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## Week 7 Critique

Tangible Bits, Ishii + Ullmer, CHI97

I think one of the more interesting bits of this paper was in the conclusion where they said that using the optical metaphor maximized the legibility of the interface due to people using real world knowledge & expectations on their instruments. This of course makes perfect sense, and I don't think should be constricted to only optics. When practicing good design, people always use metaphors to real-world knowledge they expect the user to have. Red means stop and green means go. Things like that are always necessary, and I don't think should only be limited to this optical metaphor. Probably the more interesting is the fact that since you're using physical objects the natural constraints become much more obvious and "tangible", which the designer might not even think about after picking their objects (that is to say, they will naturally design within the constraints where as computer designers would not). Overall, I definitely agree with the tangible bits vision, and think it could be quite useful for a number of tasks. I still am not sure that it should replace GUIs, as GUIs have several advantages. For one (as Pattie said), they're totally generic. This means they can improve, do all sorts of tasks simultaneously, and are in one device. That means you only need to buy the one physical device (as well as software). However, you can download software where as you would have to buy TUIs. Furthermore, to really go with TUIs, most likely you'd need quite a complicated setup to fully realize the vision. This is not practical for most people. However, I do think there are many tasks (i.e. not word processing) that require enough cognitive load such that moving things into the physical world helps distribute the load across the brain, tuning its performance due to the natural interaction. Plus it just (hopefully) feels right. Such tasks might include planning across many nodes/targets (i.e. military, architectural), 3D modeling, and anything that involves mixing of objects and their relations to each other (spatial usage works well).

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