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## Assignment 6

**1.** In class we have characterized deeply engaging experiences as having an element of both surprise and expectation, as being challenging and requiring one to learn, and as arousing emotional, mental, and physical changes that are either sharply negative or positive. An experiences' engagement is often deepened by sharing it with other people, either directly or indirectly. Similarly, Carroll talks about how "things are fun when they attract, capture, and hold our attention by provoking new or unusual perceptions, arousing emotions in contexts that typically arouse none, or arousing emotions not typically aroused in a given context." He argues that fun happens when things are surprising and unexpected, challenging and enigmatic, and provide feedback and closure.

It seems like for Carroll, "fun" is subsumed under deep engagement. It describes one part of deep engagement—the end of the spectrum filled with a mix of surprise, intrigue, and positive emotions. For Ben Shneiderman, things that are fun could be fun because they are pleasurable and different, or challenging and satisfying, or socially-fulfilling. For him, the difference between fun and deep engagement might be that for deep engagement, all of these things are working together, or they are at a greater intensity or level. As Shneiderman describes, relaxing, or being "disengaged" with goals or action can also be fun. We can be not be engaged at all and still be having fun. In that sense, deep engagement and fun are separate.

**2.** Carroll argues that for something to be fun, both the cognitive and affective must be stimulated. He says to have a fun experience, we need to be not just aroused emotionally, but cognitively aware of some disconnect or surprise. In other words, emotional arousal needs to be supported by a mental challenge, intriguing context, and/or sensory surprise. Similarly, Marc Hassenzahl argues that emotion and cognition are "integral parts of each other." Complex emotions are felt and expressed in tandem with, for example, decision-making and thinking processes. To create effective design, Hassenzahl argues, designers need to consider the interaction between emotion and cognition in how they might shape an experience. He suggests that instead of designing for people's emotions. James Kalbach looks at the interplay of emotions and cognitions by focusing on the task of searching. He argues that there are six stages of the process of searching—in each stage feelings intersect with the mental tasks and actions. There are not only emotions embedded in the visual display, but in the "interaction with information" as well.

Thus, in designing deeply engaging experiences, we have to consider how emotion interacts with mental activities—that we often need one in order to have the other. We need both emotions and cognitions to be in a state of deep engagement. This suggests that in deep engagement, we should consider how people's emotions interact with the process of the experience, not just how it looks or feels. As people conduct decisions or mental tasks within an experience, their emotional responses to these processes are integral in how deeply engaged they become in the overall experience.

3. Don Norman talks about how it is important in design to not just consider materials, marketing, and business issues, but to consider fun, pleasure, and emotion. He describes three different components of emotional design as being behavioral, visceral, and reflective. The latter two seem to comprise the "desirability" of an experience or design. Norman's visceral element seems to imply that to design something desirable, we need to consider what is aesthetically appealing—in terms of colors, balance, space, and symmetry. The reflective component suggests the importance of making an experience intersect or diverge with cultural and personal values. Carroll says that we need to broaden the definition of usability to incorporate fun, not just one that provides efficiency or ease of use. This implies that he sees usability as currently not encompassing fun, and that it should consider happiness and well-being, one's identity formation, and "social capital." It is important, argues Carroll, to consider how usability is not just about decreasing physical and emotional stressors, but can make people feel more connected to their own beliefs and to a community. In other words, we need to design something that allows people to not only feel happy from merely using a technology, but allows an individual to understand themselves better, to help define their social roles and personal values, to increase their selfesteem, to feel socially connected, and to feel encouraged in their ambitions. All of these are interrelated to an individual's overall emotional and physical health, and one's ability to learn or perform. All of these are also related to a collective health-it benefits everyone in the

community. Thus, we need to consider how an experience can address peoples' and communities' goals, values, ambitions, and roles.

Gaver, et al., in "Cultural Probes and the Value of Uncertainty," suggest that designers need to take a different approach to fun than to usability. To design for pleasure, we need to look at it from within, with high consideration to understanding emotions and engagement. They argue that we should use qualitative, rich, subjective assessments to evaluate how to design something desirable. In a way, it's like the "participant-observer" method in ethnography, where you would conduct a "thick description" based on a probe of someone's culture and beliefs to see what they would desire. Thus, to design something desirable, we need to be aware of what makes them tick, what motivates them, and what they value culturally and individually.