



Tech Heaven: Intel Innovation Showcase

Intel Corporation – and the silicon we make – is at the heart of everyday life: making experiences people love even better, solving some of the world’s toughest challenges and making things that were once unimaginable common place.

Intel continues to invest and innovate at a rapid pace, adding increasingly more “brains” to processors and delivering an exciting and unprecedented computing experience that people will love – in new and unexpected places and ways. In 2010, the company invested \$6.6B into research and development focused on the connected experience – in the home, in the car, in the hospital, and in the store.

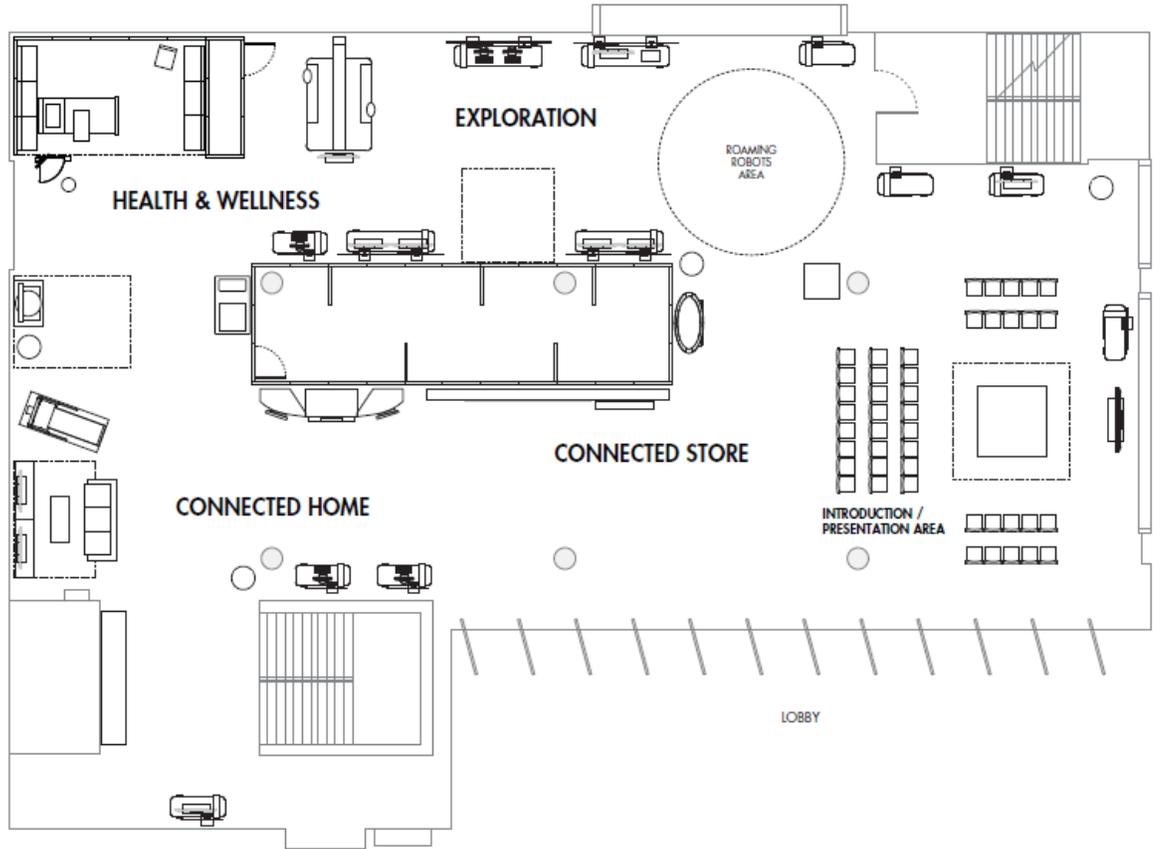
Creating the technology experiences of tomorrow – experiences people crave – begins with understanding what people love about their everyday lives. Through research, Intel is discovering what binds people to their technology and how to create future technologies and products around experiences that people won’t want to live without. Today Intel researchers and technologists are showing a few examples: the connected hospital room, interactive shopping experiences, the connected home and more.

Secondly, Intel is focused on cutting-edge innovations that hold the promise of helping to solve daunting issues, such as climate change & disaster prediction, health and wellness and exploration – to name a few. The company is showcasing just a few examples today: sensing technology for improved health and wellness, online collaboration for pharmaceutical research, robotics to assist children and new ways researchers can explore the sea and the earth.

Intel believes that creating a better future also requires help from everyday individuals. For instance, the Intel “Progress Thru Processors” app is a volunteer computing appt and Facebook community that enables individuals to provide critical “brain power” to scientists who are focused on life-changing research. People simply and safely download the app and run their computer as they normally would. Much life-changing research could not be effectively conducted without this computing power.

Additional photos, videos and facts are available on our Innovation Virtual Press Kit
www.intel.com/pressroom/kits/innovation

Venue Map



Demonstrations

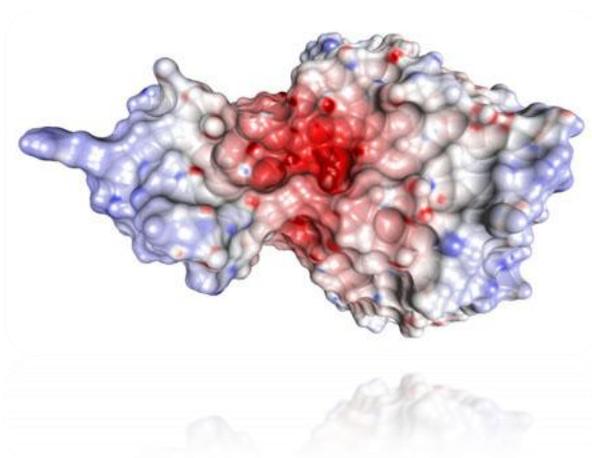
Contents

Additional photos, videos and facts are available on our Innovation Virtual Press Kit www.intel.com/pressroom/kits/innovation	1
Health & Wellness	4
BALLView: Creating More Effective Pharmaceuticals	4
Exploring Falls Prevention for Elders: A Top Health Concern	4
The Connected Hospital Room	5
Proactive Health	7
Connected Store	9
Future of Retail	9
adiVERSE Virtual Footwear Wall from adidas and Intel	10
Intel® Retail Interactive Fashion Experience	10
Next Generation Meal Planning Solution from Kraft Foods	11
DIGITAL BOX kiosk from LEGO	12
Connected Home	12
Wireless Energy Sensing Technology: Empowers You to Make Smarter Choices	12
Silicon Photonics: Making Computing Devices More Enjoyable	13
Intel® Wireless Display & Intel Insider: When Your PC Shares with Your TV	13
Home Energy Management from Capgemini	14
Exploration	14
Intel Technology Wonders: Intel Progress Thru Processors volunteer computing	14
ShipHunt by Intel and Sony	15
Scalable Virtual Worlds: Play or Work with a Cast of Thousands	15
Planet Viewer: Explore Highly Realistic Views of the World	16
Context-Aware Vehicle: Increase Driver Safety	16
Connected Car Proof of Concept from Intel and Ericsson	16
Making Robots Almost Human	17
About Intel	19

Health & Wellness

BALLView: Creating More Effective Pharmaceuticals

The BALLView application enables life science researchers to easily discern the spatial structure of highly complex biological molecules. This is key for understanding the way these molecules operate and for finding and improving active substances for medical drugs. In addition, BALLView supports seamless collaboration of geographically distributed teams across the Internet, and it works with advanced molecular simulation functions. This effort showcases research from the Intel Visual Computing Institute in Saarbruecken, Germany in collaboration with Saarland University.



Links:

Blog: <http://software.intel.com/en-us/blogs/2010/08/06/ballview-visualizes-an-h1n1-molecule-in-3d/>

Video: <http://www.youtube.com/watch?v=72YexjIZyLo>

Exploring Falls Prevention for Elders: A Top Health Concern

Velocity Rail: Falls and dementia are the two “geriatric giants” of aging that characterize physical and cognitive disability, creating a tremendous burden on our health and social care systems. An estimated 30 percent of elderly adults over 65 years of age fall each year. Falls are the principal reason for admission of previously independent people to long-term care institutions. By 2020, the annual direct (and indirect) cost of fall injuries is expected to reach \$54.9B in the U.S. alone.

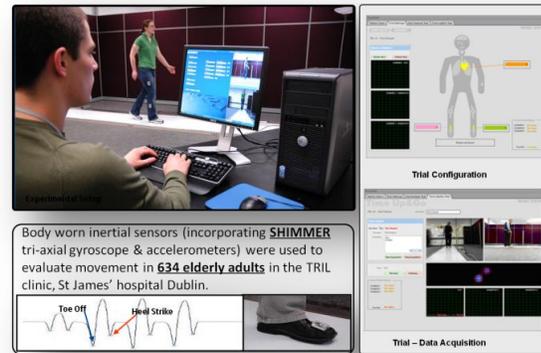


The high prevalence of falls in elderly persons is attributed to many factors caused by the normal ageing process. A better understanding of multisensory and behavioral function that leads to falls risk informs the complete picture of a person’s risk profile and overall health and wellbeing.



Intel researchers, in collaboration with healthcare experts, are exploring a suite of

technologies related to gait and falls analysis and intervention: 1) A low cost, easy to install in-home “velocity rail” that can determine changes in gait speed over time, 2) A body worn sensing platform that demonstrates characterizing gait in a simple, unobtrusive test and 3) a fun and interactive game that shows the potential for strengthening degraded multisensory integration.



Links:

More Information:

<http://www.intel.com/about/companyinfo/healthcare/people/research/approach.htm>

More Information: <http://www.trilcenter.org/tril-research/research-themes/falls-and-frailty.html>

More Information: <http://www.orcatech.org/resources/living-laboratory>

The Connected Hospital Room

As the complexity and number of devices within a clinical environment increases, so do the challenges associated with integrating, managing and securing them. Intel based platforms provide the performance and high-efficiency needed to make devices more intelligent, more portable and more connected, making it easier for patients to receive treatment and more effective for doctors, nurses and administrators to provide and manage care..



Links:

More Information: http://download.intel.com/embedded/Intel-Medica_Tradeshaw_WP_secure.pdf

Video: <http://www.intel.com/Assets/Video/resources/chromeless-video-player-popup-alt.htm?id=94236ec606096f2557c398b1cfb199d64fbc9ca2&title=Connected%20Hospital>

More Information: http://www.intel.com/p/en_US/embedded/applications/medical#fragment-a-0

Medicine Dispensing from Emerson

Intel and Emerson have developed a Connected Hospital proof of concept (POC) that demonstrates a unified approach for bringing advanced remote management features and enhanced security to healthcare computing platforms. The POC is the basis for the Emerson Metro medDispense Automated Medication Dispensing System featuring the MATXM-CORE-411 platform from Emerson Network Power. This combined platform demonstrates how the new technologies can help hospital IT organizations manage medical devices with less effort and secure patient data more effectively.



Neuron Medical Device Manager from Capsule Technologies *

The Capsule Neuron is the first, intelligent touch screen platform dedicated to managing medical device connectivity at the bedside. It features a touch-enabled display that is easy to read/see and is the only platform in its class that is completely flexible and scalable. It is installed at over 720 institutions.



Links:

Case Studies: <http://www.capsuletech.com/capsule-customer-case-studies.htm>

More Information: <http://www.capsuletech.com/medical-data-collection.htm>

Mobile Clinical Assistant from Motion Computing

The industry's first Mobile Clinical Assistant (MCA), the Motion® C5v was designed specifically for healthcare environments in partnership with Intel® Health and based on input from thousands of clinicians worldwide. Lightweight, rugged and fully-sealed to ensure compliance with infection control protocols, it is built for fast-paced healthcare workflows.



Links:

More Information: <http://embedded.communities.intel.com/community/en/applications>

Photo: http://www.motioncomputing.com/about/news/image_bank_c5.asp

Interactive Bedside Terminal from JAOTech

Patient well-being and satisfaction can be improved with modern devices for vitals monitoring, entertainment, communications and real-time meal selection. Doctors can pull up X-rays and CT scans at the patient's bedside to be able to deliver more informative consultations. A clearly displayed picture, along with an explanation, helps patients better understand their medical condition and treatment options. The Arie Smart Terminal is the largest all-in-one medical computer of its kind, featuring a widescreen high resolution LCD touch screen utilizing an Intel® Atom® processor with low power consumption and high performance, critical for the healthcare sector.



Links:

Whitepaper: <http://download.intel.com/design/embedded/medical-solutions/321714.pdf>

Case Study: http://www.jaotech.com/case_studies.html

Case Study: http://www.jaotech.com//39/case_studies.html

Proactive Health

Embedded Intel technology can be found inside everything from computerized fitness equipment to lifesaving medical monitoring devices. Practitioners rely on these systems to administer proactive care including exercise and fitness programs, as well as point-of-care diagnostics, treatment and record-keeping.



Links:

Press Release:

http://download.intel.com/pressroom/kits/embedded/pdfs/Intel_Core_Performance_Pump_Up_Health.pdf

Photos and Videos: http://www.intel.com/pressroom/kits/embedded/index_fitness.htm

More Information: <http://download.intel.com/design/embedded/medical-solutions/323212.pdf>

Video: <http://www.intel.com/Assets/Video/resources/chromeless-video-player-popup->

alt.htm?id=668efb080e4bb90888ff45276fbf8e2dd34802f3&title=Gym%20of%20the%20Future
Video: http://www.intel.com/p/en_US/embedded/applications/medical#fitness-content=fitness-toggle~~visible-content

Intel Fellow Eric Dishman's Health Blog:
http://blogs.intel.com/healthcare/2010/07/my_opinion_e-care_is_ethical_effective_and_economical_care.php

Connected Self-Service Health Station from SoloHealth*

In development, the SoloHealth Station will allow consumers to screen their vision, blood pressure, weight, and body mass index, or any combination, in 7 minutes or less, as well as identify and contact local physicians and provide them with specific, actionable health recommendations. They will be able to set up an account and access their results in many ways, such as kiosks nationwide.



Links:

More Information: <http://www.solohealth.com/>

Media Kit: <http://www.solohealth.com/news/>

Enhanced Entertainment Treadmill from Star Trac*

The E Series offers the most complete entertainment options on the market: an integrated iPod® connectivity and high definition 15" screens to a device-charging USB port. The entertainment system is fully-integrated with built-in fans, a heart rate monitor and the ability to pick, play and enjoy the entertainment solution of your choice.



Link:

More Information: <http://www.startrac.com/us-en/cardio/treadmills-e-series.aspx>

Virtual Fitness Trainer from Respondesign*: MayaFit - Gym. Home. Life.

MayaFit enables reduced healthcare costs and key performance reporting. MayaFit provides users with a points-based system that rewards participation. The MayaFit Training Station is an integrated solution that combines the MayaFit program with all hardware and support to bring automated health coaching to the gym.



Links:

More Information: <http://respondesign.com>

Media Kit: <http://respondesign.com/media/media.php>

Connected Store

Future of Retail

The Connected Store concept from Intel features interactive retail demonstrations designed to improve the shopper's experience, while reducing energy consumption and lowering total cost of ownership for retailers. Intel worked with notable industry partners such as adidas*, Best Buy*, Kraft Foods*, Procter & Gamble to address the needs of today's retailers.



Links:

More Information: http://www.intel.com/p/en_US/embedded/applications/digital-signage

adiVERSE Virtual Footwear Wall from adidas* and Intel

Showcasing an innovative way to provide customers with more product choice, the footwear wall demonstrates how retailers can give in-store shoppers access to their expanded online inventory via a digital display. Customers can use the touch-screen to select shoes on a virtual shelf, view the item in detail and from multiple angles and get more product information and make a purchase. Powered by the 2nd Generation Intel® Core® i7 processor, the footwear wall features precision high-quality, 3D rendered images, and also includes Intel® AIM Suite and Intel® vPro™ Technology.



Links:

Photos: http://www.intel.com/pressroom/kits/embedded/index_digital.htm

Brief:

http://download.intel.com/pressroom/kits/embedded/pdfs/adiVERSE_Virtual_Footwear_Wall_Overview.pdf

Video: <http://edc.intel.com/Video-Player.aspx?id=4821>

Intel® Retail Interactive Fashion Experience

This in-store shopping experience enables shoppers to visually browse and filter through store inventory for access to thousands of fashion items, combine them into outfits on a virtual mannequin and share snapshots of the outfits with friends by email for real-time feedback. It also shows how an individual could purchase items immediately. The solution features the 2nd Generation Intel® Core® i7



processor and Intel® vPro technology to reduce operational cost of managing and maintaining the device.

Links:

Photos: http://www.intel.com/pressroom/kits/embedded/index_digital.htm

More Information:

http://download.intel.com/pressroom/kits/embedded/pdfs/Intel_Retail_Fashion_Experience_Overview.pdf

Video: <http://edc.intel.com/Video-Player.aspx?id=4587>

Next Generation Meal Planning Solution from Kraft Foods

Intel and Kraft* Foods have jointly designed a meal planning solution to demonstrate how the functionality of a traditional self-service kiosk can be transformed into an interactive, immersive retail experience with measureable results. This solution can be used to obtain recipes, shopping suggestions, promotional coupons as well as product samples.



Links:

Photos: http://www.intel.com/pressroom/kits/embedded/index_digital.htm

More Information:

http://download.intel.com/pressroom/kits/embedded/pdfs/Kraft_Intel_VirtualMealPlanning_Solution_Overview.pdf

Video: http://www.intel.com/pressroom/kits/embedded/index_digital.htm

DIGITAL BOX kiosk from LEGO*

The DIGITAL BOX kiosk, currently installed in all LEGO Brand Stores worldwide, is seen as one of the best examples in augmented reality today.

Customers can hold LEGO boxes up to the DIGITAL BOX and watch a 3D animation of the product – from all angles, in every detail – in their hands. This is made possible by metaio software, which fuses virtual 3D content into a live video of the actual product packaging.



Link:

Video: <http://www.youtube.com/watch?v=mUuVvY4c4-A>

News Release: <http://www.metaio.com/press/press-release/2011/lego-digital-box/>

Photos: <http://www.flickr.com/photos/hyku/3284076683/>

Connected Home

Wireless Energy Sensing Technology: Empowers You to Make Smarter Choices

U.S. households and automobiles represent 35 percent of the US energy consumption portfolio. Intel's goal is to provide technology that enables individuals to manage their personal energy usage. Intel is showing technology consisting of wireless energy sensors, designed to give homeowners control over monitoring energy use and achieving cost savings. Using data from the sensors, which can gather information about energy use patterns, individuals will have a way to track their use and save money.



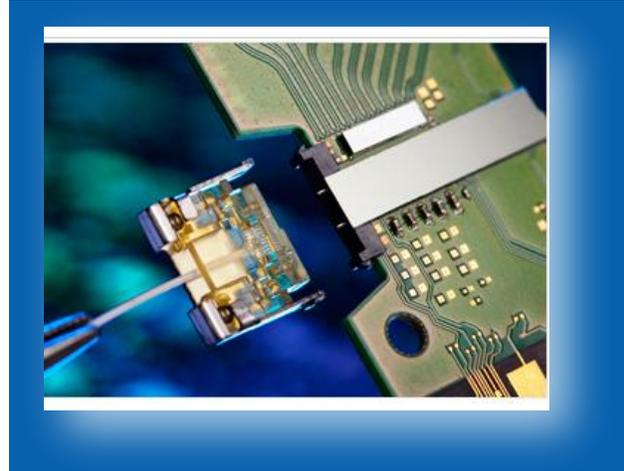
Links:

More Information:

<http://2011.acinational.org/sites/default/files/session/80997/ac11be1libbyrichard.pdf>

Silicon Photonics: Making Computing Devices More Enjoyable

Silicon Photonics is a technology which uses light to communicate instead of electrons. This enables your mobile devices to synchronize 100 to 1000 times faster than today's methods. Silicon Photonics means transferring 1000 high resolution photos or an entire HD movie in under a second. While communicating with light is not revolutionary, existing implementations are expensive and bulky. Intel is working to dramatically reduce the cost and size of these devices, so that they can fit into consumer devices such as tablets, laptops, TVs and cameras.



Links:

More Information: <http://techresearch.intel.com/ResearchAreaDetails.aspx?Id=26>

Press Kit: http://www.intel.com/pressroom/archive/releases/2010/20100727comp_sm.htm

Intel® Wireless Display & Intel Insider: When Your PC Shares with Your TV

With Intel® Wireless Display, consumers are able to sit back and enjoy all of their personal and online content on a big screen TV with a simple wireless connection, including 1080p and Blu-ray* or other protected content playback only available on 2nd generation Intel® Core™ processor-based PCs with built-in visuals enabled. In addition, Intel is showing innovative new experiences that can be delivered when your PC and TV are working together to deliver a combined experience across the 2 screens.



Links:

More Information: www.intel.com/go/widi

Press Kit: <http://newsroom.intel.com/docs/DOC-1634>

Home Energy Management from Capgemini*

Energy-efficient computing based on Intel® architecture now brings power-saving energy controls to your home. The Capgemini* Home Energy Management Console powered by the Intel® Atom™ processor is designed as a command center at home that provides family members with information to not only control utility costs but also help them plan their daily activities, access personal messages and activate home security systems.



Links:

Photos and Videos: http://www.intel.com/pressroom/kits/embedded/index_energy.htm

<http://edc.intel.com/Video-Player.aspx?id=3849>

More Information: <http://download.intel.com/embedded/processor/solutionbrief/324958.pdf>

Exploration

Intel Technology Wonders: Intel Progress Thru Processors

Intel is focused on developing cutting-edge innovations that hold the promise of helping to create a better future for the next generations.

[Intel “Tech Wonders”](#) – a philanthropic campaign – is bringing together communities of people to discover how technology may help solve global challenges, such as climate change and disaster prevention, health and wellness, and exploration.

Individuals can donate their spare computing power with [Progress Thru Processors](#) to aid researchers who otherwise could not efficiently conduct life-changing research.



Links:

More Information: www.intel.com/techwonders

Progress Thru Processors: www.facebook.com/progressthruprocessors

Shiphunt by Intel and Sony*

Project Shiphunt is a joint venture from Sony and Intel that empowers a group of five students to discover a sunken ship. Using Sony VAIO laptops powered by 2nd Generation Intel® Core® Processors, the students will harness technology to bring shipwreck hunting into the 21st century. James Delgado, world-renowned marine archeologist and co-host of The Sea Hunters, will lead the expedition.



Links:

Facebook.com/SonyElectronics:

Ship Hunt Tab: http://www.facebook.com/sonyelectronics?sk=app_4949752878

Video: http://www.youtube.com/watch?v=fNj2jKALjoI&feature=channel_video_title

Blog: www.Sony.com/Blog

Scalable Virtual Worlds: Play or Work with a Cast of Thousands

Intel's research will enable a massive number of players in a virtual environment and will also enable interactions among all the players. Previously, virtual worlds could scale in terms of space but were limited in the number of avatars interacting in the virtual environment. This research approach leverages a novel software architecture that will allow thousands of virtual avatars to interact more than 10 times greater than existing limits. For instance, real-time applications like defense training can be simulated which otherwise would not be possible in today's virtual worlds' software architecture.



Link:

More Information: <http://techresearch.intel.com/ProjectDetails.aspx?Id=154>

Planet Viewer: Explore Highly Realistic Views of the World

Rendering planetary scale objects is challenging due to geometric complexity and the need for managing huge amounts (terabytes or higher) of data. Intel is showing how our application can enable real-time graphics rendering on the fly without having to purchase additional expensive hardware. Currently, much work in this field focuses on exploiting costly high-end discrete graphics hardware. But Intel developed a novel, full-scale planetary rendering solution that delivers realistic visuals on a less costly solution using a 2nd Generation Intel Core processor.



Context-Aware Vehicle: Increase Driver Safety

The number of devices and services in cars has rapidly increased over the last decade, contributing to a safety issue where drivers may spend more time looking at menus and pushing buttons than paying attention to the road. The use of an in-vehicle context-aware system is especially important to improve the safety of drivers and passengers. Intel is showing Intel Labs' face recognition software, context engine, environmental sensors and personal preferences to enhance driver safety and convenience.



Links:

Video: <http://www.youtube.com/watch?v=HyqdlNq1FC8>

Video: <http://www.youtube.com/watch?v=RIZhTK9IT0k>

Video: <http://www.youtube.com/watch?v=WMEW0tPEat0>

Connected Car Proof of Concept from Intel and Ericsson

The Connected Car Proof of Concept demonstrates how to bring services and content from many providers to a vehicle using the Intel® Atom™ processor, Meego In-Vehicle-Infotainment and Ericsson* broadband module for mobile connectivity. The demonstration

highlights how to provide concurrent driver and passenger applications, including navigation, real-time road hazard warnings, e-store, video streaming (local and remote), streaming radio and Internet access.



Links:

Press Kit: http://www.intel.com/pressroom/kits/embedded/index_transportation.htm

Case Studies and Videos: http://www.intel.com/p/en_US/embedded/applications/in-vehicle-infotainment#fragment-a-1

Whitepaper: <http://download.intel.com/design/embedded/infotainment/docs/313714.pdf>

Video: <http://edc.intel.com/Video-Player.aspx?id=4318>

Video: http://www.intel.com/design/embedded/infotainment/demo_infotainment/demo.htm

Animation: <http://edc.intel.com/Video-Player.aspx?id=4790>

Making Robots Almost Human

Intel® processors provide intelligence that enables robots to play games, give tours, deliver messages, keep track of important data, and scare away an intruder. They know where they are and what they are doing and behave accordingly. They interact with people and exhibit many human-like personality traits. Previously the stuff of science fiction, these are real robots you will find working in hospitals, factories, amusement parks and other real-world settings. Explore a variety of the latest robots built on Intel architecture.



Nao Humanoid Service Robots, for education and therapeutic purposes, ALDERBARAN Robotics

NAO is a humanoid robot developed by ALDEBARAN Robotics and is based on the Intel® Atom™ processor. It is used today for research and education around the world. NAO is an autonomous and interactive robot that has the ability to see, hear, speak, and communicate. NAO's special characteristics of fluid movements, the ability to sense and avoid obstacles and the capability to be fully programmed places him in a league of their own.



New applications for NAO are constantly being discovered in areas beyond robotics including treating children with autism or as an educational platform to support teachers in universities or secondary schools.

Links:

Press Kit: <http://www.aldebaran-robotics.com/Press/PressKit.pdf>

Video: <http://www.aldebaran-robotics.com/en/naoeducation>

Video: http://www.youtube.com/watch?v=uFuRcIr_N34&feature=player_embedded

Video: <http://www.youtube.com/watch?v=rSKRgasUEko>

Blog: <http://naoforge.net/naovideoblog/>

Qbo Service Robot from The Corpra*

Qbo is a robot developed by The Corpra, a robotics startup company from Spain and is based on the Intel® Atom™ processor. Qbo recognizes faces and objects, detects their depth and tracks faces and objects in real-time depending on their degree of proximity. Other functions are object and face compilation and real-time loading, color detection, gesture detection and analysis according to previously assigned patterns. .



Link:

Blog: <http://thecorpora.com/blog>

The Spider Robot from University of Arizona

Matt Bunting, an electrical engineering major at the University of Arizona, built a six-legged robot for an assignment in his cognitive robotics class, using an Intel®Atom® processor and featuring a camera that helps the robot determine where it's going. The robot "adaptively learns" how to best achieve its forward movement.



Link:

Video: <http://www.youtube.com/watch?v=O3ovrT8pWww>

About Intel

Intel (NASDAQ: INTC) is a world leader in computing innovation. The company designs and builds the essential technologies that serve as the foundation for the world's computing devices. Additional information about Intel is available at newsroom.intel.com and blogs.intel.com.

– 30 –

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