

Research Assessment #1

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Subject: Forensic Pathology Career Outlook

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Sweetser, P., & Rogalewicz, Z. (2020). Affording Enjoyment in VR Games: Possibilities, Pitfalls, and Perfection. 32nd Australian Conference on Human-Computer Interaction. doi:10.1145/3441000.3441050

Assessment:

Over the past few decades technology has boomed. From the invention of the computer that was as big as a room to the handheld smartphone common in the modern day, innovation has been rapid in this field. However, the modern era is taking it a step further. With a focus on reducing the barrier between real life and technology to the smallest levels possible the idea of Virtual Reality was created. In 1968 the first VR headset was created that was connected to a computer rather than a camera. Even with this breakthrough innovation in VR was slow due to the large costs involved along with the technology required for it not yet being present. However, in 2012, a new company called Oculus came onto the scene, promising the development of one of the first consumer VR headsets. With the invention of the Oculus Rift VR, development entered a golden age. Many companies and developers joined in on the action leading to rapid advancements in the technology along with hundreds of new games and software for people to try. With this rapid development, VR games have taken on prominence as one of the largest use cases for Virtual Reality due to its increased

immersion. This is what led Dr. Sweetser and Dr. Rogalewicz from The Australian National University to look into the differences between the users' enjoyment of VR and traditional games. In the study, they utilized the GameFlow methodology which consisted of 38 criteria contained within 8 different elements that are all given a rating to determine how much players enjoy a game. The 8 elements are Concentration, Challenge, Player Skills, Control, Clear Goals, Feedback, Immersion, and Social Interaction. The researchers looked at the difference in enjoyment between VR and non-VR for Skyrim and Superhot. To collect the data the researchers looked at reviews published by reputable reviewers who gave a long review that touched on many points. They would then get a rater to go through the review and determine the rating each game should get in the 8 elements depending on the review they read. Then another rater would come and give their own reviews and both of the raters would compare their ratings to find an accurate final number. The researchers found that on average VR users had more control and easier interaction with their environment along with a more direct connection between physical and virtual movements. They also found that VR allowed users to have a much more emotional and visceral immersion likely due to the increased connection with the environment. Players, however, felt a loss of control as they felt limited in their range of movements in VR and would also be frustrated with inaccuracies in movement detection that would lead to negative outcomes. Another

common theme that was found in their study was the mention of comfort affecting a user's VR experience. Many reviewers were unable to play for long durations of time without feeling large amounts of nausea which affected their levels of enjoyment. The final point the researchers found was that even fully finished VR games felt like tech demos rather than a full experience. They hypothesized that this could come from a lack of feedback from the game. In the end, the researchers found that while VR does significantly improve immersion there are still many improvements that can happen to further this immersion and elevate VR gaming.