Lena Klassen
1005477128
INF302
November 19, 2019

The Nintendo Virtual Boy: Its Background, Its Failure, and a Successful Successor

The first portable stereoscopic 3D gaming system, the Nintendo Virtual Boy, was introduced in Japan and America in 1995.[1] It failed dramatically and was discontinued within a year.[2] The Virtual Boy immerses the player in 3D games by having the player peer into a headset while they are playing (see fig 1). All of its games, 22 in total,[3] had a distinctive look since everything was displayed in red on a black background (see fig 2).

Figure 1 - Child using the Virtual Boy [4]

Figure 2 - Different Angles of the Virtual Boy and an Image of the Display [5]

The 3D technology behind the Virtual Boy, called Private Eye, had been turned down by several game development companies, including Sega, before being pitched to Nintendo.[6] Gunpei Yokoi, one of Nintendo's top video game designers who had overseen the wildly successful Game Boy project, saw this technology as a means of revolutionizing gameplay and strongly advocated for it.[7] Nintendo licensed the technology and created the Virtual Boy with it, which it then marketed as a brand new way to experience videogames.[8] Nintendo's president at the time, Hiroshi Yamauchi, stated that "it will transport players into a 'virtual utopia'.[9] Despite

[1] "Nintendo Virtual Boy," Centre for Computing History (The Centre for Computing History), accessed November 19, 2019, http://www.computinghistory.org.uk/det/4595/Nintendo-Virtual-Boy/.
[2] Ibid.
[3] Matt Zachara and Jose Zagal, "Challenges for Success in Stereo Gaming: A Virtual Boy Case Study," ACM International Conference Proceeding Series, 99-106, 2009, https://my.eng.utah.edu/~zagal/Papers/Zachara_Zagal-VirtualBoyCaseStudy.pdf.
[4] Benj Edwards, "Unraveling the Enigma of Nintendo's Virtual Boy, 20 Years Later," Fast Company (Fast Company Inc., August 21, 2015), https://www.fastcompany.com/3050016/unraveling-the-enigma-of-nintendos-virtual-boy-20-years-later.
[5] "Nintendo Virtual Boy," image 3.
[6] Edwards, "Enigma of Nintendo's Virtual Boy."
[7] Ibid.
[8] Ibid.
[9] Alison Holt Brummelkamp, "Nintendo Introduces Video Game Players to Three-Dimensional Worlds with New Virtual Reality Video Game System," *Business Wire*, November 14, 1994,

initial high hopes, Japanese consumers showed minimal interest when the Virtual Boy was initially released in Japan, which was likely due to negative media coverage regarding perceived health concerns prior to the Virtual Boy launch.[10] In America, the Virtual Boy saw a slightly slower demise. Despite great initial sales, demand quickly tapered off. Several price drops and offering rental options could not produce enough demand, leading to Nintendo's decision to discontinue the Virtual Boy.[11] The common public consensus that emerged on why it failed was that people were not satisfied with the Virtual Boy's monochrome display, awkward and uncomfortable design, and unimpressive 3D effect.[12]

Soon after the Virtual Boy's release in America, negative news coverage citing its lack of colors and unimpressive 3D effect quickly diminished all the pre-release positive hype in American media, which had touted its revolutionary technology.[13,14] Although not all reviews were negative, one reviewer, for example, describes the Virtual Boy as "eye candy" in the 1995 Rolling Stone magazine,[15] plummeting sales revealed that most people were not interested in this system. One commenter from a recent news post on the Virtual Boy, who identifies them self as having been a videogame store employee when the Virtual Boy came out, shared that the display model had given the employees headaches after a couple minutes of use, and they did not recall selling any of the systems.[16] Although the Virtual Boy failed at capturing consumers, it was a revolutionary technology, which explains why recent news coverage about modern virtual reality devices mentions it as the failed distant predecessor to these systems.[17]

To gain a deeper understanding for why the Virtual Boy failed, it is critical to look at the decisions that were made during its development, and what "relevant social groups" influenced those decisions.[18] Although the Virtual Boy's uncomfortable design is considered one of the

---

http://myaccess.library.utoronto.ca/login?url=https://search-proquest-com.myaccess.library.utoronto.ca/docview/447031391?accountid=14771.

[10] Edwards, "Enigma of Nintendo's Virtual Boy."

[11] Ibid.

[12] Graham Flanagan, "The Incredible Story of the 'Virtual Boy' — Nintendo's VR Headset From 1995 That Failed Spectacularly," *Business Insider*, March 26, 2018, https://www.businessinsider.com/nintendo-virtual-boy-reality-3d-video-games-super-mario-2018-3.

[13] Mike Cameron, "Virtual Boy Is a Virtual Snore," *The Spectator*, September 21, 1995, http://myaccess.library.utoronto.ca/login?url=https://search-proquest-com.myaccess.library.utoronto.ca/docview/269778545?accountid=14771.

[14] Brummelkamp, "New Virtual Reality Video Game System."

[15] Stephen A. Booth, "Eye Candy: Nintendo Virtual Boy," *Rolling Stone* no. 714 (Aug 10, 1995): 66, http://myaccess.library.utoronto.ca/login?url=https://search-proquest-com.myaccess.library.utoronto.ca/docview/220150231?accountid=14771.

[16] Philnolan3d, July 18, 2017, "comment on," Matt Brian, "Tech Hunters: Looking back at Nintendo's failed Virtual Boy," *Engadget*, *Verizon Media*, July 18, 2017, https://www.engadget.com/2017/07/18/tech-hunters-nintendo-virtual-boy/#comments.

[17] Andrew Oliver, "Seven Years On From Oculus Rift's Launch, How Far Have We Come?," opinion, *Gamesindustry.biz*, June 20, 2019, https://www.gamesindustry.biz/articles/2019-06-19-games-dragons-vr-column-opinion.

[18] Trevor J Pinch and Wiebe E Bijker, "The Social Construction of Facts and Artifacts: Or How The Sociology of Science And The Sociology of Technology Might Benefit Each Other," in *The Social Construction of Technological Systems: New Directions in The Sociology And History of Technology*, (Cambridge: The Mit Press, 2012), 30.

main reasons for its failure, the decisions that led to this particular design were not technical, but rather mainly based on the interests of one of the Virtual Boy's "relevant social groups"[19] – Nintendo's legal department. While some scholarship addresses the problematic physical design of the Virtual Boy, calling its requirement for the head to stay still while playing "distressing," it fails to engage with the reasons behind the design decisions.[20] The initial vision for the Virtual Boy was for it to be wearable, but Nintendo's legal department's liability concerns did not allow for this.[21] The two main liability concerns were that placing the device's chip close to the user's head might result in harm from its radio emissions, and that the device's users might fall down stairs and end up with injuries.[22] These concerns, rather than technical restrictions, constrained the device to an awkward tabletop device.[23] While another key relevant social group of the Virtual Boy, its players, may have desired a more comfortable console, the Virtual Boy exemplifies the conflicting desires of these two relevant social groups.

Another possible conflict between the desires of "relevant social groups" that may have contributed to the Virtual Boy's failure is that its developers thought that 3D technology would be met with excitement,[24,25] but perhaps video game players were not actually particularly interested in 3D gaming. In the article "Reality for Cybernauts," Sergio Sismondo notes that 3D technology is not needed for a Nintendo game player to be engrossed in their game.[26] It is therefore possible that video game players in the 1990s were content with current technology and saw little need for 3D technology. If this is the case, then the Nintendo developers social group's desire to revolutionize the video game industry with 3D technology via the Virtual Boy did not align with the desires of the video game players social group, leading to the Virtual Boy's failure.

The Virtual Boy's failure may have signified a lack of appetite for 3D gaming technology to the industry at the time, since no major video game developers ventured into this space for quite a while, [27] but a technology that is reminiscent of the Virtual Boy did emerge in 2011: the Nintendo 3DS.[28] Just like the Virtual Boy, the 3DS provides a 3D stereoscopic video gaming

---

[19] Ibid.

[20] Steven Boyer, "A Virtual Failure: Evaluating the Success of Nintendo's Virtual Boy," *Velvet Light Trap* no. 64 (Fall, 2009): 30, http://myaccess.library.utoronto.ca/login?url=https://search-proquest-com.myaccess.library.utoronto.ca/docview/222864654?accountid=14771.

[21] Edwards, "Enigma of Nintendo's Virtual Boy."

[22] Ibid.

[23] Ibid.

[24] Pinch and Bijker, "Social Construction of Facts and Artifacts," 30.

[25] Edwards, "Enigma of Nintendo's Virtual Boy."

[26] Sergio Sismondo, "Reality for Cybernauts," *Postmodern Culture* 8, no. 1 (September 1997), http://myaccess.library.utoronto.ca/login?url=https://search-proquest-com.myaccess.library.utoronto.ca/docview/1426663623?accountid=14771.

[27] "The History of Virtual Reality," Point in Time Studios (Point in Time Studios, September 30, 2018), https://pointintimestudios.com/the-history-of-virtual-reality/.

[28] Warren Buckleitner, "A First Look at the Nintendo 3DS," *Gadgetwise: The New York Times Blog* (blog) (The New York Times Company, February 23, 2011), https://gadgetwise.blogs.nytimes.com/2011/02/23/a-first-look-at-the-nintendo-3ds/?searchResultPosition=1.

experience,[29] but unlike the Virtual Boy, it does not require a headset and appears to have been well received.[30] Although the 3DS can be considered an example of a successful version of a stereoscopic 3D gaming experience, there does not appear to be a successful "final" standard version of a virtual reality or 3D device that provides the fully immersed experience that the Virtual Boy attempted to create.

The Virtual Boy's unimpressive 3D effect, monochrome display, and uncomfortable design are typically blamed for its demise, yet these explanations are all technical and do not take social contributors into account. Nintendo's Virtual Boy developers appear to have been so wrapped up in their quest to revolutionize the gaming experience through 3D technology that they may have missed the videogame players' lack of interest in this type of technology. Any demand there may have been for 3D gaming technology was perhaps stifled by the Virtual Boy's design, yet the decisions that led to its uncomfortable design were made out of concerns about liability, which ultimately has to do with the company's public image. A wide variety of factors led to the demise of the Virtual Boy, demonstrating the importance of taking an all-encompassing approach when studying a technology's failure.

[29] Ibid.

[30] Brian X Chen, "Nintendo Says the 3DS Holds Its Own Against Game Apps," *Bits: Business, Innovation, Technology, Society* (blog) (The New York Times Company, November 30, 2011), https://bits.blogs.nytimes.com/2011/11/30/nintendo-3ds-sales/?searchResultPosition=3.

Works Cited

Booth, Stephen A. "Eye Candy: Nintendo Virtual Boy." *Rolling Stone* no. 714 (Aug 10, 1995): 66. http://myaccess.library.utoronto.ca/login?url=https://search-proquest-com.myaccess.library.utoronto.ca/docview/220150231?accountid=14771.

Boyer, Steven. "A Virtual Failure: Evaluating the Success of Nintendo's Virtual Boy." *Velvet Light Trap* no. 64 (Fall, 2009): 23-33. http://myaccess.library.utoronto.ca/login?url=https://search-proquest-com.myaccess.library.utoronto.ca/docview/222864654?accountid=14771.

Brummelkamp, Alison Holt. "Nintendo Introduces Video Game Players to Three-Dimensional Worlds with New Virtual Reality Video Game System." *Business Wire,* Nov 14, 1994. http://myaccess.library.utoronto.ca/login?url=https://search-proquest-com.myaccess.library.utoronto.ca/docview/447031391?accountid=14771.

Buckleitner, Warren. “A First Look at the Nintendo 3DS.” *Gadgetwise: The New York Times Blog* (blog). The New York Times Company, February 23, 2011. https://gadgetwise.blogs.nytimes.com/2011/02/23/a-first-look-at-the-nintendo-3ds/?searchResultPosition=1.

Cameron, Mike. "Virtual Boy is a Virtual Snore." *The Spectator,* Sep 21, 1995. http://myaccess.library.utoronto.ca/login?url=https://search-proquest-com.myaccess.library.utoronto.ca/docview/269778545?accountid=14771.

Chen, Brian X. “Nintendo Says the 3DS Holds Its Own Against Game Apps.” *Bits: Business, Innovation, Technology, Society* (blog). The New York Times Company, November 30, 2011. https://bits.blogs.nytimes.com/2011/11/30/nintendo-3ds-sales/?searchResultPosition=3.

Edwards, Benj. “Unraveling the Enigma of Nintendo’s Virtual Boy, 20 Years Later.” Fast Company. Fast Company Inc., August 21, 2015. https://www.fastcompany.com/3050016/unraveling-the-enigma-of-nintendos-virtual-boy-20-years-later.

Engadget. *Verizon Media*. https://www.engadget.com/2017/07/18/tech-hunters-nintendo-virtual-boy/#comments.

Flanagan, Graham. “The Incredible Story of the 'Virtual Boy' — Nintendo's VR Headset From 1995 That Failed Spectacularly.” *Business Insider*. March 26, 2018. https://www.businessinsider.com/nintendo-virtual-boy-reality-3d-video-games-super-mario-2018-3.

“Nintendo Virtual Boy.” Centre for Computing History. The Centre for Computing History. Accessed November 19, 2019. http://www.computinghistory.org.uk/det/4595/Nintendo-Virtual-Boy/.

Oliver, Andrew. “Seven Years on From Oculus Rift's Launch, How Far Have We Come?” Opinion. *Gamesindustry.biz*. June 20, 2019. https://www.gamesindustry.biz/articles/2019-06-19-games-dragons-vr-column-opinion.

Pinch, Trevor J and Wiebe E Bijker. “The Social Construction of Facts and Artifacts: Or How the Sociology of Science And The Sociology of Technology Might Benefit Each Other.” In *The Social Construction of Technological Systems: New Directions in The Sociology And History of Technology*, 11-44. Cambridge: The Mit Press, 2012.

Sismondo, Sergio. "Reality for Cybernauts." *Postmodern Culture* 8, no. 1 (September 1997). http://myaccess.library.utoronto.ca/login?url=https://search-proquest-com.myaccess.library.utoronto.ca/docview/1426663623?accountid=14771.

“The History of Virtual Reality.” Point in Time Studios. Point in Time Studios, September 30, 2018. https://pointintimestudios.com/the-history-of-virtual-reality/.

Zachara, Matt and Jose Zagal. “Challenges for Success in Stereo Gaming: A Virtual Boy Case Study.” ACM International Conference Proceeding Series, 99-106. 2009. https://my.eng.utah.edu/~zagal/Papers/Zachara_Zagal-VirtualBoyCaseStudy.pdf.