

Move on Up!

A unique interactive school experience for one day only.

Come and experience how technology is used in sports, health, entertainment and arts.

Thursday July 28th 2011

Book now! Limited spaces are available.

- See science and technology experiences that lift you to new levels of performance
- Explore technology that is reaching deeper into our everyday lives
- Examine how designs that move are enriching our experiences in so many ways

Presentations by leading CSIRO researchers and industry experts

Your visit will involve a choice of two tours in either Arts and Entertainment or Sports and Rehabilitation. Each tour will take one and half hours. Ideal for VELS levels 5-6 and VCE.

Demonstration and talks for students will take you to the frontline of design innovation to move you.



Arts and Entertainment

Three demonstrations of playful explorations of technology to encourage movement including an airguitar, bodily extensions and interactive games.

Sports and Rehabilitation

Three demonstrations of how to use the latest interactive technologies to design movement and acquire skills including throwing, kicking and running.

Further information is on our website www.forddiscovery.com.au

Each tour will also allow time to explore the technology behind Ford Motor Company of Australia and interact with many exhibits on show.

Contact our Program Coordinator

Bryan Knowles

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Cost: \$6.00 per student. *Teachers free at ratio 1:10*



This event is part of the 2011 State of Design Festival exploring Design That Moves, one of the largest and most innovative design events in Australia and the heart of design thinking and design activity.

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Arts and Entertainment

SCHOOL DEMONSTRATIONS: - 28th July 2011, circa 9:30 am til 3pm

Air Guitar



A key part of musical performance is to show freedom of movement with audio play. The Wearable Instrument Shirt [aka 'airguitar shirt'] combines a wearable sensor interface with software to map gestures and audio data files to form an easy-to-use gesture driven instrument that allows real-time interactive musical performances without any need for significant instrument or computer skills. The various design aspects of this device will be discussed and demonstrated by Mr Martin Lawrence a former Christian College student who studied the applicability of this technology for use by youths.

Bodily Extensions

Our body is so natural that it can slip out of our awareness. In our technologically oriented world it is easy to lose attentiveness to the body. It is common to think about design sitting on chairs at computers. Yet bringing focus to the concept of 'knowing bodies' and 'design as a bodily activity' can radically impact the way designers work. Ms Danielle Wilde, a Fine Arts PhD student at Monash University, will demonstrate and discuss various aspects of the design of bodily extensions.



Interactive Games

Contemporary lifestyle is becoming increasingly sedentary. Game design that leverages player engagement in order to motivate players into physical activity is becoming increasingly important. Dr Richard Helmer, Research Engineer at CSIRO, will demonstrate and discuss wearable control interfaces, game design considerations, and observations of physical game play.

Ford Design

From the Model T of yesteryear and Deakin's T2 of the future, the Centre takes you on a journey through the remarkable contribution of automotive technology and design that has helped shape our mobile lives today. Through the Australian History of a remarkable global company you will discover via a unique self guided interactive environment the designs, processes and innovation of the automotive industry that has helped generations meet the demands and challenges of business and society today and into the future.



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Sports and Rehabilitation

SCHOOL DEMONSTRATIONS Tour 1:- 28th July 2011, circa 9:30 am til 3pm

Interactive training aids, including those using electronic textiles and interactive auditory biofeedback, offer new scope for performance monitoring and training in diverse training and competition environments. The demonstrations and talks aim to inspire and inform students about technology and design

Football: Interactive Kicking and Injury Prevention.

A pair of "intelligent leggings", a pair of leggings commonly worn in sports training with textile strain sensors across the knee, is being used as part of an interactive training system for lower limb skill development. For example, a preferred characteristic of Australian football kicking technique involves significant knee flexion as part of the kicking action. Dr Elissa Phillips, a postdoctoral fellow at Victoria University will demonstrate and discuss various aspects of this new technology and how to design training sessions to improve technique and learning.



Netball: Interactive Throwing and Diagnosis.

A recent study with twenty-two secondary school children having limited to no previous netball or basketball free throw shooting experience, has shown interactive biofeedback can provide a learning advantage. An "interactive sleeve" placed on the shooting arm triggers drum beats to play if the wearer moves their elbow and wrist in a certain way during throwing. Dr Ian Blanchonette, a Research Scientist at CSIRO, will demonstrate and discuss the effect on throwing technique and learning, and its potential for conditions like Parkinson's disease and epilepsy.

Rowing: Foot Pressure and Rehabilitation

Wireless pressure monitoring devices represent a tool that can help further understand and characterise performance in various sports and health activities. Mr Michael Mestrovic, Research Engineer at CSIRO, will demonstrate and discuss how to design wearable devices for monitoring physiological performance.



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SELF GUIDED Foyer TOUR (Free) Thursday 28th – Friday 29th July 2011 10am – 4pm
Foyer tour will provide a sneak peak at some of technologies on show and developed in Geelong.

1. Airguitar (wired version)

On November 13th 2006, the CSIRO air guitar story was the seventh most viewed story in the world on www.yahoo.com and broadcast to an audience of more than 160 million people world wide on the BBC World Service news. Since then the technology has mutated into many different forms. At the Ford Discovery Centre a manikin will be modified so when moved it can play the national anthem on lead guitar, different coloured lights will be used to indicate different musical parts linked to arm gestures and body movement. The public will be able to move the arms to play anthemic sounds and change lighting colours

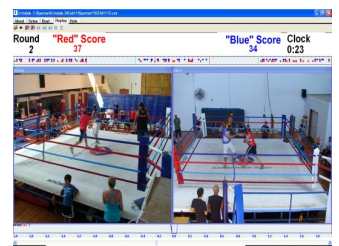


2. Bodily Extensions :- Hip disk

The hipDisk requires a wearer to move in exaggerated ways to force two body-worn disks to touch, and so generate simple tones – 12 soft switches are spread around the disks so that different body positions trigger different tones. When wearing hipDisk, participants twist and distort their bodies into strange positions to create music one ungainly tone at a time. The public will be able to move a manikin's body to play sounds.

3. Automated Impact System (wired version)

The automated impact sensing system (AISS) is being developed to overcome scoring controversies that have beset amateur boxing throughout its history. The AISS uses subtly modified boxing equipment that incorporates 'smart' fabrics. The AISS is currently being used in regular Box'Tag® competitions. The exhibit will include a manikin with a sensor vest and a glove (chained to manikin) so that the public can punch the manikin to score points.



4. OzBot

OzBot™ realises the advantages of emerging technology in providing teleoperated robotic systems. The design objectives of the OzBot™ platform focus on the development of inexpensive, lightweight carry-case sized robots for search and rescue operations, law enforcement scenarios and hazardous environment inspection. The incorporation of Haptic augmentation provides the teleoperator with improved task immersion for an outdoor search and rescue scenario. The OzBot™ platform will be demonstrated by Prof. Saeid Nahavandi, Dr. James Mullins and Mick Fielding from Centre for Intelligent Systems Research - Deakin University

5. HPV

Local resident and engineer, Tim Corbett, aims to hold the world record for HPV vehicles. His HPV will be on display and he will be available to discuss design of these fast and exciting vehicles.



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