

Sociotechnical Synthesis

As new technologies rapidly expand, humans can become overly reliant on them and this can be detrimental to one's mental health or one's interpersonal relationships. This is a growing concern because new technologies, especially the ones I researched upon--AI and virtual reality (VR)--are relatively new products that draw many people in because of their novelty and ease of use, but not much research has been done to provide specific guidelines on how such products should be designed and implemented for consumers. For example, different generative AIs all have different rules on what prompts can be used and what themes are not appropriate, while in VR, there is little regulation on how VR games should warn users on content that can induce panic when users are in a hyper-realistic and immersive experience.

During my technical research, I investigated how virtual reality game users reacted to potentially fear-inducing situations in VR games, and how these user experiences could help VR game developers make future design choices when creating games. We instructed participants to walk through pre-designed VR scenes that we made in Unity, and collected their heart rate and motion data throughout the simulation, and an after-study survey to rate how fearful they felt during the experience. These scenes were designed so the participants would experience a sudden fall from high ground without prior notice. We found that the results were largely the same across our participant pool, in that most people were not necessarily scared but surprised at the drop. However, there were also a handful of participants who were genuinely scared by the interaction, and felt negative physical sensations such as dizziness and significant increase in heart rate. Our current data supported our initial hypothesis that certain warnings in VR applications should be made necessary to users prior to a game's start of potential fear-inducing situations.

For my STS research, I analyzed how the rise of AI generated artworks are detrimental to the professional artist community in economical, legal, and even moral terms. I found evidence to support these claims by analyzing prior literature that showcased how artists were being hurt economically by companies using generated artworks for their advertising or entertainment needs. For example, in a new Marvel film, the company decided to hire only one "AI director" instead of the numerous artists they would normally hire for prior films, relying on AI content which reduces the number of jobs available for professional artists in the industry (Jiang et al., 2023). On a legal perspective, some artists found out that companies such as Midjourney have used artworks that were copyrighted without the artist's permission, and users could even prompt the AI to create artworks in a specific artist's style if they used keywords such as the artists' names (Brittain, 2023). Without much current regulation on what generative AIs should be used for, it is imminent that some companies will try to use them in lieu of artists to increase profits, and this will diminish the artists' community further when few people can afford being a professional artist.

I have delved into the aforementioned topics literature-wise through my technical and STS research experiences, but I feel that I could still achieve further on these topics, especially my STS research, if I could conduct or be involved in a research study pertaining to this topic instead of analyzing other scholars' sources. Future researchers interested in the impact of AI on artists should study how generative AI prompts can be used to mimic human artists' styles, how companies have used AI to replace previous human labor, and most important the general sentiments that professional artists currently hold towards the rise of AI. For my technical project, the study is still ongoing, though I will not be involved post graduation. The lab will continue with VR scene designs and trials concerning different fear scenarios such as claustrophobia and tryphobia.

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