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Intel Labs Aims to Reinvent How People Experience Computing

Researchers Invent the Future at Annual R&D Event

NEWS HIGHLIGHTS

- At the annual Research at Intel event, the company's CTO announced a new division of Intel Labs that is expected to reinvent the computing experience in ways we can only begin to imagine.
- Through the deep study and understanding of how people relate to and use technology, and building on Intel's long history of cutting edge technology exploration, the new division aims to create breakthrough experiences with television, automobiles, signage and more.
- On display at the event was just a first glimpse into future technologies to enable personal devices that learn and understand who we are and how we live, techniques that will revolutionize social networking, recognize everyday objects, interpret hand gestures and actually read minds.

MOUNTAIN VIEW, Calif.--(BUSINESS WIRE)-- At the Intel Labs' annual Research at Intel media event today, Intel Corporation Chief Technology Officer Justin Rattner announced a new research division, called Interaction and Experience Research (IXR), that is focused on defining new user experiences and new computing platforms. The innovations coming out of the labs are expected to help re-imagine how we will all experience computing in the future.

Enabled by Moore's Law and the performance advancements now available across a continuum of computing devices including the traditional PC, the company's engagement and experience with technology, according to Rattner, will become much more personal and social through individual user contexts informed by sensors, augmented by cloud intelligence, and driven by more natural interfaces such as touch, gesture and voice.

"Better technology isn't enough these days," said Rattner. "What the individual values today is a deeply personal, information experience. When I look ahead, this is the biggest change in computing I see coming. At Intel, we've been building up our capabilities in the user experience and interaction areas for over a decade. We've recently assembled an outstanding team of researchers consisting of both user interface technologists and social scientists to create the next generation of user experiences. We've learned, for example, that the television experience isn't the same thing as the Web experience, even though more and more TV will be delivered via the Internet. Browsing the Web at 10 feet is an experience few people relish, but television experienced via the Internet is a huge step beyond broadcast."

Rattner said the new division will be led by [Intel Fellow Genevieve Bell](#), who has been one of the leading user-centered design advocates at Intel for more than a decade.

"Intel now touches more things in people's lives than just the PC," said Bell. "Intel chips and

the Internet are now in televisions, set-tops, handhelds, automobiles, signage and more. IXR will build on 15 years of research into the ways in which people use, re-use and resist new information and communication technologies. Social science, design and human-computer interaction researchers will continue that mission - asking questions about what people will value, what will fit into their lives and what they love about the things they already have. These insights will be married with a strong focus on technological research into the next generation of user interfaces, user interactions and changes in media content and consumption patterns."

Intel Labs already has a strong focus on the next generation of user experience technologies. Current work around context and location has yielded a range of insights and technological possibilities. For example, the idea that devices will understand their surroundings, communicate with each other and change behavior or take actions based on the user's environment. One particular project on display at the event, coined SENS, represents a new wave of social networking that provides the ability to monitor real-time activities and display these activities live and direct to networked friends and family. The research shows how context awareness from sensors onboard a device can translate into completely new user experiences such as "Shadow Avatar" and "Socially Augmented Reality" that build on new trends in sharing of presence and media.

Researchers also demonstrated an experimental, low-cost energy sensor, which could help change the way consumers manage personal energy consumption at home. When coupled with a home information display, it would monitor usage, recommend solutions for more efficiency and reward success. The sensor needs only to be plugged into the house wiring to instantaneously measure and wirelessly report the power consumption of each electrical load in the home, providing data to analyze energy usage of devices and appliances throughout. This technology forms the heart of a personal energy management system that could lead to valuable changes in behavior and save staggering amounts of energy.

Other technology shown at the event changes a user's engagement with technology. For example, research was shown that use projection and 3-D cameras to light up nearby surfaces displaying buttons, windows, images and movies onto work surfaces, tabletops or other flat spaces. The video and vision system is able to recognize hand gestures and objects, turning everyday surfaces such as a kitchen counter, coffee table or classroom desk into an interactive portal to the device and the Internet. Also demonstrated was a more futuristic example, a computer that could read a user's thoughts, replacing the need for typing altogether.

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