



FutureSchools Showcase
Jointly Presented by MOE and IDA



Ministry of Education
SINGAPORE



FUTURE SCHOOLS@SINGAPORE PROGRAMME

HARNESSING THE POTENTIAL OF ICT WITHIN SCHOOLS TO TRANSFORM LEARNING

The FutureSchools will showcase various innovative technological applications, curriculum innovations, student and teacher research projects at ExCEL Fest 2011.

The three FutureSchools participating in the ExCEL Fest Exhibition (1-2 April) are:

- Beacon Primary School
- Canberra Primary School
- School of Science and Technology

The three FutureSchools conducting sharing sessions are:

- Crescent Girls' School (Day 1)
- Jurong Secondary (Day 2)
- Hwa Chong Institution (Day 2)

Key Highlights of FutureSchools@Singapore programme	
1	<p>Beacon Primary</p> <p>Key Contact: Ms Lim Boon Cheng, Principal Email: lim_boon_cheng@moe.gov.sg Tel: 6769 7255</p> <hr/> <p>Lead Consortium: ST Electronics (Training & Simulation Systems) Pte Ltd</p> <p>Members:</p> <ul style="list-style-type: none"> • Addest Technovation Pte Ltd • FiF Technologies LLP • Microsoft Singapore Pte Ltd • Sky Media Pte Ltd • Temasek Polytechnic • Vantage Portal Systems Pte Ltd <p>Key Contact: Ms Sharon Ng, Senior Executive (Marketing Communications), ST Electronics Email: sharonng@stee.stengg.com</p> <hr/> <p>Beacon World is an interactive 3D virtual learning environment with a variety of virtual learning tools and spaces, such as:</p> <ul style="list-style-type: none"> • Creative Studio: designed to support Media and Arts programmes, this tool helps pupils work collaboratively to transform their ideas and thoughts into multimedia productions; • Funky Gallery: enables teachers to showcase students' media creations such as digital art pieces, while allowing for peer feedback and review. <p>At ExCEL Fest, visitors will get to see Beacon Primary's Creative Studio as well as its Personal Interactive Enrichment (PIE) Reader. The PIE Reader is a digital content reader that allows teachers and pupils to build, organise, read and annotate published e-textbooks.</p>

Key Highlights of FutureSchools@Singapore programme

2 Canberra Primary

Key Contact: Mr Sam Wong, Principal
Email: wong_poo_mun@moe.gov.sg
Tel: 6759 7433

Lead Consortium: SingTel Ltd

Members:

- ACP Computer Training & Consultancy Pte Ltd
- Heulab Pte Ltd
- Learning EDvantage Pte Ltd
- Microsoft Singapore Pte Ltd
- NCS Pte Ltd
- Playware Studios Pte Ltd

Key Contact: Ms Anya Foo (Education Segment Manager)
Email: anyafoo@singtel.com

One of the most distinctive characteristics of Canberra Primary School's FutureSchool@Singapore Programme is learning through play. **Canberra Live!** is an integrated virtual learning environment incorporating immersive virtual reality gaming, multi-modal digital media and mobile learning. Some key highlights are:

- **4Di/3Dhive:** an immersive learning environment that facilitates interaction with a single 3D environment through the use of panoramic projection. Pupils can interact with the 4Di environment directly by touching the simultaneous multi-point, multi-touch interfaces. Three themes, 'Historical Singapore', 'Shanghai Expo' and 'Rainforest', have been integrated into the learning of English and Science and the school is currently working with industry partners to develop the '3 Kingdoms' and 'Monsters & Fairy Tales' themes.
- **Imprints:** a next generation school-life e-portfolio which captures students' data and learning processes and aids teachers in assessing their learning styles. It will also help students to learn at their own pace and identify areas for improvement. Primary 1 to 6 students are currently using this application to enhance the development of their Social Emotional Learning (SEL) competencies.

The 3DHive, 4Di and ImPrints applications will be showcased at ExCEL Fest.

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3 Crescent Girls' School

Key Contact: Mrs Eugenia Lim, Principal
Email: eugenia_tan@moe.gov.sg
Tel: 6475 8711

Lead Consortium: Hewlett-Packard Singapore Pte Ltd

Members:

- Amdon Consulting Pte Ltd
- ASKnLearn Pte Ltd
- Heulab Pte Ltd
- Inchone Pte Ltd
- Microsoft Singapore Pte Ltd
- Pearson Education South Asia
- Zepth Pte Ltd

Key Contact: Mr Yong Yiam Tong, Solution Consultant
Email: yt.yong@hp.com

The Crescent Girls' School FutureSchool programme is focused on student-centric learning, teaching and assessment, using an integrated curriculum. The key innovations are:

- **Virtual Global Learning Faculty:** a rich, intuitive dashboard that provides a personalised gateway on the students' learning devices such as laptops for collaborative learning;
- **Ambook:** an interactive digital textbook that merges simulations, videos, animations, text and interactive learning objects, all on one singular platform;
- **VARK** contains multimedia contents which are based on the VARK learning style (Visual, Aural, Read/Write and Kinaesthetic) that describes the learning preference suited to individual learners. Using information gleaned from VARK, each student is presented with content designed to fit his/her learning style;
- **WriteToLearn:** an essay-marking tool that provides students with immediate, targeted feedback on the writing mechanics, redundancy and relevancy, in addition to the grammatical and spelling checks;
- **3D Interactive Virtual Reality:** an immersive learning space for experiential learning by students. By representing learning objects using VR/3D modelling techniques, students can appreciate concepts typically difficult to illustrate in a real-world environment; and
- **Learning Trails:** authentic learning through mobile devices used at outdoor learning trails which incorporate interactive and digital media with the sights, sounds and textures of the physical landscape.

At ExCEL Fest 2011, Crescent Girls' School will be sharing how some of these FutureSchools applications are integrated into their curriculum design, assessment and pedagogy.

4 Hwa Chong Institution

Key Contact: Dr Hon Chiew Weng, CEO
Email: hon_chiew_weng@moe.gov.sg
Tel: 6468 3956

Lead Consortium: ST Electronics (Training & Simulations Systems) Pte Ltd

Members:

- Addest Technovation Pte Ltd
- FiF Technologies LLP
- Microsoft Singapore Pte Ltd
- Sky Media Pte Ltd
- Temasek Polytechnic
- Vantage Portal Systems Pte Ltd

Key Contact: Ms Sharon Ng, Senior Executive (Marketing Communications). ST Electronics
Email: sharonng@stee.stengg.com

Hwa Chong Nexus (HCnX) is a virtual campus designed to facilitate independent learning and collaborative explorations, which includes:

- **Interactive Learning Management System:** provides a point of entry into a suite of portals, functional modules, and communication tools that enable students to acquire new knowledge through self-study, including assessment tools for peer review. A Course Builder enables teachers to customise lesson activities to students' learning pathways;
- **Personal Portal:** offers a personal portal and an e-portfolio that helps mentors optimise the benefits and efficiency of each discussion. The system also provides teachers with the ability to personalise their teaching and to customise their lessons according to the learning styles of their students; and
- **Research & Partnership Portal:** a community-based application provides for mentor-mentee matching search, online conferencing collaboration tool and live real-time application sharing tool, bringing together alumni, industry partners, domain experts, school staff, parents and students (both local and overseas) into Hwa Chong's research environment.

Several student projects that exemplify the research culture in Hwa Chong Institution, including those on cross-border research, will be shared at ExCEL Fest.

5 Jurong Secondary

Key Contact: Mr Tham Kine Thong, Principal
Email: tham_kine_thong@moe.gov.sg
Tel: 6265 5980

Lead Consortium: Civica Pte Ltd

Members:

- G Element Pte Ltd
- Heulab Pte Ltd
- Learning EDvantage Pte Ltd
- Microsoft Singapore Pte Ltd
- Playware Studios Pte Ltd

Key Contact: Mr Marc Nolan, Executive Director, Strategic Development, Civica Ltd
Email: info@civica.com.sg

VL Trek is a fully integrated, interactive learning environment that supports the school's brand of Problem-Based Learning (PBL). It consists of:

- **e-PBL Tools:** these support the PBL workflow through questioning templates for the development of thinking processes, mapped to each stage of the PBL cycle. It also includes mind tools, visualisation tools and simulation tools for supporting the learning process;
- **Lesson Builder:** a graphical lesson authoring tool which allows teachers to be guided by lesson plan templates, so that they are able to easily share and adapt their lessons;
- **Content Classification with Smart Search:** it performs validated, contextualised searches within VL Trek. It facilitates meta-tagging and formulation of sophisticated search strategies to aid in investigative research;
- **Interactive Learning Trails:** a collaborative and interactive mapping system which supports field work and is integrated into VL Trek. Features include 2D/3D visualisation of learning trails and layering of data points;
- **PBL Learning Objects:** provides rich contextualised representation of problem scenarios, as well as interactive learning content.

At ExCEL Fest, Jurong Secondary will showcase its curriculum innovations under the FutureSchools@Singapore initiative. The school will share its Secondary 1 and 2 Media Literacy Curriculum, which uses a problem-based learning collaborative framework to enable students to read, analyse, evaluate media messages, and become socially responsible in producing media content.

6 School of Science and Technology

Key Contact: Mr Chua Chor Huat, Principal
Email: chua_chor_huat@moe.gov.sg
Tel: 6571 7200

Industry partnership: *In progress*

The focus of the School of Science and Technology's (SST) FutureSchool programme is centred on applied learning, integrated approach, innovative and enterprise, as well as holistic and broad-based education. Technology is applied as a way of life in SST and the key innovations are:

- **Knowledge Building in the Integrated Humanities:** Teachers harness 1:1 computing and Web 2.0 technologies (e.g. Google Maps) to design mobile learning activities that support knowledge-building processes and develop higher-order understanding of concepts;
- **Participatory Simulation in Mathematics:** Students demonstrate understanding of mathematical ideas and solutions using various graphical representations in a networked environment. Through this, students develop and extend their metacognitive strategies; and
- **Collaborative Learning in Languages:** Students develop language skills using a collaborative tool such as Group Scribbles for brainstorming and ideation to generate rich discussions.

Through hands-on mobile learning activities, visitors to ExCEL Fest will experience how students construct knowledge collaboratively using networked platforms such as the Group Scribbles in language lessons. SST will be showcasing the school's implementation and initial findings on the project.

SST is also undertaking a four-year research project in collaboration with the Learning Sciences Lab, National Institute of Education. Titled "Towards Pervasive ICT-enabled Pedagogical Practices and Learning in the 21st Century", the project examines factors that contribute to developing students' critical thinking skills, collaborative skills and communication skills.

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