The pull these days to be connected to technology is strong. It’s so strong most people use technology almost around the clock – at least while they’re not sleeping. And even then, for many, a smart phone is right beside the bed, either used as an intentional alarm clock or sometimes pinging us awake unexpectedly.

That’s the case for Tyler Foxworthy. “When I get out of bed, the first thing I do is pick up my smart phone. I check my email and check the news,” says the artificial intelligence expert who works for Indianapolis-based medical software company Greenlight Guru. “And I check it right before I go to bed. It’s become a habit. I wish it wasn’t.”

You can’t blame Foxworthy or the throngs of Hoosiers just like him. Technology has some obvious and undisputed advantages in the lives of almost everyone. From a business standpoint, studies show, it can make most any company at least 35% more efficient and productive than it would be without technology.

It’s a huge time-saver in people’s personal lives as well. A recent study showed that modern technology is giving back the average person almost three weeks each year that would otherwise be spent on mundane tasks like shopping and banking.

The survey of 2,000 adults conducted by Stanford University found that technology like self-service checkouts, internet shopping or banking and mobile traffic updates were saving the average American around six-and-a-half hours each week. Travel apps alone accounted for an hour of that by making
navigation more efficient and giving traffic updates and travel times.

**Warning signs**

But there is a growing awareness of the toll using technology takes on users. There are increasing reports of physical issues with necks, arms, wrists, hands, backs and eyes due to the overuse of devices at home, work or school.

The massive use of desktop and laptop computers along with tablets has completely changed people’s postures, according to a study by the American Chiropractic Association (ACA), leading to a long list of physical problems. Furthermore, over-reliance on technology has led to an increasingly sedentary lifestyle among a growing number of Americans, which has led to weight gain and other problems, concludes the ACA study.

Psychological ills unfortunately have become all too common from things like social media.

“The combination of social networks and smart phones is a 1-2 punch against humanity,” Foxworthy asserts. “They’ve become instruments of unhappiness, but they’re difficult to get away from.”

A relatively new syndrome, Internet Addiction Disorder, is impacting a fast-growing number of people. Those who discount the addictive forces of technology, probably don’t understand how computer programming and software development works.

Bill Watson, a Purdue University professor and director of the Purdue Center for Serious Games and Learning in Virtual Environments, sure does.

“I teach a course on educational game design, and the first thing I talk to my students about is the hook in their game,” Watson explains. “We’re talking about the hook, whether the person wants to be hooked or not. In our case, we’re doing it for entirely positive reasons, but we’re using the terminology hook for a reason.”

Watson himself loves video and board games – and he’s seen the power of addiction in gaming and by extension to technology.

“Can you be addicted to a game? Absolutely,” he states. “Obviously this kind of addiction can have some very negative outcomes.”

So, is technology designed to be addictive? In many cases, you bet.

“The mechanisms of addiction, including the dopamine hit from using, are well understood among software and technology designers,” states Raman Ohri, president & CEO of Carmel-based SEP, which produces a wide range of software used by a spectrum of businesses and industries. “This (addiction) loop is built for how humans are motivated. Game designers in particular know how to do this. It involves a combination of ubiquitous access, pleasant interface and interesting and compelling information and data.”

Watson thinks there needs to be a partnership around the ethical use of technology.

“As a game designer, or a designer of technology, we have to ask, ‘Are there ways of having it be engaging without causing significant harm to others?’ Games, for instance, could even use popups that warn about excessive playing times. It’s a balancing act. There’s no easy answer to the development or use of technology.”

In no way would Watson recommend dispensing with technology due to the potential negative impacts.

“I’ve seen firsthand kids use technology at school with a great benefit,” he stresses. “Game-based learning for instance is an active engaging way of learning, rather than a passive, sit-and-listen environment. That can have huge benefits for the learning and retention of really useful knowledge.”

**Good and bad**

There’s no getting by without technology in this era, and most people wouldn’t want to try. From the electronics that are in every automobile to grocery store apps that won’t allow us to save the maximum without a digital coupon, today’s society pushes people into the electronic realm, like it or not.

“Unless you are a hardcore doomsday prepper going off the grid, you can’t get away from technology,” Ohri muses. “To access information that is not through software is kind of tricky – and frustrating. We are dragged inexorably forward.”

Jennifer Pferrer, executive director of the Indiana Chamber’s Wellness Council of Indiana, notes while people are becoming more acutely aware of the downsides of technology, that doesn’t diminish the good it brings to people’s lives.

She points out that technology, with things like telehealth and health care apps, has greatly opened access to essential and needed care for countless individuals. “There are 165,000 apps to help people manage their physical and mental health,” Pferrer states. “Technology can make getting care easier and cheaper. It also allows people to remain somewhat anonymous when reaching out using technology.”

Pferrer acknowledges that oversusing technology and social media in particular can lead to a poor self-image due to constant comparisons to others, anxiety and depression. It can also lead to sleep disruption, she adds.

The concerns have become so heightened that in the past two years, the U.S. Surgeon General has come out with multiple reports on the potential pitfalls of excessive social media use. One key takeaway revealed that one-third of people under age 20 report using social media almost constantly.

But there’s always two sides to the coin. For instance, Pferrer says, teens and younger people may misuse social media to try to replace real-life interactions, which can lead to feelings of isolation. But many senior citizens, especially during the pandemic, have reported that technology and social media have been key to keeping them connected to family and friends when it otherwise wouldn’t have been possible.

**Needed reflection**

The juxtaposition of technology’s good and bad impacts has led people to consider their habits.

“People have really started to take a careful look at where technology is good and needed, and where it’s not,” Pferrer imparts. “We have to set boundaries, not just with kids, but with ourselves as well. I make a habit of stepping away from technology throughout the day. It’s hard on my neck and other parts of my body. Psychologically, if we become too reliant on it, it can be addicting, the same as smoking.”

Pferrer has made a habit of discontinuing the use of her smart phone and computer — especially for work — by 7:30 p.m., though she
admits when deadlines are tight that can be challenging. She also has begun leaving her cell phone behind on weekends. “As long as I know where my kids are, I can put my phone away,” she shares.

More people are undergoing what is called “digital detox” – putting aside all technology while on vacation.

“Part of this has to do with the culture a workplace establishes,” Pferrer explains. “Employees are looking for work-life balance, and businesses are responding to that. In the long run, businesses are finding that this balance leads to a healthier and more productive employee base. Personally, I feel like I can be my best self at work if I set those boundaries.”

**Onus on us**

SEP’s Ohri insists: “Technology is neither good nor bad, it’s only what humans decide to do with it.”

He maintains the responsibility is on people to squeeze the good out of technology while minimizing negative impacts.

“Many of us sit at a computer a lot of the day, but the digital world brings in so many distractions. They’re just a click away. Our attention is assaulted and it takes real discipline to stay focused when the temptation is right there,” Ohri asserts.

“It’s easy to let the negatives slip in – even while trying to improve your work or other efficiencies.

“My phone is my alarm clock, so within the first five minutes of my day, I’m looking at messages on my smart phone,” Ohri explains. “Letting someone else dictate how you feel as you start your day. Guilty as charged.”

Like Pferrer, Ohri has tried to set limits for himself. For instance, he tries to avoid looking at emails, texts or slack messages within 30 minutes of bedtime. “If a message comes in that’s emotionally charged, I’m going to be thinking about that when I should be asleep,” he emphasizes. “It’s such an active discipline to put a practice like that in place.”

While Ohri tries to stress having a proper work-life balance to his employees, he’s careful not to preach.

“We are very forceful about having people work a reasonable schedule,” Ohri relates. “Few people produce great work the further they go, 50, 60 hours in a week. But the people we work with are professionals and they go, 50, 60 hours in a week. But the long run, businesses are finding that this balance leads to a healthier and more productive employee base. Personally, I feel like I can be my best self at work if I set those boundaries.”

**FOMO no joke**

Unplugging from technology isn’t as simple as it seems, especially for younger people.

“Students often talk about how stressful it is, partly because they don’t know how to separate themselves from that world,” suggests Edlin Garcia, an associate instructor and doctoral candidate in health behavior at the IU School of Public Health in Bloomington.

She adds, “Unplugging creates its own kind of stress. If you knew a life before this type of technology, you know the value of unplugging. Younger people don’t know life outside technology.”

The stress of trying to do without technology has given rise to a popular acronym, FOMO, or fear of missing out. While there are many jokes about FOMO, the underlying stress behind it “has very real health implications,” Edlin states.

Sagar Samtani, assistant professor of operations and decision sciences and director of the Data Science and Artificial Intelligence Lab at the IU Kelley School of Business, knows well the trappings of FOMO.

“I’ve seen the toll working in the tech sector can take,” Samtani reflects. “An area like cybersecurity, where I’ve worked, can be very reactive, so you have to stay connected. While your mind is stressing and your sleep is interrupted, your body in this profession can be very sedentary, which can lead to weight gain, which compounds a host of problems.”

And the pandemic, he says, accelerated the push of the masses toward various technology uses.

Still, he’s done what he can to distance himself from the digital world. He ceased using Twitter in 2013 except when necessary for work. He’s set up a series of filters on his email account to keep it to the essentials. He’s done his best to limit his cell phone use and he takes trips to enjoy nature, the only place he finds he can truly unplug.

“Balancing the use of technology is one of the most difficult dilemmas we face today,” he surmises. “Self-awareness is very important. We must identify stressors and those that are caused by technology. We must understand where tech stresses me, and where it calms me down. This is all so new, but we need to get a hold of it now or it will have a hold on us – mostly in bad ways – later.”