

# **Tangible Bits: Designing the Boundary between People, Bits, and Atoms**

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People have developed sophisticated skills for sensing and manipulating our physical environments. However, most of these skills are not employed by traditional Graphical User Interface (GUI). Tangible Bits, our vision of Human Computer Interaction (HCI), seeks to build upon these skills by giving physical form to digital information, seamlessly coupling the dual worlds of bits and atoms. Guided by the Tangible Bits vision, we are designing “tangible user interfaces” which employ physical objects, surfaces, and spaces as tangible embodiments of digital information. These involve foreground interactions with graspable objects and augmented surfaces, exploiting the human senses of touch and kinesthesia. We are also exploring background information displays which use “ambient media” – ambient light, sound, airflow, and water movement. Here, we seek to communicate digitally-mediated senses of activity and presence at the periphery of human awareness. Our goal is to realize seamless interfaces between humans, digital information, and the physical environment taking advantage of the richness of multimodal human senses and skills developed through our lifetime of interaction with the physical world.

In this talk, I will present a variety of tangible user interfaces the Tangible Media Group has designed and presented within the CHI, SIGGRAPH, IST, and CSCW communities in the past years.

More information can be found on the web site at <http://tangible.media.mit.edu/>.

