Expert Panel: Etoys through multi perspectives

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Abstract: The panel will gather experts from different countries and areas of knowledge covering different perspectives to present Etoys as: rich media authoring environment situated inside the history of Information Technology for Education; explanation in terms of technological novelty and relevance to be used in almost any personal computer including educational laptops like XO; Etoys and children; and active Etoys communities around the world.

Keywords: Authoring Systems, Multimedia, Knowledge Representation

1. Field – Rich media authoring environment for science and math literacy education

2. Topic covering

Learners and lifelong learning; Innovation and creativity in schools; Informatics, programming and problem solving
3. Panelists and points of view

3.1 "Etoys" - Introduction and Historical Perspective

Panelist: Yoshiki Ohshima
graduated from the Tokyo Institute of Technology in 1994 with a bachelor's degree. In 1996, he received a master's degree in Information Science on the design and implementation of a programming language with transactional facility from the same institution. He was awarded his PhD for the creation of "Kedama", a massively parallel particle programming system, from the Tokyo Institute of Technology in 2006. In 2000, he joined Walt Disney Imagineering R&D, first as an intern and then as a full-time technical staff member. He worked on theme park related research projects as well as end-user computer environments. In 2002, he joined Twin Sun, Inc. Currently, Yoshiki is a computer scientist at Viewpoints Research Institute. Recent projects include bringing the Etoy environment to children via the "XO" and the One Laptop Per Child (OLPC) initiative, the multilingualization of software environments, and participating in the longer range research of Viewpoints Research to invent new computing paradigms, languages and environments.

Summary
Squeak Etoys is a media-rich authoring environment with a simple, powerful, scripted object model, encompassing many kinds of objects created by end-users (see companion article Squeak Etoys Children & Learning). Etoys takes inspiration from Logo (geometrical kids' programming environment), PARC-Smalltalk (reflective interactive system, object-orientation), Hypercard ("situated" end-user oriented content authoring) and StarLogo (massively parallel programming for end-users) and other systems. Dr. Ohshima will present a general overview of Etoys, accompanied by a live demo, and will discuss, from a historical perspective, how some of the most compelling ideas of, and experiences with, the various precursor systems are manifested in Etoys.

3.2 Etoys from the perspective of Technological Novelty and Relevance

Panelist: Scott Wallace
- Senior Computer Scientist - Viewpoints Research Institute, United States (scott.wallace@vpri.org) - is one of the principal designers and developers of Etoys and of the Squeak platform itself. A former teacher of mathematics and computer science, he has also worked as a software researcher and developer for
Hewlett-Packard, Apple Computer, and Walt Disney Imagineering. He has worked under Alan Kay since 1989, when he joined Dr. Kay's "Vivarium Project" situated at the Open School of Los Angeles, while both were at Apple Computer. Scott has a BS in Mathematics, and an MS in Computer Science, both from Stanford University in California.

**Summary**

Squeak Etoys features a variety of software and user-interface innovations. We will review some of the salient features -- fresh inventions as well as refinements of earlier ideas -- from the standpoints both of technological novelty and of technological relevance to the modern setting of rapidly growing worldwide use of personal computers in education and learning, in many different languages, in a variety of educational systems, running on a variety of computing platforms, with varying degrees of network connectivity. The system runs bit-identically on most modern platforms, including PC, Macintosh, and Unix, including the XO Laptop. It is free and open source. It is fully multilingual, and has been translated into many languages. It includes 2D and 3D graphics, images, text, drawing and painting, particles, presentations, web-pages, videos, sound and MIDI, etc. It includes the ability to share desktops with other Etoys users in real-time, so many forms of immersive mentoring and collaboration can be done over the Internet. A purely object-oriented language underlies the entire system; the language is accessible to users using a uniform tile scripting metaphor with a drag-and-drop interface. Users whose needs exceed the tile system can graduate to use of more conventional programming tools.

### 3.3 Etoys and children’s education

**Panelist: Marta Voelcker**

is a Brazilian social entrepreneur that believes that information technology can be of great improvement for children’s education. Co-founder and Executive Director of Fundação Pensamento Digital, she coordinates projects in Brazil to promote ICT access and professional development for educators from telecenters and schools. Since 2004 she is a research collaborator at UFRGS, currently a PhD student in Information Technology for Education. Since 2007 Marta integrates the research team from UFRGS that works with OLPC’s XO laptops to guide and analyses the use of one to one computing at Luciana de Abreu School in Porto Alegre.

**Summary**

describe Etoys as a resource to transform learning. Children use Etoys to make their own models, stories, and games. It's a highly effective way to teach math, science, and language arts, although many children won't realize this.
3.4 Current Etoys communities

Panelist: Kathleen Harness
is a retired music teacher, who now works for the Office for Mathematics, Science, and Technology Education at the University of Illinois and as an enrichment teacher in the Champaign Public Schools. She has not only developed Etoys curricula, project plans and support materials, but has also conducted numerous workshops for both children and adults.

Community
Etoys Illinois – www.etoysillinois.org - The goal of EtoysIllinois is to help children learn to use Etoys and to ignite an enthusiasm for expressing ideas using the language of the computer. EtoysIllinois is an initiative of the Office for Mathematics, Science, and Technology Education at the University of Illinois Urbana-Champaign whose goal is to develop and freely distribute educational materials that will help teachers learn to use Etoys with their students. New materials are always being created. Experienced teachers are available for workshops and advice.

Panelist: Timothy Falconer
is the president of Waveplace Foundation, an organization that raises money to purchase laptops for children, creates Etoys training materials, and inspires teachers to use computers in new ways. In 2008, Waveplace conducted Etoys pilots in Haiti, Nicaragua, Florida, and the Virgin Islands, training 25 teachers and 100 children, each with their own XO.

Community
Caribbean and Central America’s schools using one laptop per child. In October 2008 Waveplace implemented the Seymour award, a contest among children from their benefited schools, about creating animated stories with Etoys. The contest has motivated students, teachers and the community to increase use of Etoys.

Panelist: Bruno Sperb
is a Psychologist and a research collaborator at the Lab of Cognitive Studies at UFRGS University. Bruno integrates the research group that guide and analyze the use of one laptop per child in School Luciana de Abreu in Porto Alegre. Since 2007 he has been teaching Etoys for children and coordinating workshops for teachers.

Community
– Luciana de Abreu School using XOs laptops, in Porto Alegre – Brazil – The project based learning approach is the focus that will be highlighted by Bruno. The
way that the one to one approach increase learning possibilities will be explored by Bruno as well.