

Keynote Talk

Open Data Kit: Applications of Mobile Devices in the Developing World

Gaetano Borriello
University of Washington
gaetano@cse.washington.edu

ABSTRACT

Since 2008, we have been applying smartphones and tablets to problems in the developing world in the domains of public health, environment monitoring, agriculture, and human rights monitoring (among others). The Open Data Kit (opendatakit.org) collection of modular tools for both client and server-side functions has been highly successful with tens of thousands of users in hundreds of organization on six continents. In this keynote, I will describe what we believe to be the principal features of this success, namely: (1) tackling real problems within a context of participatory design; (2) creating an open source community and ecosystem of companies around the tools; and (3) generalization of the modules so they can be easily adapted to different contexts. I will also argue that this line of problem-solving leads to explorations of different regions of the design space than would occur in the developed world due to the particular constraints that must be satisfied. Finally, I will conclude with some recommendations for the ubicomp community.

BIO

Professor Gaetano Borriello holds the Jerre D. Noe Chair of Computer Science & Engineering at the University of Washington. He joined the Department in 1988 and holds a PhD in CS from the University of California at Berkeley (1988) and an MS in EE from Stanford University (1981). He was a member of the research staff at the Xerox Palo Alto Research Center from 1980-87. From 2001-2003, he was on leave from

UW to found the Intel Research laboratory in Seattle which quickly became one of the premier research labs for work in ubiquitous computing.

Prof. Borriello's career began in the areas of integrated circuits for networking, automatic synthesis of digital circuits, reconfigurable hardware, and embedded systems development tools. In 1999, he was PI for the Portolano Expedition, a DARPA-sponsored investigation on invisible computing that led to the creation of Labscape, a smart environment to record and assist the work of researchers in cell biology laboratories. In 2001, as director of Intel Research Seattle, he set in motion projects in elder care (sensor-rich homes and wearable devices) to help elders stay in their own homes longer, and in location-aware computing (the PlaceLab project) using Wi-Fi to enhance location sensing that is now the dominant approach in use by Apple, Google, Microsoft, and many others.

More recently, Prof. Borriello is directing efforts in applying mobile and sensor technologies to the problems of public health and development in low-resource settings. His group's open-source mobile data collection tools, Open Data Kit, are in use on six continents in programs ranging across public health, documentation of human rights violations, and environmental monitoring.

He is a Fellow of the ACM and IEEE, a Fulbright Scholar, and a recipient of the UW Distinguished Teaching Award and Landolt Graduate Mentor Award.