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INFO C262 - Theory & Practice of Tangible User Interfaces

Midterm Project Proposal: "Simulacra and Simulations"

According to the late 20th century French philosopher Jean Baudrillard, simulacrum is a representation or an imitation of a person, place, or thing, whereas a simulation is a representation or an imitation of the operations and processes between such persons, places, and things within a system over time. Our midterm project, inspired by Baudrillard's eponymous 1981 philosophical treatise, plays on these very concepts of reality, specifically with respect to the hand of God (*deus ex machina*) in the storytelling and the world-building of visual narratives, as well as the universality (e.g. parallel universes, multiverses) in the existential being of self-contained realities (e.g. alternate universes, meta-universes).

"Simulacra and Simulations" is a mixed reality project that is composed of two virtually connected digital dioramas. Within both dioramas lies an identically constructed model world, such as a model city filled with miniature humans, streets, skyscrapers, cars, and more. Inputs and interactions can be directly made on these objects through the holes on the sides of the dioramas. Users can insert their hands through the holes in order to manipulate these visual components in terms of spatial attributes, such as position, rotation, and movement. By video recording one space to another, we can have two dioramas interact in real time even though the two dioramas are physically separated. Using free computer vision software, we can amend the two spaces to appear as one, as if user from one end of the diorama is entering the other side of the diorama, or more applicably, another *universe* from distinct locations. For example, the action of moving a car in the first diorama will be reflected as-is at the same time in the exact same copy of the car in the second diorama. The two dioramic worlds, in fact, constitute one whole world that exists in sameness and singularity. The technical effects formed by this virtual connection require visual, tactile, and communicative digital parts, such as sensors, lights, cameras, and wireless trackers, that induce perception.

The tangibility of our project is exclusively predicated upon the metaphor of nouns. Components of the model world represent the objects themselves as they exist in the real world. The metaphor will be further extended by having them feature voices and sound effects, which can be pre-recorded and projected via micro-speakers on the dioramas. Interaction with them in different ways triggers differently tailored audio outputs. As a result, users can generate unique, customizable narratives. "Simulacra and Simulations" becomes a mode of gamified storytelling and world-building: through act of physical manipulation of miniature objects, users can assign specific personas to diverse characters and objects, implicitly and explicitly generating exposition and dialogue that inform an observable quasi-humanity. Each constituent in the model becomes superficially important and engaged during tangible interactions in either diorama alone for this reason, if not more significantly important and engaged when these tangible projections are connected across both dioramas in conjunction as a matter of space time, to be personally and collectively contextualized by artistic, cultural, scientific, technological, and philosophical questions and answers of existence and being inside and outside of our universe.