X Reality: Blurring the Line Between Digital and Physical Environments
CFE 7TH FACULTY SHOWCASE ON TEACHING
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The goal of the nXhuman virtual patient project is to portray complex encounters by which to train and gauge students’ engagement
Virtual Patient Portrayal

- But...
  How to represent the virtual patient to the students?
- The answer depends on what we want the students to demonstrate
Low Fidelity

- One approach is just to engage the student in narrative
- Though simplistic, this approach is advantageous in being scalable, distributable, and usable
Embodying the Character

- A more complex (for developers and users) approach is to use a game environment
- This approach is helpful for being able to present visual and auditory cues to students
- We have studied engagement with this approach for many years
Virtual Character Usage

- Makes more sense
  - Pressing issues such as interaction or cultural skills
  - Crowd modeling
  - Talk therapy
  - Simulating variable ages, ethnicities, etc.
  - Assessing procedures when otherwise logistically complex, unsafe, unethical, unreliable, costly

- Makes less sense
  - Not involving interactivity
  - Involving much physical movement
  - Replacing more cost-effective traditional training/assessment
  - Demand of high appearance fidelity
  - Having adverse influence on (i.e., separate from) daily activities
Embodied Interaction

- Newer technologies involving augmented or mixed realities allow for having the students immersed in the encounter.
- This approach is advantageous in being able to account for physical engagement within a space.
Development Guidelines

Questions to ask:

- What is the user’s responsibility, what are her/his actions?
- Are the skills meant to be familiarized, practiced, mastered?
- Are the skills procedural, interactive, strategic?
- What level of interactivity is necessary? Is the task dangerous, complex, time-consuming, resource-consuming, expensive, unavailable?
- How easy or hard is it to model behaviors of entities and objects?
- How visually demanding is the task?
- What effort is involved per task for different displays (e.g., textual vs. spatial)?
- How to structure alternative forms of presentation (visual or aural, immediate or delayed, textual or tabular)