Age & Games – A Review on the Demographics of Elderly and Children Playing Games

The importance of the elderly and child demographic in the current video game industry is crucial to the evolution of game design as a creative medium. Year on year, there is a steady increase of the elderly demographic playing games. As of 2016, 26% of the North American digital games audience is over the age of 50, alongside the average gamer age increasing to 35 years old (ESA, 2016, p.3). Furthermore, parents are playing a fundamental role in child play, with at least 62% of parents playing digital games with their children weekly (ESA, 2016, p.9). With a rise in an elderly audience and an increase in parent-child play, designers will need to accommodate for the growing demographics. The scope of this essay is to report on the current research surrounding the elderly and child demographics playing games, as well as offering my own take on the evolution of games for each demographic.

Elderly Demographic

A majority of the latest literature that focused on the elderly demographic highlighted the cognitive and physical benefits of video games on the elderly. Firstly, *Game Design for Older Adults (2012)* provided an overview of common age-related changes in user's cognitive and physical abilities, along with a summary of game design considerations for the elderly. They identified key design principles such as, "elderly players have to be provided with sufficient information to be able to interact with the game adequately" and "core mechanics of the game have to be simplistic and easy to learn in order to reduce the cognitive load" (Gerling et al., 2012, p.241). The study highlighted several aspects that designers need to focus on when developing games for the elderly demographic, which include: an adjustable user interface, multiple input devices, and no complex controls or 'twitch-like' mechanics. Likewise, *Claire (2016)* reviewed games specifically designed for dementia care and offered

new ways to design for patients suffering from dementia. *Claire (2016)* also identified certain design rules that would cater for the elderly demographic, "Using game analytics, player's performances can be observed over time and any changes noted and analysed" (Claire, 2016, p.9). The implementation of mechanics that can be monitored allows designers to customise and adapt their games to be moulded around the player's wants and needs.

The literature mentioned previously focused on the design principles through literature reviews, but the following papers concentrate on the benefits of video games on the elderly. *Successful Aging through Digital Games (2013)* examined the differences in the psychological functioning of an elderly demographic that play digital games, compared to those that do not. Acquiring 140 participants, with an average age of 77, the findings suggested that playing games has a positive effect on aging. The study illustrates that *"*Regular and Occasional Gamers reported significantly higher levels of well-being, lower levels of negative affect, and to some extent less depression*"* (Allaire et al., 2013, p.1304). This highlights that the elderly demographic show an increase in cognitive function after playing digital games, as well as digital games being emotionally therapeutic. Moreover, *Video Games as a Means to Reduce Age-Related Cognitive Decline (2013)* also focused on age-related cognitive decline, whereby they tested the abilities of 62 participants (average age of 74) on an action game and a 'brain fitness' game. Interestingly, the test results came back negative, implying that the cognitive abilities of those tested did not significantly improve. However, it demonstrated the frustration of the elderly demographic towards the hardware and software provided. Specifically, the participants reported "arthritis-related pain and eyestrain" (Boot et al., 2013, p.33) while playing *Mario Kart DS (2005)*. This emphasises that designers need to cater

towards a constantly evolving market, where the elderly do not have the same requirements as those of a younger audience.

Overall, the literature on offer focuses on the cognitive and physical benefits of video games on the elderly. Each example also developed on their results to offer advice on future design accommodation for this ever-growing demographic.

Child Demographic

A majority of the latest literature that focuses on the child demographic discusses the motivations of children's play, along with emphasising the relationship between the child and parent over video game play. Firstly, *Annika and Gunnar (2015)* provide an insight into what play activities are encouraged by tablet play in pre-school children. With a total of 17 participants aged between 4 and 6, results illustrated that *"*pre-school players are able to involve affectively and dramatically even with a very simple tablet game" (Annika and Gunnar, 2015, p. 15). Video games, even at the most basic level, can support learning through the child's physical and mental engagement. In a similar age demographic, *Jung (2014)* ethnographic case study of six families who had 3-year-old children, uncovered the tactics used as digital gamers. The study further delved into strategies used by parents to limit their children's play. The case study highlights that "young children's digital gaming is now a fact of family life" and that "digital games are a site for family power struggles as well as shared activity" (Jung, 2014, p.10). As expressed in the introduction, parents and their children playing digital games together are an ever-increasing demographic. Designing and developing games that can be integrated into everyday life is vital for the introduction of the video game medium into children-parent play.

The literature that has been explored thus far is not only restricted to a very young audience; children in education were also explored in depth. In *Orientations to Video Games Among Gender and Age Groups* (2008), questionnaires were deployed to public school students and undergraduates at universities, which asked about their orientation to video games. 692 5th–11th grade students across rural and suburban school districts completed the questionnaires, as well as 550 university undergraduates across two universities in the United States. The research highlighted the strongest motivators for the different age groups, with 'challenge', 'competition' and 'diversion' being most commonly found. In particular, 'challenge' was the primary motivator for 5th graders, illustrating that "virtual learning will be particularly attractive" (Greenberg et al., 2008, p.254). Analysing the different motives for player demographics is vital for designing games. Implementing the strongest motives for the child demographic (prime candidates for interactive learning experiences) will turn educational games into potent learning tools.

Overall, the literature on offer focused on the motivations of children's play through a wide age range, from 3-years-olds to undergraduates. Moreover, there was a keen focus on the relationship between child and parent, alluding to the power struggle found in playing and controlling video games. Predominantly, the literature either commented or implied the educational purposes of video games.

Discussion

The literature explored the focus on motivational factors of play in both demographics, as well as the potential benefits of video games in either a mental, physical or educational

purpose. With the discussion of potential design principles in each of the literature found, I would like to also reflect on the future developments of games suitable for each demographic.

A historical trend that has been identified with each console cycle is that it attracts a new audience. As Jennifer and Suzanne de (2009) connote, the "radical modification of the way games is played is productively seen[…] as a 'paradigm shift' from simulation to imitation, one that has already attracted new audiences to digital game play" (Jennifer and Suzanne de, 2009, p.2). This is illustrated by the Wii's success in senior homes to encourage exercise and fitness. Much like the Wii did in 2006, Virtual Reality (VR) in 2016 could appeal to a new audience that has, in the past, been wary of video games. I argue that, for specific educational purposes, VR could be important in changing the learning landscape. Video games are a potent learning tool for future education, as supported in *Video Games and the Future of Learning* (2005) "creating virtual worlds, games integrate knowing and doing […] the situated understandings, effective social practices, powerful identities, and shared values that make someone an expert" (Shaffer et al., 2005, p.107). Experiences such as taking virtual tours of prehistoric environments, while the teacher gives the context as to what the student is seeing, will enable visual learners to learn in an immersive teaching space.

In the literature reviewed, games that focused on the representation of the elderly highlighted that a large amount was about the negatives surrounding age and death. In *Time to Reminisce and Die (2015)*, identified that, by analysing art games, there was "little mention of possible gains of aging – such as experience, wisdom, a certain detachment from and broader perspective on life" (Rughinis, Toma and Rughinis, 2015, p.10). When developing

future games marketed towards the elderly, it would be wise to focus on the benefits of retirement and old age.

Conclusion

To conclude, the literature that was found for both demographics identified a variety of similarities between children and the elderly. They both focused on the motivational factors of play that each demographic engaged with during gameplay. Furthermore, the potential benefits of video games for both the mental and physical aspects in both demographics were explored. There was also a particular emphasis on the potential application of video games in an interactive learning environment. There is a possibility of expanding the video game aspect of each demographic, as can be seen through the examples given of how video games could be used for educational purposes for children. The representation of the elderly in games is also a factor that needs to be considered. However, there were gaps in the literature that I have identified. All of the studies that were researched in this report came from Western countries. None of the studies comment on how Eastern or underdeveloped countries use video games in either demographic. This could lead to further research within either demographic, seeing how elderly audiences interact with video games in Eastern countries or how video games are used in educational circumstances in impoverished countries.

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