The main opportunities and challenges of using VR in HCI

During our group discussion, it became clear that the main opportunity for VR in HCI lies in its ability to provide highly immersive environments that users can interact with through real-time tracking of movements and gestures. In addition, VR creates a strong sense of presence, allowing users to feel as if they are physically present in a virtual environment, such as Mars or cryogenic environments, through computer graphics software and specialized hardware such as headsets(Gandhi et al., 2018). However, VR also faces significant challenges. From a technical perspective, creating a suitable virtual environment requires high-performance computing systems and advanced processors. In addition, the cost of VR technology remains a barrier to widespread adoption, as new technologies tend to be more expensive. Therefore, I think VR should improve the technology to reduce the cost and provide convenience for people in need.

During the group discussion, it became clear that the main opportunity of VR in the field of human-computer interaction lies in its ability to provide a highly immersive environment that users can interact with through real-time tracking of movements and gestures. In addition, VR creates a strong sense of presence, allowing users to feel as if they are in a virtual environment (such as Mars or cryogenic environments) through computer graphics software and dedicated hardware such as headsets (Gandhi et al., 2018). However, VR also faces major challenges, such as high-performance computing systems and advanced processors, and the high cost of VR, which limits the widespread use of VR. Therefore, I believe that VR should overcome challenges and provide convenience for people in need, such as people with disabilities or high-risk technicians.

Gandhi, R.D. and Patel, D.S., 2018. Virtual reality–opportunities and challenges. *Virtual Reality*, 5(1), pp.2714-2724.Available at: <https://www.irjet.net/archives/V5/i1/IRJET-V5I1103.pdf>

During our group discussion, we all agreed that Virtual reality (VR) presents several ethical issues. One major concern is the potential for VR to create psychological effects, including addiction, and detachment from reality (Slater et al., 2020). Immersive experiences can blur the boundaries between real and virtual worlds, especially in vulnerable individuals, potentially affecting mental health (LaValle, 2017). For example, when individuals interact with deceased loved ones in a VR world, psychologically damaging situations may occur, causing feelings of grief (Slater et al., 2020). In my view, VR software developers and regulatory agencies should take the responsibility to minimize the potential risks brought by the uncertainties.

****Sources****:

LaValle, S. M. (2017). Virtual Reality. Cambridge University Press.

Slater, M., et al. (2020). The Ethics of Realism in Virtual and Augmented Reality. Front. Virtual Real., 1(1), 1. <https://doi.org/10.3389/frvir.2020.00001>

I think your point about the high cost of VR technology being a barrier to inclusion is very helpful as it remains a barrier for many people who do not have the means to experience VR. The challenge of making VR more affordable is important to how it is adopted more widely. I also found your point about the limitations of VR for people with disabilities very interesting and I think this issue deserves further exploration to ensure that everyone can use this technology and be helped by it.