

# Nintendo Switch: Framework for Inclusive Redesign

## Product/Service

The Nintendo Switch (the physical console and settings)

## Cycle of Exclusion

### Who (made it)?

- Nintendo, a Japanese electronics company
  - Multinational, publicly traded

### Why (was it made)?

- To make a profit for Nintendo and its shareholders
- To have a portable gaming device that people can carry anywhere
- To bridge the gap between leisure and deep gameplay
- To keep Nintendo IPs going through the newest generation of consoles

### How (was it made)?

- Designed in offices by design teams, manufactured in factories
- Using research with potential players
- <https://mindtribe.com/2017/03/nintendos-hardware-dna-a-switch-teardown/>
- Haptic feedback
- <http://www.alto-design.com/en/blog/84/the-designer-s-eye-nintendo-switch>
- Nintendo revealed the Nintendo Switch in October 2016 and released on March 3, 2017
- Switch Lite released on Sept 20, 2019
- *Animal Crossing: New Horizon* was released on March 20, 2020

### Who (is it made for)?

- Anyone interested in playing video games
- Often marketed towards families, younger audiences, and young adults
- Companies who create video games

## Who (uses it)?

- Gamers who vary in
  - Age (e.g. kids, teens, adults)
  - Genre preference (e.g., action, shooters)
  - Country, language, culture
  - Experience and skill
  - Affinity for Nintendo and its properties
  - Motivation (fun, work, fame/fortune)
  - Socioeconomic status
  - Physical ability
  - Cognitive ability
  - Preferred playing mode (at home or away from home)
- People who game alone or with others online (on the couch or online)

## Design Framework

*A core set of questions that we could use for creating a Design Challenge framework (Use inclusive design thinking as we do this exercise)*

## What (to design)?

*The product/system/service that we pick for redesign:*

- The Nintendo Switch gaming console: the physical system, as well as its settings menu and video games.
- We will talk about the Switch itself in relation to barriers players face, and we will talk about particular barriers in relation to certain games such as *Animal Crossing*. We will consider a list of recommendations that we would provide to game developers as well so they could make accessible Switch games

## Why (redesign it)?

*The contextual barriers the product/system/service might pose to diverse users:*

- Based on cursory research about gamers with disabilities, it's clear that many gamers face barriers regarding the lack of accessibility features and settings on the Switch. While it offers remappable controls and a light/dark mode, it does *not* offer many alternatives to the Joy-Cons (aside from the Pro controller) nor additional accessibility settings. Many Switch games also seem to lack accessibility settings like font- and UI-scaling.
- Reflection of industry as a whole - Switch has some catching up to do with competitors (e.g. *The Last of Us 2*, Xbox Adaptive Controller, PC gaming)
- The Switch itself, plus accessories like controllers, are currently very expensive and might pose a problem for people who don't have access to funds. Also, the Switch with the

detachable Joy-Cons is more expensive compared to the Switch Lite, further posing financial barriers (\$379 vs \$260 CAD, respectively).

### Who (will benefit)?

*The user(s) whom we identify as marginalized and choose to work with:*

- Sensory Barriers: A user with a visual impairment
- Motor Barriers: A user who cannot use their hands at full capacity
- Financial Barriers: A user who cannot easily afford the switch and added peripherals.

### How (will we do it)?

*The redesign work that we must do to reduce the barriers:*

- Financial Barriers: A user who cannot easily afford the switch and added peripherals
- Guidelines/requirements from Nintendo that state game developers have to follow certain practices to make their games accessible (include settings, etc.).
  - For example, design challenges that do not rely on one modality
- Universal system-settings for user profiles that apply to all games
  - Screen readers
  - Brightness controllers
  - Color-blindness adjusters
  - Audio cues
  - Key remapping
- Peripherals, external buttons, and switches that could make the Switch more accessible are nonexistent (think about the Xbox Adaptive Controller), and the larger version of the Switch with removable Joy-Cons is more expensive compared to the Switch Lite (\$379 vs \$260 CAD).
  - Find ways to reduce having to buy more parts to make it accessible
  - Find ways to accommodate attaching 3rd party (or 1st party) peripherals to attach to the Switch (e.g. triggers, buttons)

### Where (will it fit)?

*The larger system within which the proposed solution sits and how the solution impacts it positively / negatively:*

- Our solution aims to target core problems in terms of access. Instead of allowing game studios to choose how accessible they are, adding default accessibility solutions right into the Nintendo Switch alleviates mismatch games accessibility issues.
- Our solution might change the video game industry for the better because of its copycat nature: competing console manufacturers (e.g., Sony, Microsoft) might follow suit
- The visibility and lucrateness of video games might lead our solution to be adapted/adopted in related digital/electronics industries

## When (will we do it)?

*The timeline within which you plan to do all this:*

- TBD

## Resources

### Evaluations of Switch accessibility

- <https://ablegamers.org/switchaccessibilityevaluation/>
- <https://accessible.games/>
- <https://en-americas-support.nintendo.com/app/social/questions/detail/qid/72174/~-/accessibility-settings-for-the-impaired>
- <https://caniplaythat.com/2020/05/10/video-game-user-interfaces-ported-to-nintendo-switch-are-inaccessible-because-accessibility-wasnt-present-prior/>
- <https://www.polygon.com/2017/8/17/16162168/nintendo-switch-joy-con-adapter-one-hand>
- <https://www.washingtonpost.com/video-games/2020/04/21/accessibility-gaming-nintendo-switch/>

### *Animal Crossing: New Horizons*

- <https://caniplaythat.com/2020/03/24/mobility-review-animal-crossing-new-horizons/>
- <https://caniplaythat.com/2020/03/26/blind-low-vision-review-animal-crossing-new-horizons/>

### *The Last of Us Part II*

- <https://www.playstation.com/en-ca/games/the-last-of-us-part-ii-ps4/accessibility/>

### Game Accessibility Guidelines

- <http://gameaccessibilityguidelines.com/>

### Switch Specs

- <https://www.nintendo.com/switch/tech-specs/>

## Guidance from expert

- “It’s not about design, it’s about meeting needs”
- Don’t need to design anything, it’s theoretical exercise
- Could do it modularly: work on a few things so that you don’t worry about not being done, can submit whatever we have. [LK: hardware first, then settings, then game specific settings maybe?]
- Ideally: look at one user and understand what their needs are
- Could email [industry expert] and ask for an opinion, set up a meeting with a user and talk to them

## Feedback from peers

### What (to design)?

*Would like more information about how you view the intersectionality of price as a prohibition*

*Yes, great overview of the system and understanding of where the Switch fits in the gaming industry*

*Yes; controllers that are removable vs not*

*Switch controller limitation is been talked a lot. I think more limitation related to games can be talked more about.*

*You talked about the financial, mobility and sensory barrier. You can also look into the cultural aspect, like the available languages that are offered in the system setting (Nintendo may not include all kinds of languages which inhibits international audiences)*

*They discussed on how to hold the Nintendo and how people with mobility issues might face economic barriers and usability barriers. What more to do: Maybe look at the weight of the controller, the angle at which it needs to be held might be a barrier too. Does the system even require a controller? Is there any other device that can help or any other modality?*

*they looked at the physical product itself and discovered some of the critical issues it has with its controller - might be hard to grip or reach some buttons/parts. it's also [costly]. they also looked at the game/setting which is a very interesting approach and can have great impacts*

*The iteration of the design plan is very thorough. The group provides pretty good justification on what the barriers are (e.g. motor) and how users are challenged given the inaccessible design.*

*I like how the group want to create accessible design guidelines for gaming companies to design future/ redesign existing games, and noticed how Nintendo does not offer a wide range of controller like XBOX.*

*They explained the barriers thoroughly, e.g. voice and language, mobility, hearing, cognitive strength, financial.*

*They identified several barriers and explained*

### **Why (redesign it)?**

*no comment*

*Yes. Financial barrier could be interesting - cost of production/business is always big in any industry, esp. with gaming model of needing to buy games in addition to the console. Could look at some experimental tech with mouse/eye tracking, straws, voice input, etc., other accessibility solutions that don't require strong hands.*

*look up some examples that have already been done featuring target user*

*Mobility issue, high cost, some games are more accessible than others*

*I think the 'why' could be emphasized more.*

*Maybe talk to users and observe how people with disabilities use Nintendo. If not, what else do they use.*

*i think they have identified some very good aspects to look at. might be good to narrow down a bit.*

*The justification provided is pretty thorough*

*Maybe look at how people play games differently, e.g. location, ways.*

*Older adults prefer voice tech, but face hurdles using them. Language, speech barriers. Might be worth looking at google home/nest as well.*

*I can't think of any*

*They identified the barrier by showing the actual product, it was very straight forward!*

### **Who (will benefit)?**

*Could have more research into the prohibitive prices of devices and games*

*Yes, two primary modalities of interacting with the console. Could take a deeper dive into Xbox accessibility, Able-Bodied Gamers, etc.*

*Could be a bit more specific, i.e. only focusing on children who have sensory and motor barriers*

*Different group of people who play Switch*

*Your target audience seems broad. You may want to focus on a more focused audience with specific needs.*

*I feel like they can be more concrete on what users they focus on. Currently they are looking at different aspects but maybe build this in a detailed way.*

*People with mobility disabilities or financial barriers.*

*I think the choice of target users is pretty nice. I love that budget is one of the barriers that need to be addressed. Just throwing out ideas here: would you consider age as one of the influencing factors? Would kids/teenagers have a different experience compared to adults?*

*I think the group can explore the variety of gamers, including different age groups and cultural different. For example, a kid will play Nintendo Switch differently to an adult, while the way a Japanese play might be different to someone from Canada.*

*Older population w/ visibility, hearing and mobility issues. Clearly identified user base.*

*The barriers make sense; they might not have involved research but they're intuitive*

### **How (will we do it)?**

*Yes*

*no comment*

*Would be good to just focus on one user or by a category*

*I'm not sure if you proposed specific redesign solutions.*

*They didn't really talk about the redesign at this stage.*

*I really like the idea that they are thinking about how to provide proper and effective guidelines to game designers on how to make games more accessible.*

*In terms of redesign, there are different areas of research need to be done - the redesign of the controller, the redesign of the system setting etc. But overall im looking forward to it! Good job :)*

*Yes, it is appropriate.*

*Reducing complexity of voice commands sounds like a good idea. It may have been mentioned, but having a place where commands could easily be found would be a good idea too.*

*I couldn't discern any design plan; the presentation is more about barriers that they have described*

*N/A*