

Technology Radar: BusinessLab's review of technologies that are making the news, November 2009

An ActiveAge Report

Mobility Unicycle

Honda recently introduced a new personal mobility device (U3-X), which they believe could soon be seen zipping up and down our streets.

The vehicle looks like a modern unicycle. To ride it you lean your weight in whichever direction you want to go, whether that's forward, backward or to the side. It maintains its own balance and travels at 3.7MPH. Honda designed U3-X to be small and unobtrusive enough to mingle with pedestrians or be used indoors.

The vehicle weighs less than 22 lbs and is 650 mm high. It has a foldable seat and footrest, which makes it extremely flexible and convenient to carry. The fully charged machine lasts up to one hour.

Honda used advance technologies in developing this device including balance control technology, developed through the robotics research of ASIMO, Honda's bipedal humanoid robot, and the world's first omni-directional driving wheel system (Honda Omni Traction Drive System, or HOT Drive System), which enables movement in all directions, including not only forward and backward, but also directly to the right and left and diagonally.

U3-X was exhibited in October for the first time at Tokyo Motor Show. This is still an experimental model and as yet no announcement has been made as to when - or if - it will be available in the marketplace.

For more information visit:

<http://www.hondanews.com/search/release/5203?q=u3-x&s=honda>

Simplicity

Simplicity is a new computer aimed at people over 65 who are unfamiliar with PC's and the Internet. It was launched in November this year.

There are still large numbers of older people who are not using the Internet. A survey by the Office for National Statistics in August 2009 revealed that 6.4 million people over 65 have never used the Internet before. Simplicity has been designed to encourage more older people to use computers and experience the benefits of access to the Internet.

The computer was developed in partnership with Wessex Computers and a website aimed at older people called discount-age. It has a simplified desktop with just six buttons, which direct users to simple tasks such as e-mail and chat. It has no drop down menus or login screen when started up. The computer also comes loaded with 17 video tutorials.

The e-mail system is a modified version of an Italian design called Eldy. All SimplicITY users with an eldy.org address will be able to chat to each other via the "chat" button. This seems to be a potential way of encouraging more social interaction between older people in their own homes. If the person with a SimplicITY computer knows there are other older people using the same computer this might be a starting point for conversation.

For more information visit:

<http://eldy.com/contact>

<http://news.bbc.co.uk/1/hi/technology/8352606.stm>

Ear Worn Activity Recognition Sensor

Every year in the UK more than 700,000 people over 65 attend accident and emergency after a fall and this is one of the leading causes of death for people aged over 75.

However, it is believed that an Ear Worn Activity Recognition Sensor (e-AR), currently being used for monitoring athletes, could be used to help tackle the problem of falls occurring in older people, by targeting help such as home adjustments.

e-AR can be used to find out how stable an individual is, by measuring the amount he or she sways. The device allows the detection of a range of indices including gait cycle, steady/unsteady, locomotion, acceleration, and spinal/joint shock wave transmission.

In tests done so far older individuals wearing the device have been asked to complete a series of tasks such as walking, sitting and standing, so doctors can assess the risk of falling and where/when this risk increases.

The information gathered from the device can then be used to identify required help for the patient, such as help getting up and down stairs, or in and out of bed, to prevent him or her falling.

Additional features currently being suggested for this device include a community alarm linked up to a call centre or hospital to let a carer or other professional know an individual has fallen.

It is expected that e-AR will be available on the market next year.

For more information visit:

<http://news.bbc.co.uk/1/hi/health/8320111.stm>

<http://www.sensixa.com/>

<http://ubimon.doc.ic.ac.uk/benlo/m775.html>

AIDA

The UK's Road Safety Charity 'Brake' states that an elderly person's risk of being killed or suffering a serious injury as a result of a road crash is between two and five times greater than that of a younger person because of their increased physical frailty.

As a result of such statistics and the desire of individuals to continue driving for as long as possible, much research is being carried out into the older driver population, but in practical terms much more needs to be done.

In the USA, MIT researchers and designers are currently developing the Affective Intelligent Driving Agent (AIDA) – a new in-car personal robot that aims to change the way we interact with the car, which could potentially be an aid for older drivers.

The project is a collaboration between the Personal Robots Group at MIT Media Lab, MIT's SENSEable City Lab, and the Volkswagen Group.

AIDA communicates with the driver through a small robot embedded in the dashboard. It interacts with the driver like an informed and friendly companion. AIDA is also able to read the driver's mood based on his/her facial expression and other cues.

The robot analyses the driver's mobility pattern and keeps track of common routes and destinations. AIDA draws on an understanding of the city, incorporating real-time event information, including knowledge of commercial activities, tourist attractions and residential areas.

Within a week of use, AIDA can figure out the driver's home and his/her usual routine. It will then be able to direct the driver to his/her preferred grocery store, or any other destination, recommending the best route to avoid traffic. Further features include, informing the driver when the car is running out of fuel, giving the driver feedback on his/her driving and helping to achieve more energy efficiency and safer driving.

Although AIDA is not specifically designed for older people it would undoubtedly be of benefit in helping navigation and providing security and comfort as one's senses begin to decline. Furthermore, it could potentially provide a means of keeping older people driving for longer.

For more information visit:

<http://www.gadling.com/2009/11/10/mans-new-best-friend-could-be-a-robot/>

<http://senseable.mit.edu/aida/>