How Apple Watch and pervasive computing can lure you into leveling up your fitness

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Credit: AI-generated image ([disclaimer](#))

Hello, my name is Michael, and I'm a Ring Addict.

No, not the one ring from "Lord of the Rings"; not the cheap costume jewelry you get at the local Renaissance Fair. I'm talking about the red, green and blue rings that adorn my [Apple Watch](#), tracking how much I

move, exercise and stand.

For the last five months, I've worked daily to meet those magical milestones that appear on my watch face, culminating last month in my earning the badge for 100 days of meeting my move goal. I'm hopelessly addicted, so much so that I sometimes take an extra lap around the University of California Irvine's Aldrich Park just to make sure to get my red ring for the day.

As the Apple Watch lapped its own first anniversary a couple of weeks ago, stories like mine abounded, with some commenters proudly reporting a year-long activity streak on the first anniversary of the watch.

It would appear I'm not the only addict, with the fitness features of the watch often reported as the number one feature that attracts buyers. But what makes it so compelling? It turns out that the fitness features of the Apple Watch tap into the aspect of human psychology that makes us feel good about completing a goal or reaching an achievement. It's one of the most prominent examples of gamification – a way of integrating these goals and achievements into traditionally nongame activities.

Caught up in the game before you know it

Exit the Apple store, strap on your watch and, soon after, you'll get your first fitness notification. The watch quickly asks you to set a move goal of a certain number of calories you'll burn by moving each day (tracked via an internal pedometer). You also soon discover that the watch reminds you to stand for a few minutes every hour (and monitors whether you do it). And it uses your heart rate to track how many minutes of exercise you do each day (anything that raises your heart rate over that of a brisk walk counts).

At first you may consider it all just a novelty. But the continuing

reminders and the presence of the activity rings on the front watch face mean you quickly start to notice how you're doing with these goals. Maybe it's the stand goal first, when you get a reminder toward the end of one day that you've stood for 10 hours, encouraging you to stand up a couple times during your evening movie-watching. Then perhaps it's the move goal, letting you know that all you need is 50 extra calories to meet your target for the day.

Next, you get your first badge, for a day where you completed all your rings. And then, just to hook you entirely, the watch starts telling you that you've hit a streak, with 10 or 20 move goals hit in a row. It encourages you to keep on going.

All of a sudden, you're addicted, playing the fitness game, and you didn't even realize! What happened?

The rings in question: they close when the goal for the day has been met. Credit:

Blurring the 'magic circle'

Welcome to Apple's pervasive fitness game. Through the use of goals and badges that can occur at any time, Apple has caught you in a game that you play all the time, wherever you are, and with anybody around you who also knows what the rings mean.

Traditional games have a strict "magic circle" – a boundary you must enter that limits the game in time and space. Think of a hand of poker – it's limited in space by being played at the poker table, limited in time because of the length of the hand and limited in players because of the number of seats at the table.

But the type of game introduced by a fitness device such as the Apple Watch is ubiquitous and pervasive. Through a blurring of the magic circle that surrounds a traditional game, these kinds of devices are creating a game that can be played anywhere, at any time, either solo or in a group.

By being built into our devices and active by default, this new type of serious game has the potential to become truly ubiquitous, integrating into our lives and allowing us to hit goals that affect not only the game, but also our outside lives. It pushes us toward positive change.

We can't resist the desire to level up

This success of this approach is not surprising. Research into serious games shows that "gamifying" a task can increase motivation for players and encourage them to continue to level up and meet higher numbers to

complete the game's activities. It's amazing what the presence of a simple goal and some virtual badges for certain activities can do to help somebody persevere with a single task. It turns out that gamification brings out people's natural desire for competition and achievement. Gamification simply applies those innate tendencies to what are traditionally nongame activities.

For instance, serious games have been shown to greatly benefit health education, with promise in promoting diet and physical activity change for diabetes and obesity prevention in youth. In rehabilitation, serious games have proven able to improve outcomes for patients suffering from stroke, cerebral palsy and more, by providing them with a motivating way to do the repetitive motions – such as a particular arm or leg movement – often required in a rehab context.

In a more instructional realm, serious games have been used to provide information to students about the environment, the supply chain and other areas of education. Even my own work in educational technology could be considered a type of serious game intended to improve learning outcomes for students.

In all these examples, the ability to gamify improves motivation, encourages players to participate and, often, leads to improved outcomes . Working with Josh Tanenbaum at the Transformative Play Lab here at UCI, we're even exploring how tapping into the pleasure we get from games can be used to increase empathy for others.

The warm embrace of technology

But perhaps the most interesting aspect of gamification is how this type of pervasive, serious game can help change the way people interact with technology. There's a fear that technology takes people away from the real world. But I'd argue the use of the type of pervasive, ubiquitous

technology present in the Apple Watch actually helps to integrate people into the world around them. Rather than encouraging people to bury themselves in the technology, it prods people to get out and use the technology as part of their lives. Technology and the real world seamlessly integrate, even encouraging people to make a stronger connection between real-world activities – such as taking a walk around campus – and digital activities.

As this pervasive integration of technology into our lives continues to improve, expect to see more and more Facebook status updates from your friends as they meet their goals, whether that be a badge on the Apple Watch or a successful run on Runtastic.

And perhaps if we're lucky, we'll move farther away from the inaccurate stereotype that technology is something used by loner computer geeks in their basement lairs. We'll recognize technology isn't just all around us but integrated into our daily lives, keeping us more connected to the physical world and other people than ever.

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