



## Demo Fact Sheet

### **Intel Labs R&D Focused on Context Awareness to Radically Change How We Interact with Technology**

INTEL DEVELOPER FORUM, San Francisco, Sept. 15, 2010 – The final day of the Intel Developer Forum in San Francisco focused on the future of innovation and far reaching visions of where technology will go in the coming decades. During his keynote, Justin Rattner, chief technology officer and Senior Fellow of Intel Corporation, described how context awareness is poised to fundamentally change the nature of how we interact with and relate to information devices and the services they provide.

Context aware computing is fundamentally different than the simple kinds of sensor-based applications we see today. Through sophisticated inference on a combination of hard sensor data such as where you are and the conditions around you along with soft sensor data such as your calendar, your social network and past preferences, context-aware devices will anticipate your needs, advise you, and guide you through your day in a manner more akin to a personal assistant than a traditional computer.

**Personal Vacation Assistant:** The Personal Vacation Assistant is a mobile Internet device prototype that uses a variety of context sources such as personal travel preferences, previous activities, current location and calendar information to provide real-time travel recommendations to vacationers. This prototype demonstration showcases a partnership with Fodor's through which Intel deployed a Personal Vacation Assistant to more than 25 tourists visiting New York City. The PVA can even generate, at the user's request, a travel blog with annotated photos and videos of sites visited during the trip.

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**Sensing Human Gait:** More than a third of adults over 65 fall each year in the United States. Falls are also the most common cause of nonfatal injuries and hospital admissions for trauma. Through the Technology Research of Independent Living Center, Intel is researching how wireless sensors attached to clothing on people's legs can help predict the likelihood of a serious fall. This prediction is based on inference of data delivered by movement sensors that analyze the way people move their feet, the strength of heel strikes, and the way muscles are moving. This could help elderly people in their daily life, e.g. by predicting fall before it happens or calling for help in case it does happen.

**Smart Television Remote:** Intel researchers have developed a prototype remote-control that can sense who is holding the device based on the way it's handled, moved and the buttons are pushed. The remote could differentiate between the different members of a family and adapt the TV programs, recommendations, and playlists to a unique user's needs, making the Smart TV experience even more personal and intuitive.

**Sensing Human Thoughts:** Intel is collaborating with Carnegie Mellon University on machine-learning technology aimed at decoding data directly from the human brain. Based on this promising research, computers could one day have the ability to decode what we're thinking, enabling users to control and direct computers, robots or other devices with nothing but their thoughts.

**Enhancing User Experience with Context:** Designing compelling user experiences requires deep knowledge and understanding of consumer behavior and preferences. A key element to introduce successful context aware devices and technologies is people-centered designed. Genevieve Bell, Intel Fellow and director of Interaction and Experience Research at Intel Labs, shared her thoughts on how extensive research and studies need to be done prior to delivering a context-aware experience, to make sure it's well received by users.

**Related Background: New Intel Interactions and Experience Research Lab:** In June, Intel established a new R&D Lab called IXR (Interactions and Experiences Research). The new

organization is run by Bell. The lab agenda is framed by some central questions: What do people love about the platforms and devices they already have?; what can we do to make that love even better?; and what technologies will we need to re-invent. IXR is focused on research across all of Intel's current platforms and considering the emerging ones. There are four central pillars driving the agenda of the lab:

- Social science research which builds on Intel's center of excellence in ethnographic research; also includes human-computer interaction specialists. Takes a global focus. It will continue to conduct fieldwork and other forms of research all over the world and will be interested in daily life – in what goes on in people's lives.
- Design enabling – Draws on emerging expertise at Intel around interaction design and human factors engineering and user-experience assessment. Focused on creating compelling experiences.
- Technology research – Intel's core expertise around vision, facial recognition and visualizing data.
- Future-casting – Something recently introduced in Intel's activities -- a different way of thinking about the future. It builds on Intel's successes in ethnographic research but also longstanding technology prowess.

Helping context awareness means paying attention to everyone's daily lives and the places and ways we make meaning in our lives.

More information about the Intel Developer Forum's keynotes and the forthcoming 2nd Generation Intel® Core™ processor family are available at [www.intel.com/newsroom/idf](http://www.intel.com/newsroom/idf).

– 30 –

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