

Abstract

Mobile computing and positioning technology merge physical and virtual reality. This hybrid space requires us to look beyond conventional interface designs in search of new forms of interaction that will work in open-ended systems. In contrast to the safety of the virtual desktop, physical reality is open-ended. Challenges to the design of an interface that must function in a constantly changing world involve practical issues and defining new conceptual models of interaction. The practical, low resolution on visual displays with animation may be a viable solution to changing resolution, distortions, and scattered user attention. The conceptual approach taken is to avoid unnecessary encodings in the interface and instead build on causal relations between the interface and the immediate environment whenever possible.

The chief contribution of this thesis is the articulation of a visual format that is sufficiently robust, sufficiently swift, and sufficiently flexible to survive in dynamic environments. This approach is contrasted to traditional visual representations of agents and system functions.