



“The most profound technologies are those that disappear. They weave themselves into the fabric of everyday life until they are indistinguishable from it.”

- Mark Weiser (1952-1999), Chief Technologist at PARC and inventor of ubiquitous computing



Seamless Connections among Data, Devices, People, and Places

Ubiquitous computing (also known as pervasive computing) enables people to take advantage of the myriad device, service, and information resources that can be embedded within the environment around them. To seamlessly bridge these physical and virtual worlds, PARC is improving connections between devices, simplifying people’s interactions with their device networks, and creating new context-aware applications for any type of device.

Increased complexity for both systems and users, however, is inherent in this approach, because making technology “disappear” requires addressing such challenges as interoperability, security, mobility, and continuity.

PARC scientists have been resolving these challenges and continually refining their solutions by incorporating a distinct human-centered approach. Researchers also are implementing in-network data processing, simplified and scaleable programming, and practical approaches to security and privacy. Our approach to ubiquitous computing enriches communications, improves quality of life, and enables new experiences.

The PARC Difference

Enabling interoperability among devices...without cumbersome user management. For instance, PARC’s *Objé*™ software allows digital devices – any brand, any model, any manufacturer – to easily interoperate with each other over both wired and wireless networks. By providing a simple meta-standard and mobile code, the *Objé*™ platform eliminates the need for time-consuming protocol standardization. No central coordination, pre-configuring, or special set-ups are required, and anyone can interconnect devices in an ad hoc and hassle-free manner.

Protecting privacy...without burdening the user. PARC scientists have developed easy-to-use yet robust approaches to security. These approaches draw on intuitive user behaviors and intelligent access control to provide a seamless yet secure user experience.

Helping devices infer context...and respond proactively to people’s needs. Context-aware applications consider user location, activity, time, intent, personal data, social network information, *and* also learn the user’s preferences. By drawing on model-based reasoning and embedded sensors that bridge the physical and digital domains, PARC’s context-aware applications intelligently assist the user – for example, by re-routing phone calls during a meeting. The result: information that is more accurate, relevant, and timely.

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