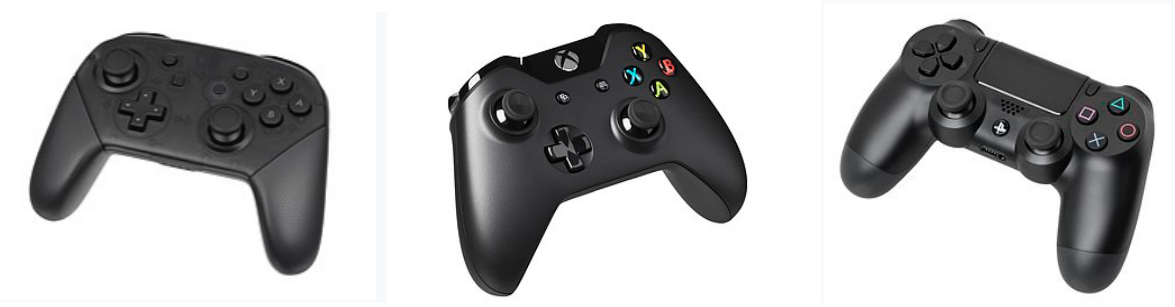
Engineering Accessibility
Adaptive XBox Controller Packaging Case Study

Reflect…

- Why do you think people play video games? What are some potential motivations or goals?
- What do you think are some of the potential benefits of playing video games?

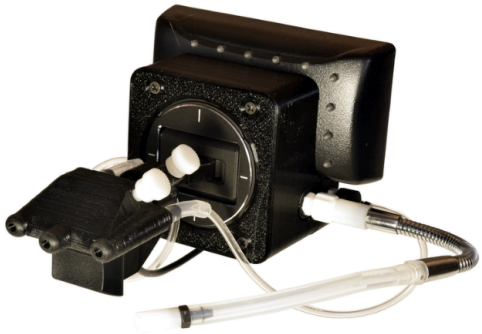
Part I: (In)Accessibility in Gaming

The non-profit organization AbleGamers estimates that there are over 30 million gamers with disabilities in the United States. Historically, these individuals have gravitated toward PCs rather than popular consoles such as the Microsoft XBox and the Sony Playstation because the PC experience is easier to adapt and customize. The controllers sold with consoles typically incorporate the same basic components: thumbsticks, a directional pad, and a series of buttons and triggers, and they are designed to be used with both hands. For users who are unable to press small buttons in combination or who cannot use their fingers to manipulate small joysticks with precision, the traditional layout of console controllers may represent a major barrier (Holmes 2018:41-52).



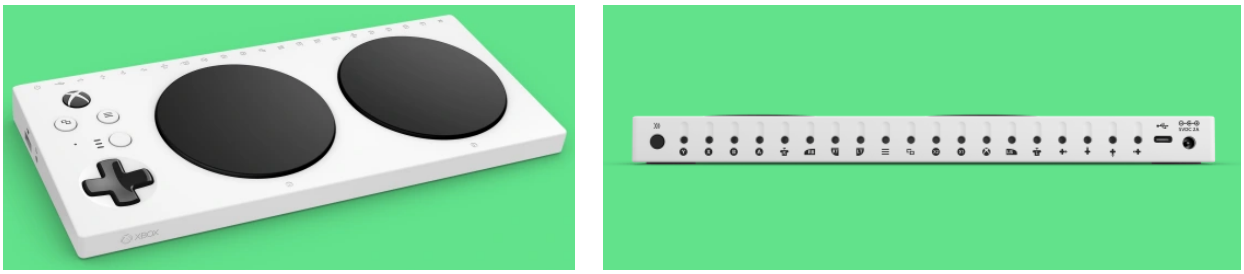
Traditional Console Controllers: Nintendo Switch Pro (left), XBox One (center), Playstation Dual Shock 4 (right)

Adaptive "switches," which allow players to control games using other body parts (such as a mouth, an elbow, or a foot), are available. However, these devices do not necessarily provide seamless workarounds. Historically, they have been developed entirely by third parties. Further, individual switches can cost hundreds of dollars each, and some players require a combination of additional hardware components to navigate their favorite games (Parker 2018).



The QuadStick FPS “sip and puff” controller is designed for quadriplegic gamers

In September 2018, Microsoft XBox became the first major platform to release its own controller specifically for users with physical disabilities (Wilson 2019). The idea grew out of an internal hackathon during which the company’s developers explored options for a user who had undergone an amputation. The Adaptive XBox Controller, which retails for $99, is compatible with XBox One and Windows 10. Because accessibility needs can vary dramatically from user to user, the controller is designed to be customized, rather than serving as a one-size-fits-all solution. Its two oversized buttons can be pressed with any appendage. Each of the buttons can be remapped (for example, reducing a combination of actions within a game to a single button press). There is also a “shift” option, which allows gamers to use the same button for multiple actions during a single session. The back of the controller incorporates 19 ports that allow players to integrate accessories, including additional buttons, joysticks, or switches.



Adaptive Xbox Controller (Wilson 2019)

As the plans for this hardware emerged, however, Microsoft’s designers recognized that the device itself was not the only potential barrier to accessibility. They would also need to revisit its packaging. As one of the Microsoft employees who contributed to the project noted, “It’s great that we’ve created this controller for people to use, but, if they can’t even get it out of the box, we’ve sort of fallen on our face with this whole process…” (Bach 2018).

Reflect…

- Imagine that you are a member of Microsoft's accessible packaging design team. What steps would you want to take to make sure that your eventual solution meets your users' needs and requirements?