

First, do no harm: User Studies in Pervasive Healthcare Research

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Abstract

Pervasive Computing can help address some of the critical healthcare issues facing modern society, such as an aging population, increased obesity and escalating costs. While interaction concerns are of primary importance in pervasive computing, patient safety and the complexity of the domain demand special attention to these issues when designing and evaluating healthcare applications. Several pervasive healthcare solutions advanced at CICESE's Laboratory for Mobile and Ubiquitous Healthcare will be presented, for a variety of application scenarios such as supporting hospital work, caring for elders with cognitive disabilities or motivating patients with a chronic disease to adopt a healthier lifestyle. The approaches used to understand user needs and concerns of other stakeholders will be discussed, as well as the techniques used to evaluate these novel technologies. Issues that affect user acceptance of pervasive healthcare solutions, such as privacy and uncertainty, will also be discussed.

Jesus Favela is a professor of computer science at CICESE, Mexico, where he leads the Mobile and Ubiquitous Healthcare Laboratory. His research interests include Ubiquitous Computing, Human-Computer Interaction and Medical Informatics. Much of his research efforts have focused on the design and evaluation of ambient computing environments for healthcare. In collaboration with public and private Mexican hospitals his research team has conducted fieldwork studies to gain a better understanding of current work practices and envision scenarios for the use of pervasive computing technology in such complex environments. Usability evaluations and adoption studies have also been conducted to assess their acceptance. Dr. Favela holds a BSc from the Universidad Nacional Autónoma de México (UNAM) and MSc and PhD from the Massachusetts Institute of Technology (MIT). He is a member of the ACM and the Mexican Computer Science Society, of which he was president in the period 2003-2005.