Computational Reality

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Abstract
The digital revolution is over. The bits won and have invaded every aspect of our life, changing the essence of how we live, work, and play. Information is no longer confined to the pixels on our screens. Instead the entire physical world, even living and breathing matter, are being infused with data demanding new, unprecedented forms of interactivity.

In my projects I invent and design future interactive technologies that will seamlessly merge the digital and physical worlds. I focus on creating technologies that can enhance and augment everything around us with interactive and digital data: humans, animals, plants, as well as man-made artifacts, structures, and entire cities. My tools of choice are micro-manufacturing, material design, as well as sophisticated electrical engineering techniques among others. My design philosophy is to hack nature, i.e. using fundamental physical and physiological mechanisms already present in physical matter for the purpose of digital control and display.

In this talk I will discuss my motivation, research approach, and vision for the future, in the broader context of my work over the last 15 years exploring virtual and augmented reality, bendable and shape changing computers, early tactile feedback devices for touch screens, and others.

Biography
Dr. Ivan Poupyrev is a Technical Program Lead and Associate VP at Advanced Technologies and Projects division of Google Motorola. Until one month ago he was a Principal Research Scientist at the Walt Disney Company, where he directed an Interactive Technologies Group in the Disney Research Pittsburgh laboratory tasked with dreaming up and developing future technologies for Disney parks, resorts, and cruises. Prior to Disney, Ivan worked as a researcher at Sony Computer Science Laboratories in Tokyo, Japan where he investigated and invented novel interfaces for future consumer electronic devices. He also did a stint at the Human Interface Technology Laboratory at the University of Washington as a visiting scientist while working on his Ph.D. dissertation at Hiroshima University, Japan.

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