ASSIGNMENT TITLE:

A portfolio of writing that connects practice with theory and research

- *The ethical issues of virtual reality*

ASSESSMENT REQUIREMENTS:

- A portfolio of writing that connects the themes studied with practice, theory, and research including the documentation of process 1,600 words
- Document the research process through the regular blog
- **AKA:** Essay, critical appraisal documenting the essay development process, and blog reflections

LEARNING OUTCOMES:

- Select and manage information from a variety of sources (*Enquiry*)
    - *Evidenced through: Solid understanding of the recommended unit reading materials and valid in-class discussion, and reflect on continuously through your blog, and a critical appraisal documenting the essay development process*

- Engage in constructive and informed critical argument and debate (*Enquiry*)
    - *Evidenced through: Regular presentations of your project progress to peers and tutors, online and offline communication with the peers and tutors, and reflect continuously through your blog, and a critical appraisal documenting the essay development process*

- Identify the key issues, themes, and critical debates surrounding the subject of virtual reality, design, and cultures (*Knowledge*)
    - *Evidenced through: Completing written work containing a rationale, methodology, literature review and documentation*

- Construct an argument and demonstrate an awareness of range of communication techniques, research methods, and writing skills (*Communication*)
    - *Evidenced through: completing the written portfolio and submitting the class assignment and final project on time*
    - *Evidenced through: online and offline communication with the peers and tutors that you should document and reflect on continuously through your blog, and a critical appraisal documenting the project development process*

- Evidence engagement with the principles of personal and professional development (*Process*)
    - *Evidenced through: research blog documenting your research and development process*

CRITICAL ANALYSIS CHECKLIST

- Is the author making any assumptions
- What type of evidence have they used to portray their arguments
- Has the source explored different POV's or has it mostly stuck to the author's viewpoint?
- Is there any significance in the background of the arthur? What other work have they produced?
- What significance do you think the source has? Has it contributed to any new arguments / factors in the particular area?
- Do you agree with the author / does it further your stance?
- Are there any limitations of the source?

RESEARCH TABLE: Psychological and Social Implications

SOURCE / REFERENCE	*MAIN QUOTES / ARGUMENTS*	*HOW DOES THIS CONTRIBUTE TO THE ESSAY / CRITICAL ANALYSIS - how convincing is their argument?*
Slater M, Gonzalez-Liencres C, Haggard P, Vinkers C, Gregory-Clarke R, Jelley S, Watson Z, Breen G, Schwarz R, Steptoe W, Szostak D, Halan S, Fox D and Silver J (2020) The Ethics of Realism in Virtual and Augmented Reality. *Front. Virtual Real.* 1:1. doi: 10.3389/frvir.2020.00001 https://www.frontiersin.org/articles/10.3389/frvir.2020.00001/full (Slater, Gonzalez-Liencres, Haggard, Vinkers, Gregory-Clarke, Jelley, Watson, Breen, Schwarz, Steptoe, Szostak, Halan, Fox, and Silver 2020)	"The power of virtual experiences might encourage behavior that the person would not normally carry out in reality. This could be through exposure—for example, it may be difficult for a person to carry out their first act of violence in XR, but eventually it becomes easy, and leads to a greater propensity for violence in reality—or it could also occur through copycat behavior—mimicking the harmful behaviors of other virtual characters, for example, peer group pressure seems to operate in VR (Neyret et al., 2020)."	The authors in this article provide evidence that over exaggerated usage of online video games can cause the body to destruct itself over time. Through the usage of mimicking harmful behaviors, peer-pressure, and reacting to certain settings in a stressful manner, the users of realistic virtual and video environments tend to showcase negative responses physically and mentally. While the authors of this article explain positive uses of virtual reality (for example for therapeutic purposes), the overall message emphasizes the possible ethical and moral dilemmas of a realistic virtual reality environment. Given the educational background of the authors in Psychology, Neuroscience, and in Virtual

		Reality, one can find that their research and information provided to be trusted from an academic perspective. Of course, the major disagreements will occur in the ethical aspect of the discussion. However, within the article, there is an abundance of in-text-citations of previous findings and research projects done by past scholars and scientists; Therefore backing up this articles' statements and opinions.
Slater M, Gonzalez-Liencres C, Haggard P, Vinkers C, Gregory-Clarke R, Jelley S, Watson Z, Breen G, Schwarz R, Steptoe W, Szostak D, Halan S, Fox D and Silver J (2020) The Ethics of Realism in Virtual and Augmented Reality. *Front. Virtual Real.* 1:1. doi: 10.3389/frvir.2020.00001 https://www.frontiersin.org/articles/10.3389/frvir.2020.00001/full (Slater, Gonzalez-Liencres, Haggard, Vinkers, Gregory-Clarke, Jelley, Watson, Breen, Schwarz, Steptoe, Szostak, Halan, Fox, and Silver 2020)	"Unexpected horror as part of, for example, an artistic virtual environment people may be exposed to horrors that they did not expect and of which they were not forewarned, resulting in a kind of post-traumatic stress response or, conversely, in desensitization for obscene sights."	
Rizzo, A. "S.", Schultheis, M. T., & Rothbaum, B. O. (2003). 'Ethical issues for the use of virtual reality in the	"Two general categories of VE-related side effects have been reported: cybersickness and aftereffects."	While this article was published within a book focused on the ethical issues of clinical neuropsychology

psychological sciences', in S. S. Bush & M. L. Drexler (Eds.), *Ethical issues in clinical neuropsychology*, Swets & Zeitlinger Publishers, pp. 243–277. http://citeseerx.ist.psu.edu/viewdoc/download?doi=10.1.1.519.617&rep=rep1&type=pdf (Rizzo, Schultheis, Rothbaum 2003)	VE = Virtual Environments	in 2003, the information remains relevant in determining if virtual reality and its environments are ethical towards the users or not. Rizzo, Scultheis, and Rothbaum all provided many pieces of physical projects to showcase the many successful stories of virtual environments and how they aid within clinical psychology and neurophysiology areas of focus. Offering the perspective that virtual environments can help in observing and understanding behavioral changes. However, Rizzo, Scultheis, and Rothbaum all provided possible negative side effects of being immersed within a virtual environment. From listing many side effects, the authors then asked questions related to how virtual reality can indeed help those who seek psychological treatment, and what they should be expecting.
Rizzo, A. "S.", Schultheis, M. T., & Rothbaum, B. O. (2003). 'Ethical issues for the use of virtual reality in the psychological sciences', in S. S. Bush & M. L. Drexler (Eds.), *Ethical issues in clinical neuropsychology*, Swets & Zeitlinger Publishers, pp. 243–277. http://citeseerx.ist.psu.edu/viewdoc/download?doi=10.1.1.519.617&rep=rep1&type=pdf	"While, it can be argued that individuals with intact mental functioning are able to distinguish between virtual and real environments and efficiently detect errors or distortions, individuals whose judgment is already impaired may be at a high risk for further distortion of their reality testing."	

(Rizzo, Schultheis, Rothbaum 2003)		
Rizzo, A. "S.", Schultheis, M. T., & Rothbaum, B. O. (2003). 'Ethical issues for the use of virtual reality in the psychological sciences', in S. S. Bush & M. L. Drexler (Eds.), *Ethical issues in clinical neuropsychology*, Swets & Zeitlinger Publishers, pp. 243–277. http://citeseerx.ist.psu.edu/viewdoc/download?doi=10.1.1.519.617&rep=rep1&type=pdf (Rizzo, Schultheis, Rothbaum 2003)	"Integrate safeguards into your protocol. Although much remains to be learned about VR exposure, some side effects have been consistently noted, and subsequent procedures for minimizing risk to these side effects have been developed. Inclusion of the most recent screening procedures (i.e. Simulator Sickness Questionnaire) should be standard in all VR protocols."	
Shapiro M.A, McDonald D.G, 1995, 'I'm Not a Real Doctor, but I Play One in Virtual Reality: Implications of Virtual Reality for Judgements About Reality', in Biocca, F., & Levy, M.R. (Eds.), *Communication in the Age of Virtual Reality* (1st ed.), Routledge, pp. 323-342. https://books.google.co.uk/books?hl=en&lr=&id=MzaMSbzcz6UC&oi=fnd&pg=PA323&dq=psychological+implications+of+virtual+reality+journal+articles&ots=Vsj61Z9MEP&sig=AycKgLNI8x8LhAZjvs-8-050YXs#v=onepage&q&f=false (Shapiro and McDonald 1995)	"However, the additional sensory experience and feeling of being immersed in a virtual environment is likely to have some effects, particularly on involuntary emotional responses. For example, there is some evidence that seeing certain events on television (e.g., a car crash or shooting) produces some physiological and emotional responses similar to responses to the real thing. It seems more likely that the more VR can make a car crash look and feel like a car crash, the bigger the physiological and emotional response.	Shapiro and McDonald both graduated from Cornell University with a degree in Psychology. Given their background studies, they both wrote a chapter within a book, 'Communication in the Age of Virtual Reality', with a focus on the implications and judgements about virtual reality. Within this chapter, Shapiro and McDonald believed that given the right person in the right circumstance, they could invoke a negative emotional response due to the graphic and immersiveness realism aspect of virtual reality. They both expressed concerns that virtual reality would impair one's true judgment and influence them in negative manners.

Devon Adams, Alseny Bah, Catherine Barwulor, Nureli Musabay, Kadeem Pitkin, and Elissa M. Redmiles. 2018. Ethics emerging: the story of privacy and security perceptions in virtual reality. In Proceedings of the Fourteenth USENIX Conference on Usable Privacy and Security (SOUPS '18). USENIX Association, USA, 443–458. https://www.usenix.org/system/files/conference/soups2018/soups2018-adams.pdf (Adams, Bah, Barwulor, Musabay, Pitkin, and Redmiles 2018)	I'm sure if you put a soldier into VR and play the wrong experience like Call of Duty or Battlefield or something like that. That could trigger some sort of... flashback or bipolar moment...really, what VR is trying to do here is duplicate reality where it tricks your mind into feeling like you are somewhere else. Some people might not be ready for something like that, some people might not be mentally developed enough to take something like that and not be messed up over it, you know?"	A collection of recent graduates from universities within the United States used multiple methods to question and observe how virtual reality uses sensor data to infer the user's medical and emotional conditions. From performing a study and questionnaires on selected individuals interested in Virtual Reality to understanding more about how sensors within the headset collect and read data, the article focused on many ethical dilemmas. While focusing mostly on the results of their study, the authors also emphasized the importance of creating and spreading a mutually agreed upon 'Code of Ethics'.

RESEARCH TABLE: Legality and Regulations

SOURCE / REFERENCE	*MAIN QUOTES / ARGUMENTS*	*HOW DOES THIS CONTRIBUTE TO THE ESSAY / CRITICAL ANALYSIS - how convincing is their argument?*
Devon Adams, Alseny Bah, Catherine Barwulor, Nureli Musabay, Kadeem Pitkin, and Elissa M. Redmiles. 2018. Ethics emerging: the story of privacy and security perceptions in virtual reality. In Proceedings of the Fourteenth USENIX Conference on Usable Privacy and Security (SOUPS '18). USENIX Association, USA, 443–458.	While enhanced community is a great potential benefit of VR, it also increases the risk of users sharing personal and sensitive information with unknown and untrusted third parties or being harassed. VR also enables virtual crimes (e.g., physical attacks on virtual characters, stealing of digital goods), which prior work has found generate strong emotional reactions	

https://www.usenix.org/system/files/conference/soups2018/soups2018-adams.pdf (Adams, Bah, Barwulor, Musabay, Pitkin, and Redmiles 2018)	similar to real-world crimes	
Harvey, L.S.C, 1995, 'Communication Issues and Policy Implications', in Biocca, F., & Levy, M.R. (Eds.), *Communication in the Age of Virtual Reality* (1st ed.), Routledge, pp. 371-379. https://doi.org/10.4324/9781410603128 (Harvey 1995)	"Many of our traditional expectations of the media / government relationship, which have been painstakingly developed through custom, challenge, and court decision, suddenly no longer apply."	
Harvey, L.S.C, 1995, 'Communication Issues and Policy Implications', in Biocca, F., & Levy, M.R. (Eds.), *Communication in the Age of Virtual Reality* (1st ed.), Routledge, pp. 371-379. https://doi.org/10.4324/9781410603128 (Harvey 1995)	"Virtual reality - like its cousins wreaking havoc in electronic publishing law, where arguments about what is and what isn't an "original " of anything carried over a wire instead of a printing page - doesn't just straddle the line between speech and action. It makes the line itself irrelevant, because the VR communications event itself is not just an expression - its experience."	
Harvey, L.S.C, 1995, 'Communication Issues and Policy Implications', in Biocca, F., & Levy, M.R. (Eds.), *Communication in the Age of Virtual Reality* (1st ed.), Routledge, pp. 371-379.	"The social effects of media like VR may move them so far outside the parameters of communications technologies that they invite a revisiting of the actual, as opposed to the theoretical, meaning of the	

https://doi.org/10.4324/9781410603128 (Harvey 1995)	First Amendment within the online world.”	
Dick, E. (2021) *Balancing User Privacy and Innovation in Augmented and Virtual Reality* . Available at: https://itif.org/publications/2021/03/04/balancing-user-privacy-and-innovation-augmented-and-virtual-reality (Accessed: May 4, 2022). (Dick 2021)	“Congress and relevant rulemaking bodies should create rules to safeguard against the potential for harm that arises from new forms of data collection, such as biometric identification and personal information inferred from biometric data, through transparency and choice requirements”	This web page article within the ‘Information Technology & Innovation Foundation’ website is written by Mrs. Dick who is a former policy analyst. Her focus is on Virtual Reality policy and she has previously received degrees in law, diplomacy, and in international affairs. Many of her former articles call out to the United States of America’s supreme court and congress on the many things they should note regarding the fast changing world of technology. Her previous papers range from topics on using virtual reality for equity and inclusion to policies that should be made for the Metaverse. In one of her articles called, ‘Balancing User Privacy and Innovation in Augmented and Virtual Reality’, she focuses on how many policies and laws are yet to be developed to ensure the users data protection. She pushes congress and representatives for more current regulations to be adapted to the immense new wave of technologies of augmented reality and virtual reality.
Dick, E. (2021) *Balancing User Privacy and Innovation in Augmented and Virtual*	COPPA, the Family Educational Rights and Privacy Act (FERPA), and	

Reality . Available at: https://itif.org/publications/2021/03/04/balancing-user-privacy-and-innovation-augmented-and-virtual-reality (Accessed: May 4, 2022). (Dick 2021)	HIPAA all regulate data that may be gathered through immersive experiences.	
Dick, E. (2021) *Balancing User Privacy and Innovation in Augmented and Virtual Reality* . Available at: https://itif.org/publications/2021/03/04/balancing-user-privacy-and-innovation-augmented-and-virtual-reality (Accessed: May 4, 2022). (Dick 2021)	Laws are also in place to regulate government use of digital information, including data gathered in AR/VR. The Privacy Act of 1974 regulates federal agencies' management of records about individuals, and could include data collected during any agency use of AR/VR technologies.	
Dick, E. (2021) *Balancing User Privacy and Innovation in Augmented and Virtual Reality* . Available at: https://itif.org/publications/2021/03/04/balancing-user-privacy-and-innovation-augmented-and-virtual-reality (Accessed: May 4, 2022). (Dick 2021)	Illinois, Texas, and Washington have all introduced laws that specifically target biometric data collection and facial-recognition technologies, with specific requirements for notice and user consent when such data is gathered	
Dick, E. (2021) *Balancing User Privacy and Innovation in Augmented and Virtual Reality* . Available at: https://itif.org/publications/2021/03/04/balancing-user-privacy-and-innovation-augmented-and-virtual-reality (Accessed: May 4, 2022). (Dick 2021)	Current legal and policy frameworks for securing personal, identifying, or even biometric data do not cover the extent of sensitive information collected in AR/VR or its potential uses beyond user identification or authorization.	

RESEARCH TABLE: Privacy and Data Issues

SOURCE / REFERENCE	*MAIN QUOTES / ARGUMENTS*	*HOW DOES THIS CONTRIBUTE TO THE ESSAY / CRITICAL ANALYSIS - how convincing is their argument?*
Slater M, Gonzalez-Liencres C, Haggard P, Vinkers C, Gregory-Clarke R, Jelley S, Watson Z, Breen G, Schwarz R, Steptoe W, Szostak D, Halan S, Fox D and Silver J (2020) The Ethics of Realism in Virtual and Augmented Reality. *Front. Virtual Real.* 1:1. doi: 10.3389/frvir.2020.00001 https://www.frontiersin.org/articles/10.3389/frvir.2020.00001/full (Slater, Gonzalez-Liencres, Haggard, Vinkers, Gregory-Clarke, Jelley, Watson, Breen, Schwarz, Steptoe, Szostak, Halan, Fox, and Silver 2020).	"Personal data acquisition, use, and sharing with third parties is a vast topic that deserves careful attention. Because large amounts of personal data may be collected, this data can be hacked and/or used for malicious reasons. Of particular relevance are data collection, including for example face recognition, data sharing policies (should the government or other third parties have access to what you do virtually?), scams that use someone's data or identity, and fake commercial transactions (for example you buy a product through a fake virtual store that steals your bank details)."	
Slater M, Gonzalez-Liencres C, Haggard P, Vinkers C, Gregory-Clarke R, Jelley S, Watson Z, Breen G, Schwarz R, Steptoe W, Szostak D, Halan S, Fox D and Silver J (2020) The Ethics of Realism in Virtual and Augmented Reality. *Front. Virtual Real.* 1:1. doi: 10.3389/frvir.2020.00001 https://www.frontiersin.org/articles/10.3389/frvir.2020.00001/full	"With superrealism it will be possible to make virtual "copies" of people that look, act, talk like a real person, even demonstrating aspects of personality (for example through the use of machine learning applied to behavior based on recordings of the real person)."	

(Slater, Gonzalez-Liencres, Haggard, Vinkers, Gregory-Clarke, Jelley, Watson, Breen, Schwarz, Steptoe, Szostak, Halan, Fox, and Silver 2020).		
Slater M, Gonzalez-Liencres C, Haggard P, Vinkers C, Gregory-Clarke R, Jelley S, Watson Z, Breen G, Schwarz R, Steptoe W, Szostak D, Halan S, Fox D and Silver J (2020) The Ethics of Realism in Virtual and Augmented Reality. *Front. Virtual Real.* 1:1. doi: 10.3389/frvir.2020.00001 https://www.frontiersin.org/articles/10.3389/frvir.2020.00001/full (Slater, Gonzalez-Liencres, Haggard, Vinkers, Gregory-Clarke, Jelley, Watson, Breen, Schwarz, Steptoe, Szostak, Halan, Fox, and Silver 2020)	"People could be portrayed as carrying out actions and saying things that they did not do. This is already powerful enough in photos and videos, but in XR could be even more dangerous because plausibility includes the automatic attribution of *realness* to virtual humans. Once having experienced a virtual rendition of someone carrying out an action, it may be difficult to remove this from memory, and may stimulate implicit changes of attitude toward that person. One step further is *defamation*, whereby a person is depicted in XR doing something immoral or ridiculous, consequently negatively affecting their social standing or reputation."	
Devon Adams, Alseny Bah, Catherine Barwulor, Nureli Musabay, Kadeem Pitkin, and Elissa M. Redmiles. 2018. Ethics emerging: the story of privacy and security perceptions in virtual reality. In Proceedings of the Fourteenth USENIX Conference on Usable Privacy and Security (SOUPS '18). USENIX Association, USA, 443–458.	"VR systems may collect sensitive data such as facial muscle movements, which can be used to discern users' emotions or Copyright is held by the author/owner. Permission to make digital or hard copies of all or part of this work for personal or classroom use is granted without fee. USENIX Symposium on Usable Privacy and Security	

https://www.usenix.org/system/files/conference/soups2018/soups2018-adams.pdf (Adams, Bah, Barwulor, Musabay, Pitkin, and Redmiles 2018)	(SOUPS) 2018. August 12–14, 2018, Baltimore, MD, USA. quality of health, and high-fidelity infrared images of users' environments [36]."	
Devon Adams, Alseny Bah, Catherine Barwulor, Nureli Musabay, Kadeem Pitkin, and Elissa M. Redmiles. 2018. Ethics emerging: the story of privacy and security perceptions in virtual reality. In Proceedings of the Fourteenth USENIX Conference on Usable Privacy and Security (SOUPS '18). USENIX Association, USA, 443–458. https://www.usenix.org/system/files/conference/soups2018/soups2018-adams.pdf (Adams, Bah, Barwulor, Musabay, Pitkin, and Redmiles 2018)	"VR systems collect haptic, audio, and camera inputs that can be used to infer or even treat medical conditions, enhance simulations, and drive profits [36, 41]. Such information may be collected even when the user believes the system is off, as many headsets are "always on", enabling developers to gain data without the users' knowledge [42]. This data may then be sold to third parties [36] or be leaked through known vulnerabilities [30], which may have consequences such as modifying the quality and pricing of goods or services advertised to users."	
Devon Adams, Alseny Bah, Catherine Barwulor, Nureli Musabay, Kadeem Pitkin, and Elissa M. Redmiles. 2018. Ethics emerging: the story of privacy and security perceptions in virtual reality. In Proceedings of the Fourteenth USENIX Conference on Usable Privacy and Security (SOUPS '18). USENIX Association, USA, 443–458.	"U6 and U10 raise concerns about malicious attackers modifying their virtual experience or gaining access to headset sensors. U10 believes that "someone could hack into your systems network...take control of your centers and using his camera to spy on you"	

https://www.usenix.org/system/files/conference/soups2018/soups2018-adams.pdf (Adams, Bah, Barwulor, Musabay, Pitkin, and Redmiles 2018)		
Devon Adams, Alseny Bah, Catherine Barwulor, Nureli Musabay, Kadeem Pitkin, and Elissa M. Redmiles. 2018. Ethics emerging: the story of privacy and security perceptions in virtual reality. In Proceedings of the Fourteenth USENIX Conference on Usable Privacy and Security (SOUPS '18). USENIX Association, USA, 443–458. https://www.usenix.org/system/files/conference/soups2018/soups2018-adams.pdf (Adams, Bah, Barwulor, Musabay, Pitkin, and Redmiles 2018)	All six focused on microphones or infrared sensors in the headsets collecting data because these sensors are "always on, which I find is weird" (U6). U5 says, "the Rift actually has a microphone in it...[so I realized] oh crap people can hear me...I've [also] seen somebody who posted a picture of what the sensors actually picked up and it was a pretty clear view of the room and what not"	
Devon Adams, Alseny Bah, Catherine Barwulor, Nureli Musabay, Kadeem Pitkin, and Elissa M. Redmiles. 2018. Ethics emerging: the story of privacy and security perceptions in virtual reality. In Proceedings of the Fourteenth USENIX Conference on Usable Privacy and Security (SOUPS '18). USENIX Association, USA, 443–458. https://www.usenix.org/syste	"There's quite a big list of unknowns right now in terms of what's best etiquette for a user and what's gonna keep them the most comfortable and satisfied in the experience. That has already been hashed out for web development over the last couple of decades [but not in VR]...[the VR] industry needs to start using standards"	

m/files/conference/soups2018/soups2018-adams.pdf (Adams, Bah, Barwulor, Musabay, Pitkin, and Redmiles 2018)		
Henriksson, E. A. (2018). Data protection challenges for virtual reality applications. *Interactive Entertainment Law Review* 1, 1, 57-61, available from: < https://doi.org/10.4337/ielr.2018.01.05> [Accessed 04 May 2022] (Henriksson 2018)	"VR technologies, in particular higher end headsets such as Oculus and HTC Vive, collect data on physical movements and dimensions of the user, including for instance the direction, speed and angle of the user's hand motion. Other examples include determining the distance between a person's eyes and the relative height of the headset in order to provide an immersive and comfortable experience. In essence the personal data captured is much more intimate than with a normal game. On the horizon is further processing, for example"	Similarly to Mrs. Dick's stance on privacy and data issues mentioned before, Mr. Henriksson, now a senior legal counsel, believes that headsets such as the Oculus and the HTC Vive collect personal data from the user's physical environment and motions. Mr. Henriksson provided lots of evidence that the Emteq sensor, located within the virtual reality headsets, collects information which can lead to undesired biometric data knowledge on the headset users'. Given Mr. Henriksson's vast knowledge of biometric data, this article provided lots of evidence towards the many data based ethical issues and questions on what exactly can virtual reality collect from its users.
Henriksson, E. A. (2018). Data protection challenges for virtual reality applications. *Interactive Entertainment Law Review* 1, 1, 57-61, available from: < https://doi.org/10.4337/ielr.2018.01.05> [Accessed 04 May 2022] (Henriksson 2018)	"The Emteq sensor reads electrical muscle activity, heart-rate, skin response, eye movement detection and head position."	
Henriksson, E. A. (2018).	"It is conceivable that some	

Data protection challenges for virtual reality applications. *Interactive Entertainment Law Review* 1, 1, 57-61, available from: < https://doi.org/10.4337/ielr.2018.01.05> [Accessed 04 May 2022] (Henriksson 2018)	of the data collected in VR will constitute biometric data. As an example, studies have shown that a person can be identified by his or her walking gait and facial scans would constitute biometric data. Eye tracking might also constitute biometric data"	