Intel Corporation
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Showcase Overview

Tech Heaven: Intel Technology Innovation On Display

This interactive showcase highlights technology innovations that are in some stage of active research or development and have the potential to change how we live, work and play in the following areas: home, hands-free technology, fashion/shopping, communication/social media, health and transportation.

We see a world where personal computing is expanding beyond the PC to nearly every kind of electronic device. We see "smart" computers themselves vanishing into the background – a network of billions of connected people and trillions of "smart" connected electronic products, many connecting without human intervention. Intel is investing some of its annual USD$6 billion in research in order to make this vision a reality.

Moore's Law is enabling Intel to pack more and more technology and innovation into ever shrinking chips. As we are multiplying the number of "brains" or cores inside the chip and computer, our computing experiences continues to get faster, stronger, smarter, more personalized and with unprecedented vividness. And with the unfettered Internet connectivity in the home, car and everywhere in between, this new computing experience follows us wherever we go.

Intel has been at the forefront of the computer industry's rapid pace of change. Things that were unimaginable just a decade or two ago are now considered common place. The pace of technological innovation is accelerating, and the number of inventions in the next 40 years will equal or surpass all of the inventive activity that has taken place in history. At Intel, we are on a mission help create this future, today.
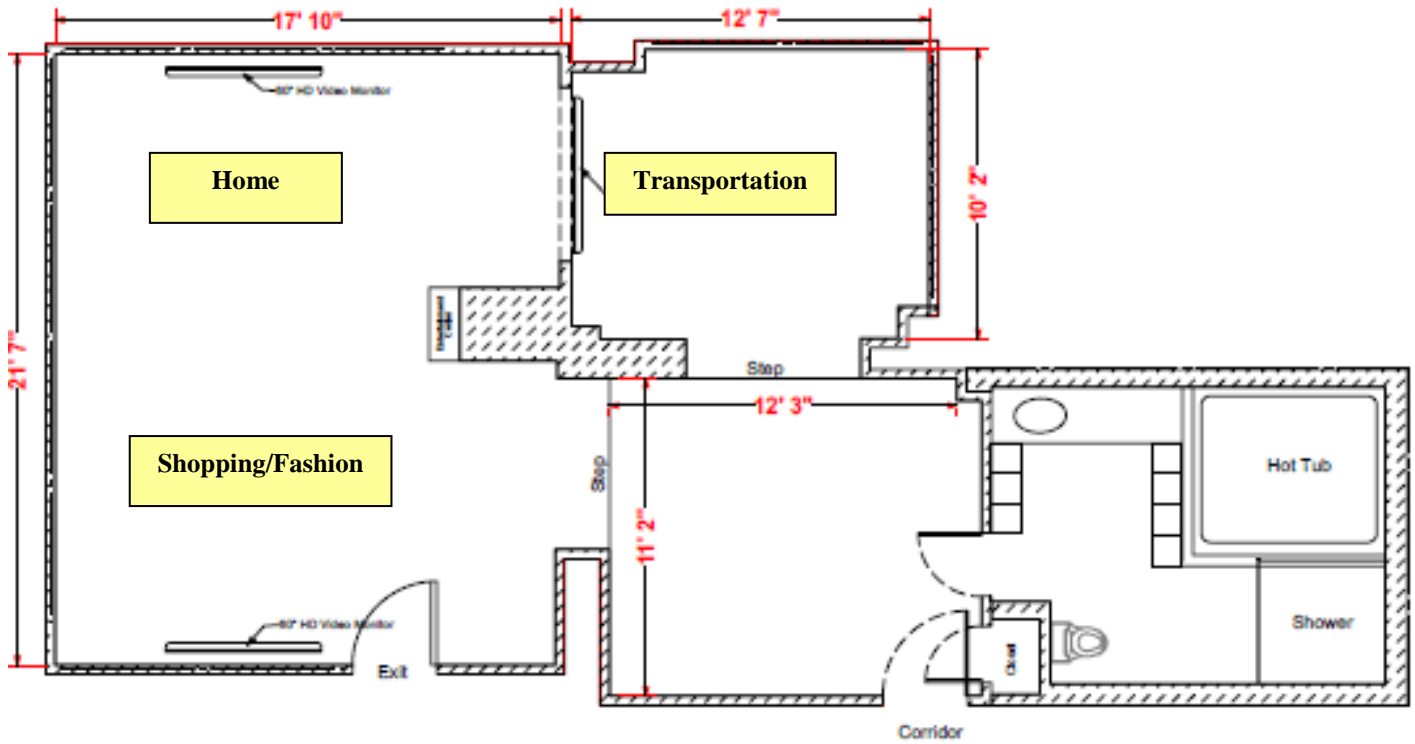
Additional photos, videos and facts are available on our Innovation Virtual Press Kit
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Demonstration Areas

Penthouse Suite
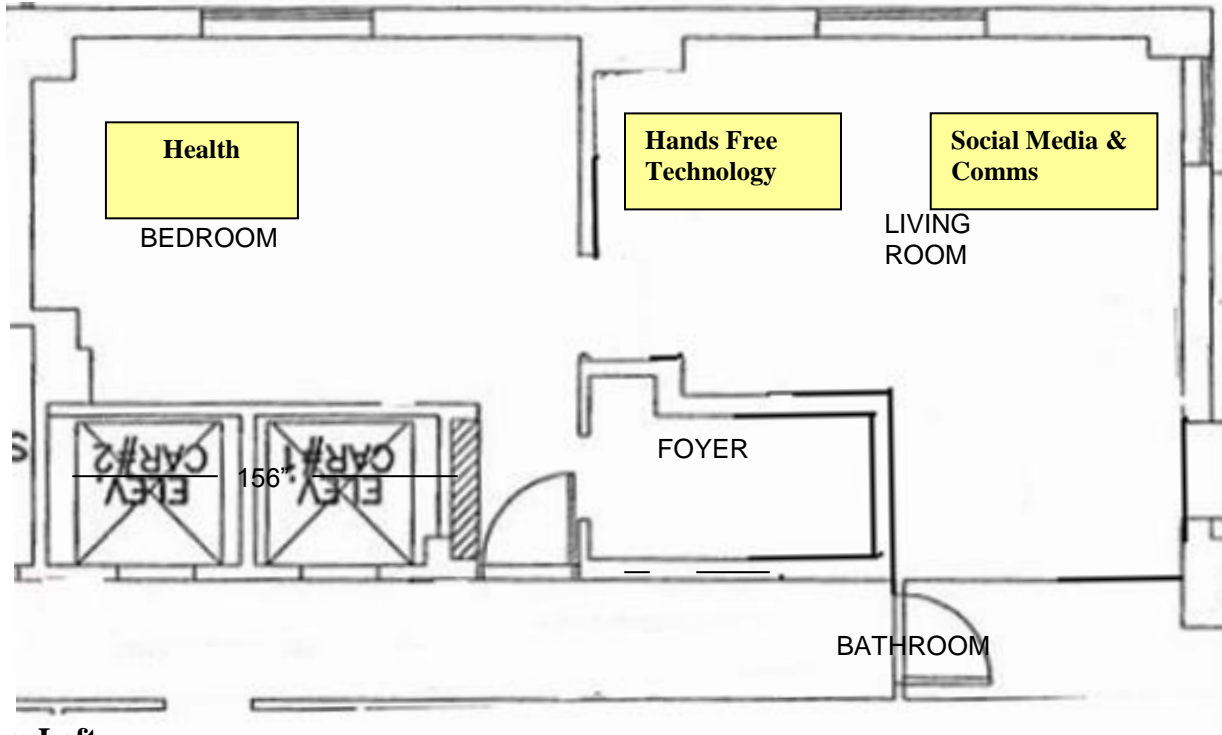
Atrium Loft

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Home

Mark Jarvis, Intel Labs
Personalized TV

Personalized TV – Future technology will only get more personal. As your computing devices (PC, phone, set-top-box) get to know your interests, goals and daily patterns, they can work together to deliver a seamless, personalized experience that fits your lifestyle. Intel Labs will demonstrate a research prototype that helps you identify TV content across many sources (broadcast, pre-recorded and streaming), as well as discounts and opportunities that fit your interests, goals and daily routine. These recommendations are personalized by automatically tracking your TV viewing patterns, your Internet browsing patterns and your daily activities.

Intel Consumer Products Group
Intel®Wireless Display Technology

Beam Video from Your Laptop to your Big Screen TV – The Intel® Wireless Display Technology allows people to view and share content wirelessly from their laptops on the big screen in their homes. This technology is currently found in laptops from Dell, Toshiba and Sony powered by the 2010 Intel® Core™ processor family, sold through Best Buy's Blue Label program.

Jeff Demain, Intel Labs
Intel Light Peak

Lightning Fast Movie Downloads (Intel Light Peak) – Existing electrical cable technology is approaching practical limits for speed and length. Developed by Intel and codenamed Light Peak, this new high-speed optical cable technology is expected to ship in 2010. This thin optical fiber, about the width of a human hair, will enable Light Peak to transfer data over very thin, flexible cables. It is designed to connect mainstream electronic devices to each other for better performance. Consider that the library of Congress contains over 10 terabytes of information (a 1 with 13 zeroes after it). Using Light Peak technology – operating at 10 billion bits per second – it would take only 17 minutes to transfer the complete library of Congress.

Ed Hill, Intel Embedded and Communications Group
Home Energy Management

Intel® Intelligent Home Energy Management Proof-of-Concept – Home owners can monitor their energy consumption and make informed decisions to reduce energy use. Powered by the Intel® Atom processor, the device shows how much energy the home's connected appliances are using through a connected home network and provides ongoing information and suggestions for better energy management and conservation. Custom settings even let the user modify the thermostat temperature, turn off appliances or switch on the home security system.

Fashion & Shopping

Ed Hill, Intel Embedded and Communications Group
Digital Signage

Digital Signage – The Intel® Intelligent Digital Signage Concept, using the Intel® Core i7 processor, demonstrates how digital signage technology can enhance the retail customer experience – such as in a store, bank or airport –with a multi-touch, multi-user interface. This 7-foot-6-inch concept has an LCD display and holographic glass that allows consumers to explore merchandise, find out about promotions, submit feedback on products, read customer reviews, view past purchasing histories and share what they have discovered with their friends via social media and mobile phone integration. Multiple consumers can use this side-by-side window display simultaneously to explore augmented reality-enabled maps of each floor of a store.

Sean Koehl, Intel Labs
3D Scanning with a Digital Camera

"3D Scanning" with a Digital Camera – This research project shows how photography could be used in the future to allow amateurs to create rich 3D visual content. In the future, users will be able to create detailed 3D models and lifelike avatars from real-life images without any special equipment other than a standard digital camera and a PC. This project is being conducted at Intel Labs China and is one example of research at Intel aimed at accelerating the transition to a 3D Internet.

Shenlei Winkler, CEO of the Fashion Research Institute
3D Virtual Worlds for Fashion Design

Virtual Worlds for Fashion – 3D virtual worlds (VWs) offer a platform for designing apparel with a level of accuracy that is far better than traditional methods without the cost or complexity of 3D CAD tools. Using VWs for fashion design can significantly reduce waste by eliminating the cost and materials needed to create and re-create prototypes until they are correct. They also allow the designer and manufacturer to review designs together in a virtual space over great distances. Given that many manufacturers are in countries where significant virtual world investment has already occurred (such as China), much of the basic capabilities are already in place.

Researchers within the Intel Labs "Sciencsim" virtual world project have begun to collaborate with the Fashion Research Institute (FRI) to help bring the benefits of these immersive environments to a broader range of business and consumer applications. Shenlei is working with a group of students on the development of a virtual runway show, which includes four "model bots" on a runway, providing 24/7 on-demand runway shows with the ability to add a limited AI engine to the models. The team developed this for "Runway 3.0," a virtual fashion show featuring fashion and technology; FRI is providing both the technical fashion design expertise to engineer the placement of the tech aspects into the fashion collections and reproducing the runway itself. The students are developing their real life collections to present as virtual fashion on the model bots.

Hands-Free Technology

Chris Anderson, Intel Labs
48 Core Processors – Computers that Read Brain Waves

48 core processor – Researchers from Intel Labs will demonstrate an experimental 48 core Intel processor. The long-term goal is to add scaling features to computers that spur entirely new software applications and human-machine interfaces. Future laptops with processing capability of this magnitude could have "vision" in the same way a human can see objects and motion as it happens and with high accuracy. Imagine, for example, someday interacting with a computer for a virtual dance lesson or on-line shopping that uses a future laptop's 3D camera and display to show you a "mirror" of yourself wearing the clothes you are interested in. Twirl and turn and watch how the fabric drapes and how the color complements your skin tone. This kind of interaction could eliminate the need for keyboards, remote controls or joysticks. Some researchers believe computers may even be able to read brain waves, so simply thinking about a command, such as dictating words, would happen without speaking.

Dean Pomerleau, Intel Labs
The Human Brain: the Ultimate Interface to Computers

The Human Brain: the Ultimate Interface to Computers – People want to access their information on the PC in a more natural, convenient and less intrusive way. Multi-touch, gestures and voice interfaces are recent steps in this direction. Our vision is for computers and mobile devices to interact with your thoughts. While still very exploratory, our research is already showing that thought-based user interfaces are not as far-fetched as one might think. In this joint project between Intel, Carnegie Mellon University and the University of Pittsburgh, we are investigating what

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can be inferred about a person's cognitive state from their pattern of neural activity. We are leveraging a variety of brain imaging modalities, including EEG, fMRI and magnetoencephalography, in order to gain insights into how the brain processes information and how that might be used to build more natural user interfaces.

Lama Nachman, Intel Labs

Understand Me - Our smart phones have a great potential to do so much for us, but today they are restricted to few functions like making phone calls, surfing the web, etc. Imagine if your phone can be your coach, travel assistant, secretary or health adviser. The Understand Me project aims to enable a phone to understand the user's context through sensing and sense making, and act on that context to help the user. Through capturing rich data from sensors like accelerometers, audio, location, device usage and hear rate, the phone tries to infer the person's activity, social interaction and even emotional state. This information is valuable for many purposes, including improving communication through context exposure, helping people with introspection and behavior change, making recommendations and many others.

Transportation

Susan Yost, Intel Embedded and Communication Group
Michael Eichbrecht, Visteon
The Connected Car

Connected Car – This Connected Car demonstration from Intel and Visteon uses the latest automotive infotainment platform based on the Intel® Atom™ processor to show an example of a future in-car experience. As systems in the car increasingly connect to the Internet, a wide range of applications such as Internet radio, navigation, traffic, weather and multi-media managers will come alive. The technology enables high-end graphics and integrated connectivity with iPod*, USB, Bluetooth* and Wi-Fi for over-the-air updates, content streaming and downloads. This platform enables car manufacturers to focus on unique differentiation that will benefit all consumers, such as custom applications and interfaces.

Health

Ben Foss, Intel Digital Health Group
The Intel Reader

The Intel Reader – The Intel Reader is a mobile handheld device, the size of a book, designed to increase independence for people who have trouble reading standard print. It takes pictures of printed materials and converts them into digital text that can be read aloud to the user. It can assist the estimated 55 million people in the U.S. who have dyslexia, specific learning disabilities or vision problems that make reading printed words difficult or impossible. Intel is

committed to improving healthcare with technologies that enable a shift from the reactive healthcare of today to an ongoing endeavor that puts patients' wellness at the center.

Ed Hill, Intel Embedded and Communications Group
Connected Strength and Cardio Machine

Connected Strength and Cardio Machine – This demonstration shows the latest in high-tech fitness equipment. State-of-the-art Intel® Core™2 Duo technology powers these Internet-connected machines, which enable users to track their fitness goals and proactively manage their health and wellness. It includes a content delivery system from Netpulse* that provides on-demand videos, music, live HD television and social media connections, The CPro* multipurpose fitness machines by Core Performance* are used by professional athletes, such as Team USA hockey player and Olympian Angela Ruggerio. This smart fitness technology can help anyone – from moms to engineers to athletes – get a personalized training program designed to meet their goals, lifestyle and fitness level.

Communication & Social Media

Richard Beckwith, Intel Labs
Classmate "Assistant"

Classmate Assistant – Imagine if a low-cost laptop could be a world-class tutor for children, using everyday sensing and perception (ESP) to understand their activities, moods and knowledge, creating a personalized curriculum just for them. This is the vision of ClassmateAssist. Our goal is to use "context-aware" computing to support teachers (and parents). By taking into account both physical and social variables, the tutor plans the best way to teach each unique student. We've worked with teachers and students both in classrooms and in our lab to develop a 1:1 tutor that uses machine vision, interaction planning and augmented reality to deliver deep, personalized instruction to the student.

Intel's Next Generation Atom™ Processor
"Moorestown"

"Moorestown" – Intel's small computer platform based on the next generation Atom™ platform, code name Moorestown, will power handhelds (MIDS), tablets and smartphones. Moorestown consists of a System on Chip (SoC), codenamed "Lincroft," that integrates a 45 nm Intel® Atom processor core, graphics and video engines, as well as memory and display controllers. We are showing two proof-of-concept systems, an Open Peak Tablet and an Aava phone. OpenPeak and AT&T announced last month that they will be shipping a tablet based on Moorestown this year.

Rob Ennals, Intel Labs
Dispute Finder

Dispute Finder – The web contains a huge amount of information, but some of this information is factually incorrect or presents only one side of a contentious issue. Dispute Finder is a project that aims to automatically inform a user when information they encounter is disputed by another source. The Dispute Finder Firefox extension reads the text of every page the user browses and highlights disputed claims. The Dispute Finder search engine augments Yahoo BOSS search results with information about the disputed claims made on each page. The experimental voice interface informs a user when someone near them says something disputed. Dispute Finder builds a corpus of disputed claims by searching the web for linguistic patterns such as "falsely claimed that X" and "experts no longer believe that."

Wendy March, Intel Labs
SENS: A New Kind of Mobile Experience

SENS – We are exploring what it means to be mobile: what do people actually do with their mobile devices; can devices tell us things that people can't; what new experiences can we imagine for media in our lives; how much are we willing to share with others; what are the new devices that will be part of our future; and how can design help to shape our thinking about the future of technology and devices?

SENS is a concept device that represents a new kind of mobile experience, designed for the kind of multi-tasking that fills our everyday lives. As we are constantly checking for updates from our social networks, SENS uses information from sensors on the device to make sharing information about ourselves both real-time and automatic. SENS turns context into a social currency, as we share our activities in the form of animated avatars.

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About Intel

Intel [NASDAQ: INTC], the world leader in silicon innovation, develops technologies, products and initiatives to continually advance how people work and live. Additional information about Intel is available at www.intel.com/pressroom and blogs.intel.com.

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