

## Microsoft's new Xbox controller courts gamers with disabilities

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Mike Luckett had been having trouble controlling his Xbox controller. His diminished finger dexterity after a spinal cord injury meant it was tough to be as quick as he wanted on the toggles and buttons on the game console's controller.

Luckett, a skilled gamer who has been playing pretty much all his life, knew he could be playing more competitively. But since a 2011 motorcycle accident left him with quadriplegia, he has limited mobility in his fingers and has struggled to fully get his game back.

Luckett is one of the gamers Microsoft aims to serve with its newest Xbox controller—a tool tailored inside and out for gamers with disabilities.

Players with disabilities, who use gaming as a form of entertainment but also as a way to interact and connect with others, have been cobbling together options for nontraditional controls for years. Xbox wanted to make it easier for players and caretakers to play, without intense mechanical building. That's where the Xbox Adaptive Controller comes in.

It's basically a plain, flat white rectangle with two big black buttons, and a few controls on the front. The most important parts of the controller are along the back and sides where a total of 21 ports are available for gamers to plug in pretty much any accessory they want.



Those might be a big, flat easy-to-hit button to trigger different game functions, or a mouthpiece that can control a player's speed through breathing, or maybe a foot pedal for acceleration.

Microsoft unveiled the Adaptive Controller recently but doesn't have a specific public release date yet, beyond "later this year." It will cost \$99.99 when it debuts and be available alongside Xbox consoles in stores and online.

The controller accessories are made by other companies, including AbleNet, Logitech and Ram, and range in price from \$8 for a tool to mount a controller for easier access, \$65 for an easy-to-use button, to \$399 for a quadstick, a mouth-operated joystick.

The idea for Microsoft's new controller came out of a 2015 companywide "One Week Hackathon," which encourages engineers to develop inventions.

It's the first hardware product stemming from a hackathon that has made it all the way to shipping, said Kris Hunter, a senior product planner for Xbox.

Hunter had the job of justifying the business case for the new controller, and it was an unusual one. The team isn't really sure how many people will buy the product. "We still don't know," Hunter said. "We won't know until we ship."

The audience could be big: A Census study found that 56.7 million people in the U.S. had a disability in 2010, and presumably even more have temporary disabilities, such as a broken arm or leg.

Though Xbox designers may not be sure of the exact number of potential buyers for the Adaptive Controller, they do know there is a dedicated



following of gamers waiting for just such a tool. That, and the company's focus on technology accessibility, made up Hunter's business argument.

Microsoft in recent years has increased its attention and investment in accessible products for people with some sort of disability. The company recently announced it would invest \$25 million on research and development of artificial intelligence technology that benefits people with disabilities.

This focus has been emphasized under CEO Satya Nadella, who has a child with cerebral palsy. Support from Nadella, who became Microsoft CEO in 2014, has caused a cultural shift within the company, pushing people to always keep accessibility in mind, many employees say.

Bryce Johnson, the inclusive lead for product research and accessibility at the company, gestures to a huge Lego board on the wall of his lab. On it are dozens of pictures of gamers with disabilities from around the world who have pieced together controls that work for them. Some use their feet to play, others use one hand or their head.

It was important to make sure the controller could reach people who are not typically served by the traditional options, Johnson said.

"We pick the edge cases," he said. "We don't design for the majority."

Many gamers now work with nonprofits such as SpecialEffect and AbleGamers, organizations that help gamers with disabilities find ways to play, buy accessories and piece together controllers that work for them. Xbox partnered with many of these nonprofits to develop its new controller.

The Adaptive Controller is not really a controller by itself. It could be used to play a few basic games, but its use is really to accommodate



plugins. There are enough external ports on the controller that every function of a traditional controller can be replaced with some sort of outside accessory.

Luckett, who volunteers at Warfighter Engaged, a nonprofit that works with injured veterans to adapt gaming controllers, has been testing iterations of the Adaptive Controller for a year—and he's gotten really good at using both a traditional <u>controller</u> and the Adaptive Controller at the same time to fire, jump and win games. He uses the two devices with a Microsoft feature called Copilot that allows two controllers to function as one character.

Best of all, the Adaptive Controller has allowed Luckett to get back his competitive chops.

"Just being brought on and learning about the Xbox Adaptive Controller has been an eye-opening experience," he said. "Not just for me, it's definitely given me hope that I can get other people to game."

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