Toys and games, story-telling and drama, futuristic learning environments

Welcome to experimental school environments

Experimental school environments (ESE) is a new i3 research programme which from 1998 to 2001 will research new learning environments for the 4 to 8 years old. Ten ESE projects and three working groups were selected this spring from a much larger set of proposals, and the selection was celebrated with a project negotiations kick-off meeting in Genval (near Brussels) in late June. i3magazine has managed to obtain descriptions of the projects and working groups which we hope will all be able to start their work before or around November 1998 - subject to successful contract negotiations, of course. As the following descriptions show, there is ample opportunity for cross-fertilisation with the ongoing i3 research projects.

C3 - Children in Choros and Chronos

C3 will develop prototypes of location-sensitive devices, designed to support spatio-temporal cognitive abilities of young children. These new tools would be evaluated iteratively by the psychological/pedagogical members of the consortium using classroom-based ethnographic methods.

CAB - Construction kits made of Atoms and Bits

Starting from the basis that knowledge is actively constructed in the mind of the learner and not just transmitted from teacher to pupil, CAB aims at providing children with new types of construction kits based on 'smart' Lego bricks. These kits will enable them to observe and adapt the behaviour of constructions (e.g. gadgets and robots) they have built themselves. The behaviour of these constructions is dependent on sensors and their configurations, and children can modify their behaviour by reprogramming and reconfiguring the building blocks.

CARESS - Creating Aesthetically Resonant Environments in Sound

CARESS aims to develop the physical and cognitive skills of young children (perform, communicate, listen and compose) through new sound environments and sound therapy. The project will develop new devices, sensors and sensor-to-sound interfaces for this purpose. Building on experience with disabled children the project aims to extend methods to mainstream groups.

CHAT - Children's Awareness and Information Technology

CHAT is a working group. The group has expertise in child development, reasoning and awareness that would independently evaluate new IT tools developed in i3 ESE projects.

ETUI - Intelligent Toy for Reflective Learning

ETUI aims at exploring conceptual support for children's learning goals through the development of a new intelligent physical device, the Etui. This device will allow 'programming' by direct physical manipulation or other multi-sensory stimuli, supporting collaborative and constructivist learning.

KIDSLAB - Designing with Children

KIDSLAB is a working group. It will provide child centred design strategies as well as evaluation competencies across the range of ESE projects.

KIDSTORY - Developing Collaborative Storytelling Environments for Children, with Children

KIDSTORY centres around the development of sharing and team skills, as well as multiple forms of literacy and narrative (e.g. visual, textual, audio). The project will develop new shared user interfaces and displays that are sensitive to input from and output to multiple simultaneous users. The co-operative learning environment includes real physical objects that are interactive and that relate to virtual environments and representations of people. Children will participate iteratively in the design of this interactive media space.

LEARN - Linking Educational Artefacts and Resource Networks

LEARN is a working group. The team which has expertise in early childhood will independently evaluate the emotional well-being of children and their disposition to learn, when using the new IT tools developed in i3-ESE projects.

NIMIS - Networked Interactive Media In Schools

The objective of NIMIS is to develop an augmented classroom for early learners. It aims at promoting and supporting a range of classroom activities in collaborative learning through the development of multi-user interactive tools such as large interactive whiteboards linked with a range of other tools integrated in the classroom, such as physical interaction devices and animated agents.

PLAYGROUND - Animated Playgrounds for Learning

PLAYGROUND will develop a game environment in which children will not only play by the rules but also with the rules. The project aims to design and evaluate 'playgrounds' where children can play, create or change the rules of their own games using tactile, oral and physical means. One playground will be built on ToonTalk, a system that allows programmes to be expressed as animations. Evaluation of the playground will be made through comparison with a second playground, OpenLogo, a non-textual interface with non-animated code.

POGO - PoGo : Alive and Learning

Children contextualise experience through stories, storytelling and imagination. POGO will develop an environment and a range of new tools allowing to build and

share stories that augment children's fantasy and imagination. POGO will be a living augmented media environment based on a hybrid of physical and virtual tools, within which characters can be moved from a virtual environment into the real world. Work is based on a process of parallel and iterative development, involving observation, concept creation, design, early mock-ups and evaluation.

PUPPET - The Educational Puppet Theatre of Virtual World

The starting point of this project is theatre and drama. PUPPET aims at enhancing children's learning through externalisation, i.e. to enrich children's role-playing, social skills and narrative skills through creation of characters and plays through the use of a virtual puppet theatre. With the system proposed, children will be able to create animated virtual actors, define the roles and scripts for these actors in a shared space, and use these tools to create collaborative theatrical 'productions'.

STORIES - Today's Stories

STORIES aims at developing social and communication skills in the context of everyday activities. The goal is to provide children with 'a personal diary' tool, based on a wearable video camera that captures the meaningful events in a child's everyday life. The events will be edited through a Diary Composer, a multimedia environment allowing children to form a collective diary of interrelated episodes. Based on such material, and drawing on recent approaches from developmental psychology and ethnography, a process of dialogue, reflection and understanding is foreseen that will involve children, teachers and parents.