium-subscription-service/> (accessed Sept. 2, 2019)

In this article, the author discusses the new revenue stream for fitbit. Fitbit, who has been a hardware centered company is going to be providing a monthly subscription of their premium app. This app will provide additional tools for maintaining good health. These features include healthy habit monitoring, sleep insight, get active, beginner running, etc. This highlights the importance of the mobile app for an activity tracker and how it can be a huge revenue stream for a company.