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News Fact Sheet

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DAY 0 NEWS HIGHLIGHTS AT INTEL DEVELOPER FORUM

Aug. 18, 2008 — On the eve of the Intel Developer Forum, (Aug. 19-21), Intel Corporation held briefings focused on research which hopes to bridge the digital world with the virtual world. In a briefing with worldwide media, several Intel visionaries discussed areas of research to make this a reality. Below is a summary of what was discussed:

“Connected Visual Computing” (CVC): New Research Initiative at Intel -- Jim Held, Intel Fellow and director tera-scale research computing program

Jim Held introduced an emerging category of connected visual computing usage models in which people will share experiences and information online within highly intuitive, interactive visual interfaces. Initial examples include two main categories: Simulated Environments, such as virtual worlds, online multiplayer games, and 3-D Cinema; and Augmented Reality, where images from the real world are combined with digital information to provide an enhanced view of the globe around us. Held described the key technical challenges in bringing these usages to the mainstream, including new client/server platform innovations, more robust distributed computing techniques, tools to facilitate user-generated 3-D content, and techniques to improve experiences on mobile devices. Held revealed an Intel research agenda aimed at removing key technical barriers to the widespread adoption of CVC usage models. Examples from this research effort include:

- Research that would make it easy for users to create, customize and share 3-D content such as virtual characters.
- A project that aims to enable new mobile CVC applications by balancing sensor processing between the device and a remote server.
- Intel working alongside other industry players using open platforms such as “OpenSim” to explore new CVC innovations.
- Research which builds upon the fruits of Intel’s Tera-scale Computing Research such as the 80-core research processor as well as the company’s Carry Small, Live Large research to redefine mobile experiences.

**“Connecting the Physical and Digital Worlds: Sensing” --
Andrew Chien, vice president Corporate Technology Group, director Intel Research**

Andrew Chien discussed essential computing capabilities that connect the physical and digital worlds via sensors. Sensors are one of the most important windows into the physical world, converting analog information found in nature to digital information that can be computationally processed for powerful, positive impact on human life. Chien discussed a wide range of sensors from microscopic to macroscopic scales, discussing vision sensors that track stem cells and skin lesions, cameras and accelerometers that sense human activity to aid in teaching and entertaining, and environmental sensors that enable community action for climate monitoring. A key ingredient to success is the ability to sense the physical world accurately in many dimensions, understand and take the appropriate and desired. Chien demonstrated an example that Intel’s research labs are evaluating:

- **DermFind:** The demo showed an interactive decision-support system for melanoma detection by which clinicians can capture an image of a skin lesion and use that to query a large medical image database for similar cases. Diagnostic/treatment information associated with the retrieved similar cases helps physicians make better-informed decisions.

**“Carry Small, Live Large: Mobile Aware Devices”
Mary Smiley, director Emerging Platforms Lab**

Mary Smiley discussed a major focus area within Intel’s Carry Small, Live Large research effort. The goal is to create technology that provides greater value to the user by maintaining a better understanding of users, their situations, needs and environment through sensors and inference. Sensors can provide massive amounts of data. However, one of the many challenges in sensor research is to accurately interpret and understand that data in order to make effective use of it. Smiley demonstrated one research project that is using sensing and inference for personal health management.

- **Mobile Wellness Management:** This context-aware research platform continuously monitors a mobile person’s vitals and captures his/her food intake in order to set fitness goals, better understand the person’s level of activity and how much food the individual consumes. A variety of on-body sensors provides better insight into a person by providing more data points from which to infer the person’s specific activity. This demonstration gave a preview of potential future wellness applications that will benefit from collecting and processing a person’s data on a mobile platform to determine such things as activity type and duration, or intensity and duration (energy expenditure).

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