



ATARI®

TOUCH ME™



START



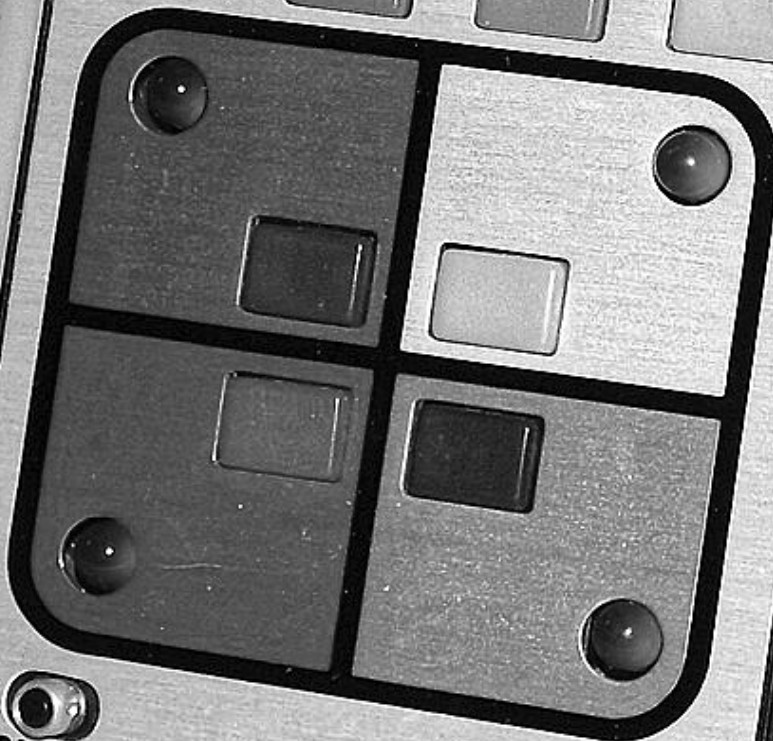
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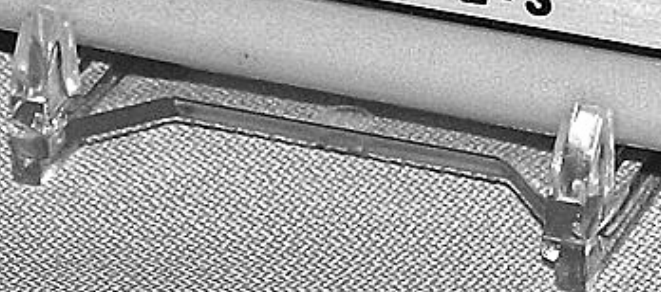
SKILL



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Accessibility of video games in the context of disability

A historical overview

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Video games are perhaps the most rapidly growing segment of entertainment media today. In 2023, the global revenues of the video game industry amounted to USD 184 billion, more than the music and film industries combined¹. It seems that this trend is likely to continue for a considerable time to come, as games, which long ago ceased to be labelled as entertainment just for children and young people, seem to provide their audiences with much more value than the aforementioned media. At the same time, however, video games appear to be another large field of exclusion for people with disabilities

Gamers with disabilities may experience difficulties in the reception of games on several different levels depending on the nature of their impairments, which, moreover, sometimes do not exist independently. Thus, they may have problems with: perceiving the messages (visual, auditory and textual) sent by the game (about an imminent danger, important objects in a story, the direction to go or the task to perform); responding to these messages (e.g. due to controls that are too difficult or unsuited to their motor skills); and understanding them (e.g. for cognitive reasons such as concentration difficulties)². At each of these levels, however, it is possible to introduce accessibility improvements to games.

This article will briefly outline the history of efforts to improve the accessibility³ of video games, as well as today's most promising



¹ See T. Wijman, *Newzoo's Games Market Revenue Estimates and Forecasts by Region and Segment for 2023*, <https://newzoo.com/resources/blog/games-market-estimates-and-forecasts-2023> (access date: 26.02.2024); *Cinema: Market Data & Analysis*, <https://www.statista.com/study/147171/cinema-market-data-and-analysis> (access date: 26.02.2024); M. Ch. Götting, *Music Industry Revenue Worldwide from 2012 to 2023*, <https://www.statista.com/statistics/259979/global-music-industry-revenue> (access date: 26.02.2024).

² See e.g. B. Yuan, E. Folmer, F. C. Harris Jr., *Game Accessibility: A Survey*, "Universal Access in the Information Society" 2011, No. 1, pp. 83-84.

³ Accessibility, according to Article 9 of the *UN Convention on the Rights of Persons with Disabilities* (<https://www.un.org/disabilities/documents/convention/convopt-prot-e.pdf> [access date: 13.03.2024], p. 9), means "to ensure to persons with disabilities access, on an equal basis with others, to the physical environment, to transportation, to information and communications, including information and communications technologies and systems, and to other facilities and services open or provided to the public, both in urban and in rural areas". Video games can, I believe, be categorised in the area of services.

1. Atari, *Touch Me Handheld Version*, 1978. Photo: J. Haupt, from: [https://en.wikipedia.org/wiki/Touch_Me_\(arcade_game\)#/media/File:Touch_Me_by_Atari_Model_No._BH-100,_Made_In_Taiwan_\(Handheld_Electronic_Game\).jpg](https://en.wikipedia.org/wiki/Touch_Me_(arcade_game)#/media/File:Touch_Me_by_Atari_Model_No._BH-100,_Made_In_Taiwan_(Handheld_Electronic_Game).jpg) (access date: 3.04.2024)



⁴ There are, however, some voices questioning this classification, such as those of games accessibility researcher **M. Heron** (*The Fun of Inaccessibility*, <https://www.gamedeveloper.com/business/the-fun-of-inaccessibility> [access date: 2.01.2024]), who believes that the two types of accessibility mentioned are not two sides of the same coin, but address completely different problems. Therefore, according to Heron, a distinction should be made between “accessibility” referring to the problems of people with disabilities and “learnability” focusing on the needs of untrained players.

⁵ **A. R. Galloway**, *The Interface Effect*, Cambridge-Malden 2012, p. VII.

⁶ *Ibidem*.

⁷ It is symptomatic that in the 2019 edition of the book, which (as we read in the editorial review) is declared as “the first Polish textbook on video game studies” entitled *Wprowadzenie do groźnawstwa* (Introduction to Video Game Studies, Ed. **K. Prajzner**, Łódź 2019), no attention was paid to this issue.

⁸ See e.g. **A. Jakubas**, *Osoba z niepełnosprawnością w grach wideo – nowy obszar inkluzji czy nowa manifestacja utopii?*, [in:] *Utopia a edukacja*, Vol. 3: *Nadzieje i rozczarowania wyobrażeniami świata możliwego*, Ed. **K. Rejman**, **R. Włodarczyk**, Wrocław 2017; **D. Gałuszka**, **D. Żuchowska-Skiba**, *Niepełnosprawność w grach wideo – omówienie na przykładach wybranych wirtualnych postaci*, “Przegląd Socjologii Jakościowej” 2018, No. 3; **T. Sahaj**, *Gry komputerowe w procesie emancypacji, rehabilitacji i socjalizacji osób z niepełnosprawnościami*, “Niepełnosprawność. Dyskursy Pedagogiki Specjalnej” 2021, No. 44.

⁹ See **Th. Westin [et al.]**, *Advances in Game Accessibility from 2005 to 2010*, [in:] *Universal Access in Human-Computer Interaction: Users Diversity*, Ed. **C. Stephanidis**, Berlin-Heidelberg 2011; **J. Aguado-Delgado [et al.]**, *Accessibility in Video Games: A Systematic Review*, “Universal Access in the Information Society” 2020, No. 1; **L. Hassan**, *Accessibility of Games and Game-based Applications: A Systematic Literature Review and Mapping of Future Directions*, “New Media & Society” 2024, in print, <https://journals.sagepub.com/doi/epdf/10.1177/14614448231204020> (access date: 2.01.2024).

initiatives by developers and publishers towards greater (ideally, total) inclusivity. For no matter how much attention is paid to this issue, whether in academic or journalistic discourse, how many advocacy or legislative initiatives are launched, it is on the shoulders of video game developers that the responsibility and proactivity in the context of their universalisation rests.

Contemporary, primarily industry, discourse on accessibility in video game design distinguishes two types of accessibility: accessibility for people with (temporary or permanent) disabilities – blindness and impaired seeing, deafness and impaired hearing, cognitive difficulties, mobility and motor problems – and accessibility for people who are very novice and inexperienced gamers⁴. I will focus here essentially only on the former type, although a properly designed and functioning interface is crucial for both. As Alexander R. Galloway rightly observed: “Interfaces are not simply objects or boundary points. They are autonomous zones of activity. Interfaces are not things, but rather processes that effect a result of whatever kind”⁵. It can be said that this result, at the most basic level, is whether players burdened with the aforementioned difficulties can undertake, continue and successfully complete the gameplay at all. This researcher offered also an important perspective in looking at interfaces:

And in speaking about them I will not be satisfied just to say an interface is defined in such and such a way, but to show how it exists that way for specific social and historical reasons. Interfaces [...] bring about transformations in material states. But at the same time interfaces are themselves the effects of other things, and thus tell the story of the larger forces that engender them⁶.

Galloway’s statement is a very good introduction to the topic of my text, as in it I also want to present how video game interfaces are influenced by factors essentially external to them, in this case the multifaceted issue of whether and how the gaming needs of people with disabilities are understood and acted upon.

The issue of the accessibility of video games for people with disabilities appears to be justified not only by its importance, but also by the fact that it has not yet been adequately discussed in Polish academic literature⁷. The use of games by people with disabilities is rarely discussed, mainly in the context of using games in the process of teaching, rehabilitation and socialisation of these persons. The ways in which people with disabilities are portrayed in this medium are also being explored⁸. Similar trends can be seen in the global literature, although (proportionally) the scale of research interest in accessibility in video games (including mainstream ones) is greater than in our country⁹.

The issue of accessibility of videogames requires taking into account a whole range of contexts. Fundamental is the problem of

the adopted (consciously or not) understanding of disability, which defines what kind of attempts are made to make games accessible, as well as their very accessibility. No less important for the whole discourse and measures taken is also the question of understanding the importance of games for gamers, and especially for gamers with disabilities, which should consider values they derive from them beyond merely the entertainment. A third issue is the place of games accessibility in the broader field of digital media and technology accessibility. For video games usually require a much broader range of physical and cognitive faculties for their fully satisfactory reception (use) than other digital technologies, such as the Internet¹⁰. And apart of that – they seem to be developing their accessibility principles somewhat separately from the mainstream digital accessibility¹¹ due to, among other things, problems specific to their medium. As Dominique Archambault and his team have pointed out, accessibility tools and principles (e.g. the *Web Content Accessibility Guidelines* developed by the W3C) elaborated on the basis of an analysis of standard computer applications (such as word processors) as well as Internet applications (websites, etc.) are not easily translatable into the conditions created by software such as video games, because – as these researchers seem to suggest – these tools and principles are not able to capture game-specific reception conditions or experiences and cannot build immersion during gameplay¹². Another important issue, I believe, is the immanent dynamism and complexity of video games – whereas websites or computer programs are more or less static in nature, games are processes that develop over time through the actions of the gamer, which calls all the more for solutions specific to the medium.

Perhaps the most important problem in this case, after all, appears to be reluctance on the part of the video game industry itself¹³. Symptomatic fact, among other things, is the following: the *Twenty-First Century Communications and Video Accessibility Act of 2010*, known as the CVAA, introduced guidelines according to which advanced communications products and services, such as videoconferencing and email, but also video games, must be accessible to people with disabilities. The general requirements concerned, for example, the introduction of coded captions or audio description of TV programmes. For video games, they focused on the need for captions, as well as various options for communication between players in the form of chat rooms (video, text or voice) in multiplayer games¹⁴. Although they do not appear to be exorbitant, on three occasions (between 2012 and 2018) video game producers have requested deferral of the need to introduce these rules in their production¹⁵.

At the most general level, there are two paradigms of viewing disability referred to as “medical” and “social”. The former (older one) understands disability as an individual (concerning a specific person) problem of a physical nature, which can either be cured (in-



¹⁰ See e.g. **D. Grammenos, A. Savidis, C. Stephanidis**, *Designing Universally Accessible Games*, “Computers in Entertainment” 2009, No. 1, p. 8:2.

¹¹ See e.g. **J. R. Porter**, *Understanding and Addressing Real-world Accessibility Issues in Mainstream Video Games*, “ACM SIGACCESS Accessibility and Computing” 2014, No. 108, p. 42.

¹² See **D. Archambault [et al.]**, *Towards Generalised Accessibility of Computer Games*, [in:] *Technologies for E-Learning and Digital Entertainment*, Ed. **Z. Pan [et al.]**, Berlin 2008, pp. 521–522.

¹³ See e.g. **R. Moss**, *Why Game Accessibility Matters*, <https://www.polygon.com/features/2014/8/6/5886035/disabled-gamers-accessibility> (access date: 8.01.2024).

¹⁴ See **I. Hamilton**, *Demystifying CVAA*, <https://www.gamedeveloper.com/business/demystifying-cvaa> (access date: 8.01.2024).

¹⁵ See **A. McAloon**, *FCC Issues Final Extension for Video Game CVAA Accessibility Waiver*, <https://www.gamedeveloper.com/business/fcc-issues-final-extension-for-video-game-cvaa-accessibility-waiver> (access date: 8.01.2024).



¹⁶ **Union of the Physically Impaired Against Segregation, The Disability Alliance, *Fundamental Principles of Disability***, London 1976, <https://disability-studies.leeds.ac.uk/wp-content/uploads/sites/40/library/UPIAS-fundamental-principles.pdf> (access date: 11.01.2024), p. 20.

¹⁷ See e.g. **T. Shakespeare, *The Social Model of Disability***, [in:] *The Disability Studies Reader*, Ed. **L. J. Davis**, 3rd Ed., New York - London 2010; **M. Karaś, *Niepełnosprawność, od spojrzenia medycznego do społecznego i Disability Studies***, "Przegląd Prawniczy, Ekonomiczny i Społeczny" 2012, No. 4.

¹⁸ **Światowa Organizacja Zdrowia, *Międzynarodowa Klasyfikacja Funkcjonowania, Niepełnosprawności i Zdrowia***, 2001, <https://ezdrowie.gov.pl/downloadFile/740>, p. 20.

¹⁹ **L. Hassan, *op. cit.***, p. 25.

cluding rehabilitation) or reduced by using various assistive devices (such as glasses, hearing aids, etc.). In this model, the most important way to address a disability is through medical intervention or through rehabilitation and education.

The societal paradigm for understanding disability emerged in the late 1960s and early 1970s, with its first significant occurrence being the 1976 publication of the *Fundamental Principles of Disability* by the Union of the Physically Impaired Against Segregation – UPIAS, which stated that it is the socially determined framework within which people with various impairments function that makes them disabled. Disability itself, on the other hand, was defined as:

as the disadvantage or restriction of activity caused by a contemporary social organisation which takes no or little account of people who have physical impairments and thus excludes them from participation in the mainstream of social activities. Physical disability is therefore a particular form of social oppression¹⁶.

Perhaps for the first time, therefore, this document treated disability as a social construct.

The UPIAS' intervention, together with the activities of other advocacy organisations, and the then developing academic research on the issue, set the stage for the emergence of Disability Studies and the social model in thinking about disability that now seems to be more or less widespread¹⁷. In this model, it is society that is obliged to remove the difficulties that make people with different types of impairments disabled. Contemporary definitions of disability, both those formulated by the World Health Organisation (WHO) in the *International Classification of Functioning, Disability and Health (ICF)* of 2001, and those contained in the *UN Convention on the Rights of Persons with Disabilities* of 2006, present disability from a perspective that combines both medical and social (as well as functional) aspects of disability, referred to in the ICF as the "biopsychosocial" approach¹⁸.

The two models of understanding disability outlined above are translated into thinking about the accessibility of video games. In fact, often in a completely unconscious way. As Lobna Hassan noted from her analysis of academic publications on the subject (from 2016–2020/2021):

game accessibility researchers may be approaching disability with an unconscious medical lens, or at least without explicit interrogation of their understanding of disabilities and the ontologies and epistemologies they employ during their research. This is a finding that has also been noted by previous literature reviews of disability in Human–Computer Interaction (HCI)¹⁹.

The consequence of adopting this medical perspective is (in academic accessibility research) to focus only (or mainly) on exploring solutions that are supposed to “improve” the player in some way, such as various types of specialised controllers, e.g. those that track the player’s eye movements, or accessibility options included in games. The same medical perspective is also adopted by the vast majority of game developers, taking the form primarily of implementing such piecemeal solutions as closed captions or customisable colour schemes to facilitate play for people with daltonism and other colour vision disorders.

The social perspective on disability in both the (academic and “advocacy”) discourse and the practice of video game development would, in simple terms, focus on researching and implementing solutions that make games universally accessible. In other words, taking the principles of “universal design”²⁰, as a starting point in video game development, which avoids mistakes that create accessibility barriers at the production stage, which then need to be removed, for example by creating additional accessibility options. I would not, however, like to place a harsh and clear judgment on these two paradigms, as they both have advantages and serious limitations. And it is only from combining the two that the most functional model for video game accessibility can emerge.

Another influencing factor, of the ones mentioned earlier, is the problem of understanding the motivations behind people (including those with disabilities) engaging with the medium. Again, it is relevant to both academic research and the practice of video game production itself. The perception of video games as merely a tool for entertainment combined with escapism allows some academics, even those working on accessibility issues, to ignore mainstream productions in their research and focus on so-called “serious games”, which are intended to serve, for example, the rehabilitation and education of people with disabilities. For video game designers, on the other hand, it can be a convenient excuse for not taking the trouble to make their games accessible to this type of gamers, or – to focus on creating titles intended only for them, e.g. audio games for the visually impaired. On the surface, the emergence of such productions is a positive phenomenon, as they can provide entertainment similar to that enjoyed by able-bodied players when interacting with “normal” games. In fact, as the researchers note, it results in the “ghettoisation” of gamers with disabilities within groups of games designed for them or made available to them. While video games serve (not least for this audience) a great many more important functions than mere entertainment and provide them with a great deal of non-entertainment value. Paul Cairns, Christopher Power and Jen Beeston, on the basis of their survey research, rightly conclude that playing video games for players with disabilities means first and foremost that they can engage in the same activities as non-disabled players,



²⁰ According to Article 2 of the *UN Convention on the Rights of Persons with Disabilities* (p. 4), “‘Universal design’ means the design of products, environments, programmes and services to be usable by all people, to the greatest extent possible, without the need for adaptation or specialized design. ‘Universal design’ shall not exclude assistive devices for particular groups of persons with disabilities where this is needed”. See also **B. R. Connell [et al.]**, *The Principles of Universal Design*, The Center for Universal Design, N. C. State University 1997, <https://web.stanford.edu/class/engr110/2007/PUD.pdf> (access date: 10.01.2024).



²¹ See P. Cairns [et al.], *Enabled Players: The Value of Accessible Digital Games*, "Games and Culture" 2019, No. 2, *passim*. See also D. Archambault [et al.], *op. cit.*, p. 520.

²² See R. J. McCrindle, D. Symons, *Audio Space Invaders*, [in:] *Proceedings of the 3rd International Conference on Disability, Virtual Reality and Associated Technologies (ICDVRAT 2000)*, Ed. P. Sharkey [et al.], Reading 2000, pp. 59–60.

²³ See L. Hutchman, *Changing the Game*, <https://blog.sciencemuseum.org.uk/changing-the-game> (access date: 10.01.2024).

²⁴ See S. Nesteriuk, *Audiogames: Accessibility and Inclusion in Digital Entertainment*, [in:] *Digital Human Modeling: Applications in Health, Safety, Ergonomics, and Risk Management: 9th International Conference, DHM 2018, held as part of HCI*, Ed. V. G. Duffy, Cham 2018, p. 339.

²⁵ See Lady Eklipse, *History of Accessible Gaming*, <https://web.archive.org/web/20170131060706/https://lady-eklipse.livejournal.com/7326.html> (access date: 10.01.2024).

that it gives them a sense of empowerment, that it allows them to fulfil social needs (e.g. by interacting with others in multiplayer games) and, of course, to forget about their disability, at least for a while. Therefore, as the researchers noted, it is extremely important that it is primarily mainstream games (including multiplayer games) that are accessible to all²¹. In the context of video game production, taking as a starting point the notion that gamers with disabilities want to be part of the general video game culture and do not want games made specifically for them, but instead want to play the "same thing as everyone else", should prompt, and as I will show in the following pages of the text, does indeed prompt, the adoption of universal (in an ideal case) accessibility of the game being developed as one of the basic design guidelines from the very beginning of development.

History of work on video game accessibility

It seems that the beginnings of research on the accessibility of popular video games can be traced as far back as the 1990s²². Although the very history of video games that could be accessible to people with disabilities goes back to the 1970s. In fact, the first video games experienced far fewer accessibility problems than one might expect. This was due to the numerous technical and hardware limitations they were subject to, which forced them to be simple, both in terms of gameplay and audiovisual language. For this reason, even the *Pong* (Atari, 1972) was accessible to almost all gamers, even though it was one of the first commercial games at all, while its creators had actually only had experience with the unpopular *Computer Space* (1971), which was inaccessible (due to its complicated controls) to most gamers. It is interesting to note that the game machines of *Pong* were at one point hacked in order to slow down this game and make it easier for those who have difficulty playing it at normal speed. This may not have been done specifically with people with disabilities in mind, undoubtedly this modification could have helped them significantly in the game²³.

Examples of early unintentionally accessible video games would include text-based adventure games such as the *Colossal Cave Adventure* (William Crowther, Don Woods, 1977) and the *Zork* (Tim Anderson, Marc Blank, Bruce Daniels i Dave Lebling, 1977)²⁴. Operating only on the text layer, they could be played equally by able-bodied people and those with disabilities, albeit with some limitations for those with visual impairments. These problems ended, at least for some gamers, with the release of the first screen reader MacInTalk, included in the Mackintosh computer operating system, in 1984²⁵. Yet another example that can be mentioned is the Atari-created game *Touch Me* (1974), in which the player was required to memorise and play as long a sequence of four sounds as possible. These were also colour-coded, but although not having an important role in the game-

play, this could also make it to some extent accessible to the people with hearing impairments. In 1978, Atari released a portable version of this game, *Touch Me: Handheld Version* [Fig. 1], which can be considered the first (or one of the first) games of its kind to be accessible to people with disabilities. Atari more or less intentionally also did a service to players with disabilities by introducing a “child” mode in the games developed for its 2600 console (VCS), significantly reducing the difficulty of the game, albeit with a somewhat stigmatising teddy bear icon displayed on screen, as well as a very simple controller design for this console – it only had one button and a four-way joystick²⁶. However, perhaps the first controller deliberately adapted to the needs of people with disabilities (in this case, people unable to move their hands) was not until Nintendo’s NES Hands Free Controller for the NES console, released in 1985. A device that was intended to be hung around the player’s neck and which could be controlled by breathing and by moving a specially designed joystick with the chin²⁷. Nintendo later continued its accessibility initiatives by expanding into the field of video game design as well.

However, the decade of the beginning of the proper development of work on accessibility in this medium should be considered, as I wrote above, the 1990s. The first activities in this field concerned audio games for people with visual impairments. The earliest of these was the *Wumpus*, released back in 1988, which was bundled (as actually a so-called technology demo) with the products of Qsound, a sound card manufacturer. In turn, full-fledged games were released in 1997: *Real Sound: Kaze no Regret* (Warp) and *Zork: Grand Inquisitor* (Activision)²⁸. Much more effort than the development of new games, however, was then put into developing accessible versions of already known titles. The problems of accessibility for the people with visual impairments have probably gained the most attention from researchers and developers. This trend can also be seen today²⁹. Perhaps the reason for the greater interest in players with visual impairments is that it is relatively easy to introduce solutions that support them. Sometimes it is enough to expand existing options, especially audio ones, e.g. by adding (amplifying) the sound elements accompanying various objects or actions (e.g. approaching a wall or opening a door) in the game. However, it is also arguable that the particular attention paid to this group of gamers was due to the increased activity of the advocacy organisations supporting them demanding that video game developers make this form of entertainment available to them.

An example of such an “accessible” video game for people with disabilities is the *Audio Space Invaders* designed by researchers Rachel J. McCrindle and David Symons, based on the hugely popular arcade space shooter *Space Invaders* (Taito, 1978). As the game was to be primarily aimed at players with vision impairments, it relied on audio cues. It also had a graphic interface, which, however, could be switched off or restored at any time. Its introduction was intended



²⁶ See *ibidem*.

²⁷ See *The History of (Almost) Every Nintendo Accessory Ever*, <https://adria.ign.com/gallery/32976/the-history-of-almost-every-nintendo-accessory-ever> (access date: 10.01.2024).

²⁸ See (BE), *A Brief History of Accessible Gaming*, “Replay Magazine” 2015, No. 2, pp. 22–24.

²⁹ See e.g. L. Hassan, *op. cit.*, pp. 11–12.



³⁰ See R. J. McCrindle, D. Symons, *op. cit.*, pp. 60–63.

³¹ See AGRIP *AudioQuake and Level Description Language (LDL)*, <https://github.com/matatk/agrip> (access date: 6.01.2024),

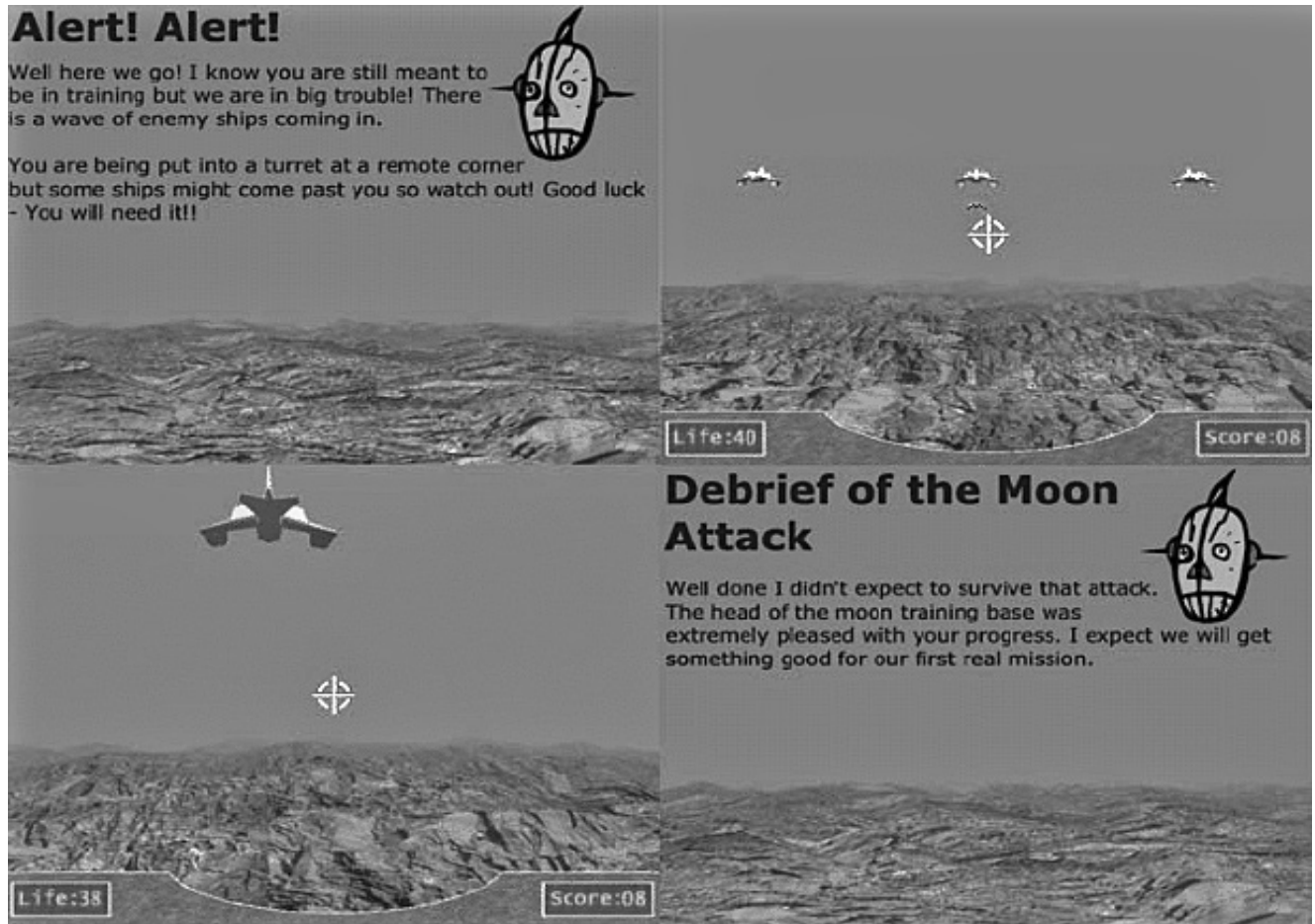
³² See M. T. Atkinson [et al.], *Making the Mainstream Accessible: What's in a Game?*, [in:] *Computers Helping People with Special Needs: 10th International Conference, ICCHP 2006, Linz, Austria, July 11–13, 2006: Proceedings*, Ed. K. Miesenberger [et al.], Berlin 2006, p. 380.

³³ D. Grammenos, A. Savidis, C. Stephanidis, *op. cit.*, p. 8:15.

to make it playable for sighted players as well, as a way for researchers to compare the human-computer interaction of sighted and blind people. *Audio Space Invaders* also included facilities such as a simple control system (using a keyboard or joystick), as well as the possibility to adapt the game's difficulty level for one's needs through a so-called Level Editor, which was intended to help players with different disabilities (also due to age) as well as with different levels of experience. The gamer was accompanied throughout the game by a robot, Molly, suggesting what to do on a given level and what dangers await, as well as supporting the player with encouraging comments during the game³⁰ [Fig. 2]. Despite how early the attempt was, *Audio Space Invaders*, in terms of the accessibility options it provided, was a very advanced achievement. Most notably by including a very wide range of players, including older and inexperienced ones, as well as – fully able-bodied players. It could therefore be seen as one of the first examples of an almost “universally accessible” game.

Another of the early accessibility initiatives worth mentioning is the AGRIP (Accessible Gaming Rendering Independence Possible) project, which aimed to create the first audio adaptation of a mainstream computer game. The authors (Matthew Tylee Atkinson and Sabahattin Gucukoglu) chose the popular single-player shooter *Quake* (id Software, 1996), and the result of their work is *AudioQuake* (2003–2007), which features enhanced ambient sound options compared to the original, as well as a voice assistant to navigate the player's movements. The intention was to create a single-player version of this game (based on the ZQuake engine), and the ability to modify it so that players of *AudioQuake* would have the opportunity to join the broad modding community centred around the original *Quake*. With the involvement of the audience, the first of these goals was achieved as early as 2003, while the first player-created mods appeared in 2004, when online games were also launched in which people with disabilities could participate. And 2008 saw the release of the Level Description Language, a tool that allowed blind gamers to design their own 3D game levels by entering appropriately structured text, which was then interpreted by a computer that generated a 3D map³¹. What is particularly distinctive about Atkinson and Gucukoglu's project is that from the outset it was designed not only to make a selected and – what is worth emphasising – relatively new mainstream and wildly popular game available, but also to create tools with which other popular games, and the communities around them, could be made accessible to the general gaming public³².

Among the research projects dedicated to accessibility, the work of Dimitris Grammenos' team to create “universally accessible games” (UA-Games) is perhaps the most frequently referred to. These were based on the concept of “unified design” and, within this, a unified interface design. The most important quality that characterises both is “polymorphism”³³, which means that, at a structural lev-



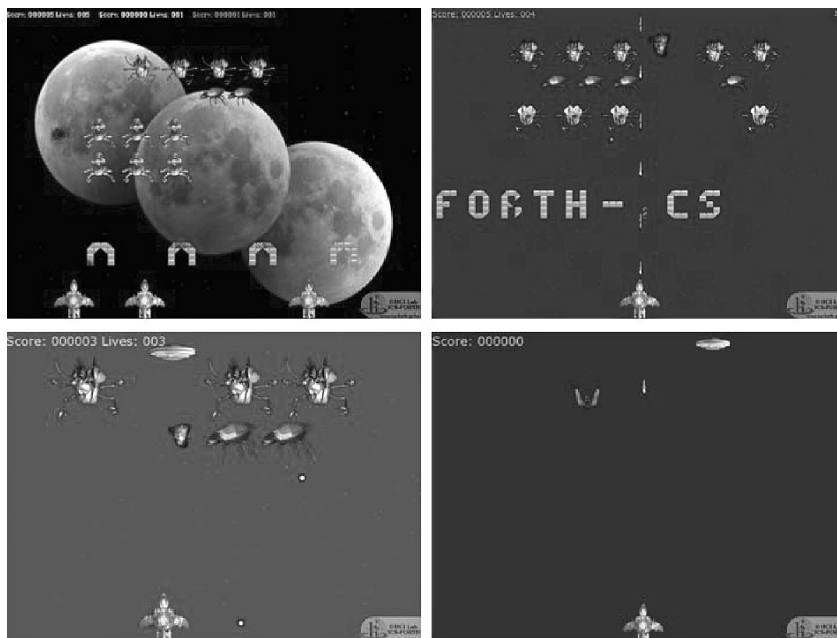
2. Rachel J. McCrindle, David Symons, screen from *Audio Space Invaders*. Photo from: *idem*, *Audio Space Invaders*, [in:] *Proceedings of the 3rd International Conference on Disability, Virtual Reality and Associated Technologies, (ICDVRAT 2000)*, Ed. P. Sharkey [et al.], Reading 2000, p. 62


el, a game is a conglomerate of its many different variations adapted to a specific disability, from which the player can choose the one that best suits his or her needs. They differ in terms of “content”, i.e. the speed of the game, its graphics or sound, etc. (which corresponds to the level of the interface), as well as the rules defining the conditions of victory, but also the controllers – as the game should support any type of controller. At the same time, the authors placed great emphasis, which is unfortunately not so common practice among video game designers, on the need to constantly consult all proposed solutions with gamers with disabilities, so that mistakes can be caught at the earliest possible stage.

To illustrate their concepts, the Grammenos team developed several examples of games from different genres and with different levels of difficulty to present both universally accessible and universally inaccessible (“Game Over!”) productions³⁴. They also presented

³⁴ It was a game that no one was intended to be able to play, as it contained numerous accessibility barriers. It was intended to serve as a demonstration of bad practices and mistakes in game design. These were implemented at every stage of the game – e.g. to start the game you had to press the keys simultaneously: Ctrl + Shift + Enter + Home + F3 + F12 + right arrow. See D. Grammenos, *Game Over: Learning by Dying*, [in:] *CHI '08: Proceedings of the SIGCHI Conference on Human Factors in Computing Systems*, Vol. 1, Ed. M. Burnett [et al.], New York 2008, p. 1446.

3. Dimitris Grammenos, Anthony Savidis, Constantine Stephanidis, examples of alternative player profiles in *Access Invaders* (2006). From top to bottom, left to right: a) basic; b) single switch; c) extra large; d) non-visual. Photo from: *idem*, *Designing Universally Accessible Games*, "Computers in Entertainment" 2009, No. 1, p. 8:17



 ³⁵ D. Grammenos, A. Savidis, C. Stephanidis, *op. cit.*, p. 8:3.

³⁶ An even more accessible version of the game entitled *Terrestrial Invaders* has also been created. See *ibidem*, p. 8:20.

³⁷ See *ibidem*, pp. 8:26.

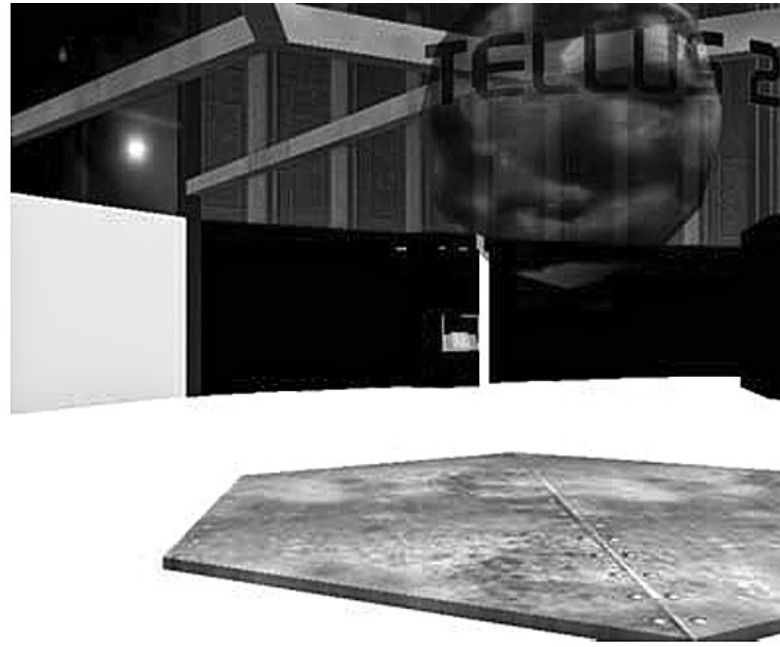
³⁸ An example of this can be found in the comments under one of the online articles on game accessibility. See e.g. B. F. Malinowski, *Dostępność gier, czyli jak i po co projektować gry bez barier?*, <https://antyweb.pl/dostepnosc-gier-czyli-jak-i-po-co-projektowac-gry-bez-barier> (access date: 18.01.2024).

the concept of a “parallel game universe”, the aim of which was to enable the creation of multiplayer titles that could be played together by people of varying levels of ability³⁵. As in the cases described above, the researchers focused on transforming towards accessibility already existing games, e.g. *Space Invaders*, which in their version was called *Access Invaders*³⁶ [Fig. 3], or, for example, the chess game *UA-Chess*. Taking the former as an example, configurable features included the pace of the game, the size of objects on the screen, colour combinations, 3D sound to locate opponents in the game space. And in the case of the rules, for example, what kind of aliens can destroy the player’s ship, or what are the patterns of their movement around the screen.

Perhaps the most difficult issue that Grammenos’ team tackled was trying to develop the concept of a common platform for able-bodied players and those with disabilities to interact or compete in a specific game. In the latter case, however, the polymorphism that is central to his concept would have to stand in the way, as each player would have to participate in a game governed largely by different rules, and therefore de facto play a more or less different game. One of the ways of achieving coherent gameplay proposed by researchers would be to assist the player with disabilities by, for example, the game’s AI³⁷. However, this does not seem a convincing solution to the problem of levelling the competition between able-bodied players and those with disabilities, which is a pressing one even today. In the discourse on making multiplayer games (especially those of a clearly competent nature, such as shooters) accessible to the lat-



3D scene rendered in normal contrast for sighted gamers



3D scene with important parts rendered in high contrast, for low vision gamers

4. Thomas Westin, screen from *Terraformers*, 2003. Photo from: *idem*, *Game Accessibility Case Study: "Terraformers" – a Real-time 3D Graphic Game*, [in:] *Proceedings of the 5th International Conference on Disability, Virtual Reality and Associated Technologies (ICDVRAT 2004)*, Ed. P. Sharkey, R. McCrindle, D. Brown, Reading 2004, p. 96



³⁹ See T. Westin, *Game Accessibility Case Study: "Terraformers" – A Real-time 3D Graphic Game*, [in:] *Proceedings of the 5th International Conference on Disability, Virtual Reality and Associated Technologies (ICDVRAT 2004)*, Ed. P. Sharkey, R. McCrindle, D. Brown, Reading 2004, p. 95.

⁴⁰ See *ibidem*, pp. 95–96.

⁴¹ See N. Watson, *Well, I Know this is Going to Sound Very Strange to You, but I Don't See Myself as a Disabled Person: Identity and Disability*, "Disability & Society" 2002, No. 5.

⁴² M. Zdrodowska, *Technologia jako narzędzie społecznej dystynkcji. Nieoczywiste relacje techniki i niepełnosprawności*, "Kultura Współczesna" 2018, No. 3, pp. 22–23.

⁴³ See e.g. Valve: *Game Accessibility Benefits Disabled, Able Alike*, <https://www.gamedeveloper.com/game-platforms/valve-game-accessibility-benefits-disabled-able-alike> (access date: 17.01.2024); D. Scimeca, *Resetting Accessibility in Games*, <https://www.gamedeveloper.com/audio/resetting-accessibility-in-games> (access date: 17.01.2024).

⁴⁴ See IGDA, *Accessibility in Games: Motivations and Approaches*, 29 June 2004, https://igda-gasig.org/wp-content/uploads/2011/10/igda_accessibility_whitepaper.pdf (access date: 10.01.2024).

ter, able-bodied players quite regularly raise the issue that various "facilities" for players with disabilities, e.g. aim assist, may in fact be a kind of "cheat" unfair to them, as they cannot openly use such tools. For this reason, they may resist such solutions³⁸.

Perhaps the first original title developed for players with and without disabilities was the 3D action adventure game *Terraformers* (Pin Interactive, 2003) designed by Thomas Westin. [Fig. 4] In order to adapt it to the needs of people with visual impairments, a then innovative sound interface was implemented, using 3D spatial sound and voice information to orient the player in the game space. The player's assistive systems were housed in the suit worn by the player's character, making them diegetic. These included an audio compass (with voice information), sonar suggesting the distance to individual objects, GPS indicating the exact position of all objects, and the player's avatar (also with voice information). It is noteworthy that all objects (including those in the character's inventory) in the game were "sonified" so that they could be easily identified. Different types of ground also generated specific sounds when walking on them. Such a comprehensively developed audio interface led to *Terraformers* being honoured with the Innovation in Audio Award at the Independent Games Festival in 2003³⁹. The game, as it was also aimed at able-bodied players, also had a 3D graphics layer, which could either be turned off or transformed in a higher contrast mode to highlight gameplay-important objects⁴⁰. It is not difficult to see that the elements introduced to make it accessible to people with visual impairments could also help the gameplay of fully sighted people. Thanks to their largely diegetic nature, they were "discreet", i.e. they did not distinguish the players using them as disabled. After all, as the researchers note, not all people with various impairments want to identify themselves as disabled⁴¹. At the same time, the fact that these functionalities also helped players without disabilities brings them into the class of solutions that go under the name "disability gain", i.e. those that were originally designed as "assistive technologies" but benefited the general public. One of the first such "technologies" was to lower the curbs at pedestrian crossings so that people in wheelchairs could cross, but it also brought positive outcomes for parents with children in pushchairs, for example, or people with wheeled suitcases⁴². I raise this issue because the discourse lobbying for increased accessibility of games invokes as one of the arguments precisely the fact that solutions to improve it can be useful for a wide spectrum of gamers⁴³.

The experience gained from working on *Terraformers* was the starting point for Westin to set up the Game Accessibility Special Interest Group (2003) within the International Game Developer's Association (IGDA). This is one of the most serious advocacy initiatives still in operation today, with the aim of working towards accessibili-

ty in games. Its most important contribution was the formulation of a report on the state of advances in video game accessibility in 2004, which also contained general guidelines (updated in 2010) for solving problems arising from it⁴⁴. Some of these are ideas proposed by Westin in *Terraformers* – such as a “sonar”, “GPS” and “sound compass”⁴⁵. The preparation of the Game Accessibility SIG was preceded by initiatives originating from the gaming public. One of the first is audiogames.net, founded in 2002. It is a database of audio games and mainstream titles accessible to people with visual impairments, originally aimed only at them. Currently, the service has the ambition to promote audio games as a separate genre for all gamers⁴⁶. Other important organisations dedicated to the needs of gamers with disabilities are also worth mentioning⁴⁷. These include the AbleGamers (2004) and SpecjalEffect (2007) foundations, websites such as OneSwitch.org.uk, canisplaythat.com, gameaccessibilitynexus.com and (now defunct) deafgamers.com⁴⁸. They focus on a fairly broad range of tasks – from lobbying for the introduction of accessibility features in games, formulating recommendations for such features, reviewing titles released on the market from an accessibility point of view, organising events related to this issue, to providing disabled gamers with gaming equipment suitable for their needs. The history of video game accessibility over the last quarter of a century is closely linked to these and similar advocacy bodies. It is they who have probably contributed most to popularising the issue and putting pressure on video game developers and manufacturers of gaming equipment to also make games increasingly accessible. The initiatives of the gamers themselves also played a very important role here – their complaints about the lack of accessibility led in many cases to the introduction of its options – this was the case, e.g., with *Half-Life* (Valve Corporation, 1998), where dialogue boxes were inserted ex post. The next part of the series, *Half-Life 2* (2004), already had captions for the deaf from the very start. Another example would be the *Uncharted* (Naughty Dog) series. One gamer with a motor impairment, Josh Straub, who was unable to complete the second game in the series (*Uncharted 2: Among Thieves*, 2009) due to the need to press the controller buttons too fast during the so-called “quick time event”⁴⁹, contacted the game’s producers, who, in response and in consultation with him, made a number of improvements for players with disabilities in *Uncharted 4: Thief’s End* (2016)⁵⁰. Naughty Dog is, by the way, one of the positive “heroes” of the fight for game accessibility. Their most important production, *The Last of Us* franchise⁵¹, is rated very highly from this angle. To such an extent that it is seen (especially in its second part) as a certain standard to which games should aspire⁵². *The Last of Us: Part II* includes more than 60 accessibility options, which it would be impossible to list all of them here, for players with vision and hearing impairments, or with motor difficulties, etc. [Fig. 5]. These include text-to-speech conversion, the



⁴⁵ *Ibidem*, pp. 16–17.

⁴⁶ Frequently Asked Questions, <https://www.audiogames.net/frequently-asked-questions/> (access date: 18.01.2024).

⁴⁷ In our country, perhaps the first action for game accessibility was taken by the Poznań Gamers’ Guild, which has developed recommendations for it in 2019. These are based on the guidance provided in the brochure *Dostępność gier. Wskazówki dla twórców gier* (<https://gildiagraczy.pl/wp-content/uploads/2019/04/Dostepnosc-gier-wskazowki-dla-tworcow-gier.pdf> [access date: 18.01.2024])

⁴⁸ See e.g. D. Gałuszka, *Gry wideo w perspektywie potrzeb osób niepełnosprawnych*, [in:] *Oblicza niepełnosprawności w teorii i praktyce*, Ed. J. Niedbalski, M. Raćław, D. Żuchowska-Skiba, Łódź 2017, p. 340. Yet other noteworthy parties are the BBC, which produces and distributes games, or the Norwegian company focusing on universal design MediaLT.

⁴⁹ This experience led him to set up the (now defunct) Dagersystem.com website with reviews of game accessibility.

⁵⁰ See P. Klepek, *How A Player With Disabilities Convinced Naughty Dog To Add More Accessibility Options To “Uncharted 4”*, <https://kotaku.com/how-one-disabled-player-convincing-naughty-dog-to-add-more-1777633667> (access date: 30.01.2024).

⁵¹ Part one came out in 2013 (remake with added accessibility options in 2022), part two in 2020 (remaster in 2024).

⁵² See e.g. V. Branco, *Low Vision Game Review – “The Last of Us: Part II” Remastered*, <https://www.gameaccessibilitynexus.com/blog/2024/01/16/the-last-of-us-part-ii-remastered-low-vision-review> (access date 18.01.2024)



⁵³ See e.g. I. Besztocha, "The Last of Us: Part 2" – kamień milowy w dostępności dla niepełnosprawnych graczy, <https://gamemusic.pl/the-last-of-us-part-2-kamien-milowy-w-dostepnosci-dla-niepelnosprawnych-graczy> (access date: 18.01.2024)

⁵⁴ But also many others, such as highly praised for their accessibility *Gears 5* (The Coalition, 2019), *Spider-Man: Miles Morales* (Insomniac Games, 2020), *Batman: Arkham Knight* (Rocksteady Studios, 2015), etc.

⁵⁵ See M. Brown, S. LaRell Anderson, *Designing for Disability: Evaluating the State of Accessibility Design in Video Games*, "Games and Culture" 2020, No. 6, p. 710.

⁵⁶ C. Craven, "Death Stranding Director's Cut" Accessibility Review – Can I Play That?, <https://caniplaythat.com/2021/09/23/death-stranding-directors-cut-accessibility-review-can-i-play-that> (access date: 18.01.2024).

⁵⁷ See *AbleGamers' 2014 Accessible Mainstream Game of the Year Award*, <https://web.archive.org/web/20150106163944/https://www.ablegamers.com/ablegamers-news/ablegamers-2014-accessible-mainstream-game-of-the-year-award-2> (access date: 25.02.2024). The games *Bayonetta 2* (PlatinumGames, 2014) and *Always Sometime Monsters* (Vagabond Dog, 2014) were also awarded.

option to enlarge any part of the screen as well as captions or menus, changing the colour scheme to a more contrasting and readable one, auto aim, scanning the area for enemies and needed resources, warnings, e.g. before a character falls from a height (and therefore risks injury or death), as well as sound markers for all in-game activities (moving, fighting, grabbing objects), which the player is first taught to recognise in the game, or even the option to skip puzzles that are too difficult. Such a rich repertoire of facilitators is also used by able-bodied players who, e.g., are keen to use dialogue captions⁵³.

Current state of the accessibility issue

Looking at examples such as the aforementioned Naughty Dog⁵⁴ studio productions and considering that efforts to improve accessibility of games have been developed for more than 30 years, it might seem that accessibility solutions are already widespread in mainstream games. However, this is not the case and even the biggest contemporary titles still have very limited accessibility options. This was demonstrated, for example, by a review of 50 games released in 2019 compiled by researchers Mark Brown and Sky LaRell Anderson, which noted serious accessibility flaws even in a high-profile production such as *Death Stranding* (Kojima Productions, 2019) created by industry legend, Japanese designer Hideo Kojima. The authors pointed out, for example, the lack of customisable controls, which is a major inconvenience for those using non-standard controllers, or the use of colour alone to convey important gameplay information⁵⁵. In a review published on caniplaythat.com, the assessment was even harsher, with *Death Stranding* (even in its revised, director's cut) being called there by the reviewer "one of the most barrier-ridden games I've played in a very long time"⁵⁶.

In Polish productions, even the best-known ones, the issue of accessibility has been addressed with varying degrees of commitment. What is more, some of the titles seem to be to some extent accessible only as a result of a lucky coincidence rather than deliberate action. Such an observation comes to mind, e.g., with regard to *This War of Mine* (11bit Studios, 2014), which, somewhat surprisingly, was awarded the prize for the most accessible game by the AbleGamers Foundation in the year of its release. They appreciated the possibility to play the game using only the mouse (after all, this is a feature of basically all point and click games), the colour style suitable for people with daltonism, and the support of audio information with visual one⁵⁷. The game does not, however, include any accessibility options that the player could modify themselves and, unfortunately, no facilities for people with vision impairments [Fig. 6]. Another example of Polish games with very limited accessibility could be the *Dying Light* series (Techland, 2015 and 2022), containing only very basic accessibility features such as customisable captions (but conveying only



5. Naughty Dog, screen from *The Last of Us Part II*, 2020. Photo from: <https://www.youtube.com/watch?v=G7IGrW3IJU> (access date: 3.04.2024)

the main dialogue), the ability to enable auto aim when playing on a pad and to remap buttons on the keyboard and to a limited extent on the pad, but also – control using eye movements. In the second part of the series, it is optional to change the colour scheme to one more suitable for daltonists. The largest Polish production of recent years, *Cyberpunk 2077* (CD Projekt Red, 2020), fares much better in this respect, although some accessibility options were only added in the last two patches (2.1 and 2.11)⁵⁸, not intended for older generation consoles, however. They have been collected under the “Accessibility” tab and include, among other things, solutions such as the ability to enlarge and simplify the interface to make it more legible, as well as enlarged caption size and the removal of the timer in hack tasks. Already earlier in the game, it was possible, e.g., to adapt the colour scheme to different types of impairment of their vision, to enable aim assist or, for example, to set the difficulty for different types of combat (melee, ranged and vehicle). After all, one cannot overlook the fact that initially the game featured flashing visual sequences in the so-called braindance sequences, which could cause epileptic attacks in sensitive people. Undoubtedly, this was a mistake that could easily have been avoided and yet found its way into the game.



⁵⁸ December 2023 and February 2024, respectively.



6. 11bit Studios, interface of *This War of Mine*, 2014. Photo: E. Kiecko



⁵⁹ L. Lanier, "God of War" Director Explains Why Accessibility Is Not a Compromise, <https://variety.com/2019/gaming/news/god-of-war-director-sekiro-input-1203184074> (access date: 20.01.2024).

⁶⁰ *God of War* itself thankfully has a dozen different accessibility options, although there are more in the PC version of this game.

Some games are unnecessarily inaccessible for players with disabilities not only because of a more or less deliberate "overlooking" of their needs or limitations, but also because of a misunderstanding of the concept of accessibility. For it is often thought that its conditions are met simply by creating an "easy" mode in a game, as if forgetting that an inaccessible game does not have to be objectively "difficult". But also that a "difficult" game does not have to be inaccessible. A very good illustration of this problem is the controversy that arose with the release of *Sekiro: Shadows Die Twice* (FromSoftware, 2019), a game that, according to the artistic vision of its creators, realised in a series of previous productions such as *Bloodborne* (2015) or the *Dark Souls* series (2011–2016), has very challenging gameplay. For this reason, there have been claims that this title should have an "easy" level to make it more "accessible". One of those speaking in this vein was Cory Barlog, director of *God of War* (SIE Santa Monica Studio, 2018), stating that:

To me, accessibility does not exist in contradistinction to anyone's creative vision but rather it is an essential aspect of any experience you wish to be enjoyed by the greatest number of humans as possible⁵⁹.

So, as we can see, even experienced creatives demonstrate a misunderstanding of the concept⁶⁰.

Acknowledging the efforts of Naughty Dog or other video game developers who try to make their games accessible to people with disabilities cannot, however, obscure the fact that the solutions they introduce in the form of accessibility options are, in essence, only “improving” the player. So, going back to the opening remarks of this text – they fit (consciously or not) into the medical concept of disability by offering “prosthetic” measures for it. However, this can in no way be a reproach against these creators. For in practice, this is the easiest and so far most effective way of making games accessible, which takes into account the needs of different gamers and which allows them to decide for themselves how to configure the game. So far, moreover, there are no good, complete models showing how a “universally accessible” complex and multi-layered AAA game, created in the paradigm of a “social” understanding of disability, could work and look like. There are, however, some solutions that can suggest this. Yet, taking this second paradigm as a starting point does not necessarily mean abandoning any of the already proven accessibility features. Rather, it is about the way in which they are implemented and the language in which they are presented. The latter was triggered by the very unfortunate wording used by the developers of the extremely challenging arcade platformer *Celeste* (Maddy Makes Games, 2018) when describing the settings for adjusting its difficulty (the so-called assist mode). Originally, the text message accompanying the selection of this mode announced that “difficulty is essential for gameplay” and that the developers “recommend playing without ‘assist mode’ from the first time”. After consultation with disabled speedrunner Clinton Lexa, this message, as “condemning” people who needed difficulty modification for various reasons, was changed. Now, in a more neutral and inclusive tone, it states that “*Celeste* is intended to be a challenging and rewarding experience. If the default game proves inaccessible to you, we hope that you can still find that experience with Assist Mode”⁶¹. The original message could be understood as expressing a lack of empathy towards gamers, failing to recognise that the “difficulty” of games is a very subjective concept, so that even a slightly facilitated game can still be, for people with disabilities, among others, very challenging.

How, then, do current attempts at game design, which could be regarded as (also in the declarative field) understanding it from the social perspective of disability, look like. As I have written before, they should be based on an effort to develop a design for a given production that (ideally) would not contain any accessibility barriers that would then need to be removed. Taking the rather inflammatory issue of aim assist in shooters⁶² – as an example – accessible design would involve considering why a player with a disability might have trouble aiming – it would be, for example, that the silhouettes of enemies blend too much into the background and are too small. The solution could be to make them larger and more contrasty. Such a video game



⁶¹ C. Lexa, tweet of 9 September 2019, <https://twitter.com/halfcoordinated/status/1171019867828490241/photo/3> (access date: 20.01.2024).

⁶² The controversies concerning aim assist originally developed out of the differences in control between the different platforms – consoles and PCs. Due to the objective difficulty of operating the pad, especially in demanding action games, many games designed for consoles introduced an aim assist to make the game a little easier to play. PC gamers saw this as giving an unfair advantage to console gamers, while console gamers saw it as levelling the playing field.



⁶³ See **A. Thompson**, *UX Summit: Accessibility by Design: Finding Our Way on the Path Less Traveled*, <https://www.gdcvault.com/play/1028893/UX-Summit-Accessibility-by-Design> (access date: 20.01.2024).

design tactic of identifying potential accessibility barriers before they become actual ones was adopted some time ago by one of the biggest video game developers and publishers Ubisoft. It was outlined during a talk⁶³ at a major industry event, the Game Design Conference in March 2023, by Aderyn Thompson, accessibility design manager and strategist at the studio. In her view, another important step towards equality design in games would be to use “discreet” accessibility options and hints in the first place. The examples of good practice mentioned by Thompson that could be developed in other games were the nature hints appearing in the (otherwise containing quite a few accessibility barriers) game *Ghost of Tsushima* (Sucker Punch Productions, 2020) such as wind, birds, foxes or skylights [Fig. 7]. They lead the player, as it were, in a “natural” way to the target spots, and also indicate the location of additional objectives, such as collectables. These clues, however, have a major drawback – they are primarily visual, although in the case of wind, for example, its gusts can also be transmitted to the directional vibrations of the DualSense pad (as the game is a PlayStation-exclusive title). Extending the accessibility of such solutions would involve adding (as in this case) clear audio cues and therefore – making them multimodal.

In terms of the discreteness of the accessibility options themselves, Thompson rightly pointed out that they should not be grouped together within a menu in one place labelled “accessibility”. The rationale for this is that, as I wrote earlier, not all people with disabilities want to identify themselves as such, and this kind of labelling can, in a sense, impose that identity on them. Such functionalities should instead be arranged in the relevant categories for graphics, sound, controls, etc. as ordinary personalisation options. An example of this would be the very well configured menu of Ubisoft’s game *Assassin’s Creed: Valhalla* (2020). [Fig. 8] Some of the most commonly used accessibility tools, such as dialogue captions, for example, should be (as is already practised) enabled as default from the first launch of the game.

Thompson, in all fairness, also noted that the quest to make games more accessible should always be pursued from the perspective of the feelings that a game offers to a gamer with a disability, among which the satisfaction of achieving one’s ambition of overcoming gameplay challenges, getting better and better, and ultimately achieving mastery, plays a prominent role. This seems somewhat obvious, yet still the most positive feeling that many of these players associate with games is the joy of simply being able to play a title.

Looking forward to the development of accessible video games, one could, I believe, be tempted to predict what the aesthetics of “universally accessible” titles might be. Its most important feature would probably be far-reaching “customisability”, of which very good examples have been offered for years by the modding community, e.g. those involved in modding *The Elder Scrolls V: Skyrim* (Bethesda



7. Sucker Punch Productions, screen from *Ghost of Tsushima*, 2020. Photo: E. Kiecko



8. Ubisoft Montréal, interface of *Assassin's Creed: Valhalla*, 2020. Photo: E. Kiecko

Game Studios, 2011), whose larger and smaller mods can be counted in the thousands. The second of its key features would be participatory. People with disabilities should be included in the video game development process at all stages with an advisory voice, or at least as testers of proposed solutions and their prototypes. Evaluating not only their “functionality”, but above all their impact on the gameplay experience. It would also have to be based on empathy towards the needs of all groups of players, so as not to generate friction between them based on the feeling of unequal treatment.

Despite the considerable progress that has been made in the last 30 years towards making games accessible to people with disabilities, the current state of development cannot, unfortunately, be regarded as satisfactory. There are still a lot of even very popular games that only include very basic accessibility features, such as dialogue captions or the ability to customise controller buttons. Among all types of disabilities, the problems of the hearing-impaired and visually-impaired seem to be addressed best, to a lesser extent those with motor

difficulties. The least emphasis, on the other hand, is unfortunately placed on the needs of the cognitively impaired, which, with the high complexity of modern games, means that in most cases they may be excluded from the gaming experience.

Perhaps in conclusion, it would be worth asking whether all games need to be accessible. In light of how important it is for people with disabilities to be able to enjoy this form of entertainment, the answer seems obvious, especially for the most popular productions. However, it is possible that this is a somewhat utopian postulate, for the specific characteristics of some game genres, such as strategy games (an example is the *Victoria* series, Paradox Development Studio, 2003–2022) or online battle royale games (such as *Fortnite* or *PUBG*), which are often too demanding even for players who do not face any form of disability, may not allow them to be made fully accessible. Perhaps some accessibility barriers will have to exist in productions with specific graphical styles or mechanics. After all, video game developers should also be able to experiment if the industry is not to stagnate. Nevertheless – wherever possible, “accessibility” thinking should be at the heart of design.

As I wrote earlier, this issue has not yet found its rightful place in Polish games research and this gap, especially with regard to domestic productions, needs to be filled as soon as possible. Similarly, the question of the place of the discourse on accessibility in Polish specialised media requires research. By addressing this issue, researchers, I believe, can contribute to the development of accessible games.

Słowa kluczowe

gry wideo, dostępność, niepełnosprawność, projektowanie gier wideo, *disability studies*

Keywords

video games, accessibility, disability, video game design, disability studies

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Summary

EMILIA KIECKO (University of Wrocław) / Accessibility of video games in the context of disability. A historical overview

This article briefly presents the history of making video games “accessible” to people with disabilities almost from the beginning of the medium to the present day. It outlines the conditions that influence the current state of accessibility in games, as well as the main issues that have emerged in the discourse on this issue. It also discusses some of the accessibility solutions developed by the video game industry and advocacy organisations.