Zoom Media Lab & The Virtual Collection of Children's Everyday Culture

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ABSTRACT
The Virtual Collection is a project by ZOOM Children's Museum, Vienna. It is a part of the new Media Lab, which will be opened in September 2000.
The collection comprises objects of popular children's culture - a field, which has, to date, been neglected in digital archiving. International cooperations with other Institutions are being targeted to achieve most possible variety. The collection will be accessible in the internet and serves research purposes.

KEYWORDS: children's museum, collection, new media, internet, research

UMA
UMA is a company specialised in interactive media environments and internet applications with widely recognised experience in the fields of conception, planning and application of large-scale 3D web applications. The company was founded in 1994.
UMA is represented in numerous public institutions of the federal government and the province of Vienna as well as in committees of the EU. In addition, UMA is recognized as a competent consultant for the internet technology sector. One of UMA's chief tasks is the development of digital, interactive environments for modern knowledge sharing. Novel concepts in knowledge transfer are thus developed in close cooperation with museums, universities, ministries and governmental institutions.

ZOOM Children's Museum
The ZOOM Children's Museum is to be the first children's museum located in one of the world's largest cultural centres. In autumn of 2001, the new museum quarter will be complete, and the children's museum will move into the new facilities comprising an area of 1,600 square meters.
One hundred thousand visitors are expected yearly.

The ZOOM Children's Museum and the company UMA have been working together in the implementation of new media in exhibits and workshops for quite some time.

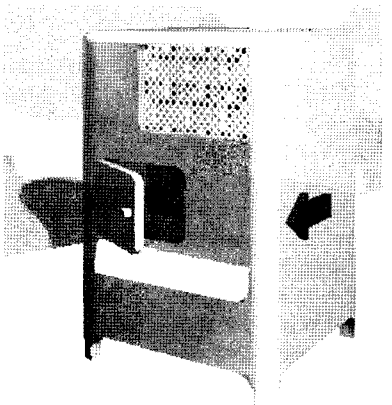
INTRODUCTION
The Media Lab in the ZOOM Children's Museum in Vienna/Austria is to be the first permanent facility in a children's museum that confronts the topic "children and new media". Thus, the museum is setting leading steps in the field of education & new media, assuming an essential position as compared on an international level.

Parents, teachers and children discover a place which offers the possibility of taking part in playful activities and of contributing their own creative input achieved through the implementation of the most recent technology in connection with specially developed hardware and software.
Designed for school classes visiting the museum during the week, the Media Lab is divided into stations, in which the children reach a common outcome using teamwork.
Independent work, team spirit, respect and cooperation are promoted in the Media Lab in a playful atmosphere which encourages experimentation. The resultant works are then displayed on the web page of the ZOOM Children's Museum – the ZOOM World.

Part of the Media Lab is the Virtual Collection of the Children's Museum currently under expansion: with the reopening of the Children's Museum in autumn 2001, the collection will focus on popular children's culture, accessible in digitised form.
This archive represents the first basis worldwide for scientific observation of popular children's culture.
The Media Lab's specially developed stations along with the connection of the children's creations with the internet form an exceptional basis for cooperation with partner institutions.

THE NEW MEDIA LAB

Resulting from successful cooperation between ZOOM and UMA in the past, the idea of creating a permanent facility in the Children's Museum, which confronts the topic "Children and New Media" and "Virtual Collection" arose, becoming the Media Lab.
The Media Lab offers children the opportunity of entering a new world of experience and of discovering and living out their creativity with the newest media and technology.
Designed for school classes during the week and individual visitors on the weekend, the Media Lab appeals to parents, teachers and children, where innovative ways of learning are pursued in cooperation with scientists and artists.



Trouser Pocket Scanner, model (input device for the Virtual Collection)

The Media Lab was designed as an interface between the real and the virtual world - in two aspects:
on the one hand, it offers the possibility of entering the world of virtual reality with actual objects produced in the centre itself and the technology offered therein, and, on the other hand, the results of the various classes are displayed on the web site of the children's museum, where they are accessible as a dynamic tool for further use.
The Media Lab is thus the production centre for and starting point of an exciting experience on the web.

Didactic Parameters and Reception

The goal of the Media Lab is to offer children the opportunity of becoming acquainted with levels of abstraction essential in meeting future demands, in a playful environment. Along with perception of the new "interface to the world", the children are confronted with the interface between man and computer or new technology.

The understanding of technical interrelations in the Media Lab not conveyed primarily through abstract ideas but through the active, that is constructive, encountering of cause and effect. This step consequently allows for the much-simplified comprehension of abstract structures, this means that the use of abstract terminology is preceded by the playful acquisition of correlations.

It is not a finished product which results but a technology potential, which can be explored by the children themselves regarding its limitations and qualities: limitations produced by the two-dimensional character of a surface or of the rigidity of predetermined forms and signs, as well as qualities, resulting from crossing the boundaries of this two-dimensional or linear form etc.

Children have the task of generating imaginative processes using curiosity and concentration and of tackling the challenges of interactive technology in an experimental environment.

THE VIRTUAL COLLECTION

The virtual collection comprises objects of popular children's culture - a field, which has, to date, been neglected in digital archiving. The collection serves research purposes and distinguishes ZOOM as a committed and professional institution internationally.

The Archiving of Objects With the Trouser Pocket Scanner

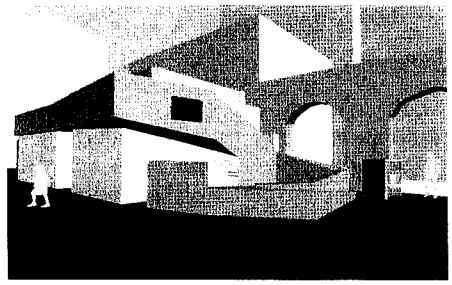
The first encounter with the Media Lab takes place in the foyer of the ZOOM Children's Museum with the "Trouser Pocket Scanner" (provisional title). The Trouser Pocket Scanner, specially designed to digitise objects to be added to the Virtual Collection, will be located in the foyer. In the future, further international museums are to follow as partner: they will also be provided with a trouser pocket scanner and make contributions to the Virtual Collection, thus creating a world-encompassing partner network.

The Trouser Pocket Scanner consists of an appealing casing, which disguises the scanner at first glance.

Implementation Scenario

By means of display and sound, the visitors are encouraged to open the door of the Trouser Pocket Scanner and to place their favourite objects on the rotating tray inside the device. The visitor then presses a start button and the scanning process begins. Simultaneously, questions appear on the display, which must then be answered (name of object, use of object, ...). Once the scanning process is complete, the device thanks the visitor, and a print out of the pictures taken in series emerges from a slot in the machine. The individual pictures can be glued together to produce a flip book. The Virtual Collection is presented on a large flat screen in the lobby and on the

web itself. New objects are continuously uploaded and equipped with meta data by the museum staff. This is realised with the use of a database comprising a web interface.



Foyer ZOOM with Trouser Pocket Scanner (model)

Display of Objects in the Collection

In the collection each object is presented as single image.
With the object appears the relevant information the child has assigned to the object when scanning it: name of the owner, title and function of the object (e.g. good-luck charm). Also mentioned are the archiving criteria (index), the administrator has assigned to the object.
Interested in a certain object the user has the option to switch from the 2d single image view to the animation mode in order to view the object from all sides.

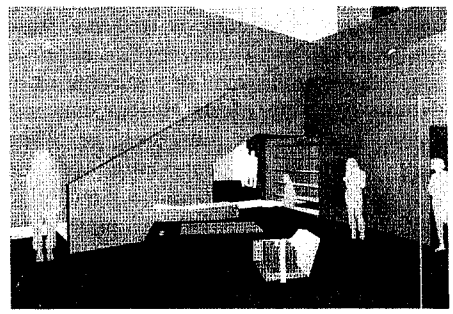
All objects of the collection are administered in a database and thus can be presented in the internet in various structured ways. By ways of many different search critera the collection can be viewed: origin, intended purpose, etc.

THE MEDIA LAB

The Assembly Table

In order to allow a group of children to work with objects in parallel with one another, UMA have designed a new product, which allows teamwork via a digital input device, namely the Assembly Table.
The hardware consists of a table, onto whose surface screen contents will be projected from below. There are then Tracker Target Blocks on the table, each of which represents a digital object created by a child. If a child moves one of these Tracker Target Blocks, the existing picture will change in accordance with the movement. The special merit of this system is that users are not restricted to moving one object at a time (like on a monitor) but can simultaneously move multiple objects.

Individual Stations:



The ZOOM Media Lab (Rendering)

2D-Snapshot Animation

Cartoon-like 2D animations from hand-drawn and digitised objects and drawings are to be created. By moving the Tracker Targets children can put together their scene, and using multiple recordings can produce an animation. The end result is a moving picture animation, which can, for example, then have sound added to it.

The Virtual Classroom

A 3D class photograph of children in a virtual fantasy environment will be displayed. Individual pictures will be produced in groups, and digitally photographed in front of a blue screen. The results are then displayed at the Assembly Table. The end results are:

- An interactive 3D Stereo projection
- An interactive 3D world in web suitable format
- An interactive presentation in the foyer.

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