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Reading Response to *Chapter 2* and *The Idyllic Video Game Sublime*

From this week's reading, I would like to respond to Artful Design Principle 2.2 and 2.4:

*Principle 2.2: Design Inside-Out*

*Principle 2.4: Take Advantage of Physicality*

Principle 2.2 describes that a form of design derives from available technological resources where the capabilities of the medium influence the aesthetics of the product. Principle 2.4 examines the relationship between physical and virtual interactivity of a product. An artful design promotes a transformation of tangible interaction into virtual data, which then provides a physical feedback to the user. I would like to discuss the relevance of these two principles in my own research on designing interactive audiovisual software using virtual reality.

In my opinion, the Inside-Out design is a significant concept when creating an interactive experience in virtual reality. While the technology has rapidly progressed over the past decade to support high quality graphics and audio, the use of the VR headset inherently poses limitations compared to the use of traditional flat screen. For example, it is computationally demanding to use dynamic lighting or calculate translucent materials for virtual reality. A virtual reality game also often requires a less powerful anti-aliasing algorithm. Such limitations derive from the fact that a virtual reality experience has a wider field of view while needing to maintain high resolution and framerate in order to minimize the effect of motion sickness. To fully take advantage of virtual reality technology requires developers to design an experience that does not rely on the traditional aesthetics of computer graphics and audio. Rather, they must embrace the technological limitations and define new artistic standards in the uncultivated space.

Taking advantage of physicality is another relevant concept in virtual reality development. A VR headset, while limited in graphics, provides users with a new perspective to observe and interact with objects inside a digital space. What distinguishes the technology from others, however, is the use of familiar physical interfaces to control the virtual environment. Unlike traditional computers that rely on a keyboard and a mouse, virtual reality promotes intuitive interaction using controllers and trackers that resemble the user's own hands and body. A virtual reality experience should not be a translation of a software that was designed to operate inside a computer or a smartphone into a headset; it must be designed according to the new possibilities of interactivity that inspire users to observe even the physical reality from a different perspective. By diverging from realism, I think that virtual reality can transform itself from an escape from physical reality into a medium to develop a better understanding of the world.