

Interfacing video capture, editing and publication in a tangible environment

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From textable movies
to moving pictures

... the story of a gui that became a tui

Inspiration

When Marcel Proust writes about having tea and cookies (madeleine), he is inspired by having the experience himself, which brings back memories to his mind.

Textable Movie

By immersion into their own footages connected to memories, people could become engaged into telling rich, and passionate stories, based on past experience.



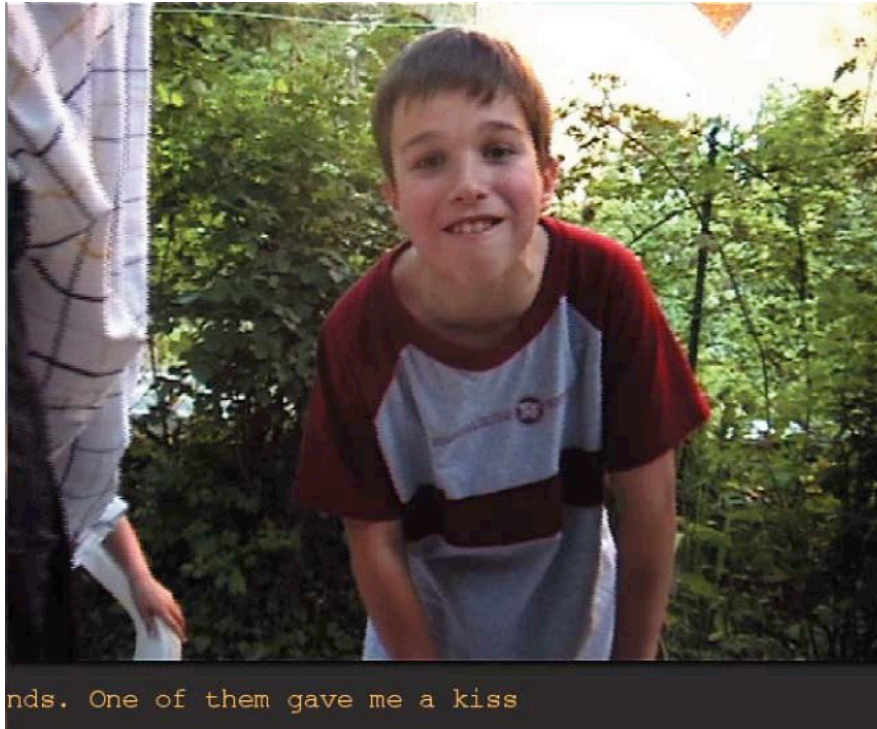
Reference: Vaucelle, C., and Davenport, G. A System to Compose Movies for Cross Cultural Storytelling: *Textable Movie*, In S. Göbel et al. (Eds.): TIDSE 2004

Ideas behind textable movie

open-ended tool
that allows anyone
to become "video-jockey"

enhance accessibility
to media making

context of storytelling
with real time movie making



key points

a command-driven, responsive system which mediates, in real time, the nature (the visualization) of the video segments displayed on the screen

maps descriptive text to media, e.g. various words describing a movie

allows multilingual input, e.g. English, French, Italian

responds immediately to input, e.g. text typed

transcribes text stories to media, e.g. video sequences, sound effects, video effects



International workshop

storyboarding

video making

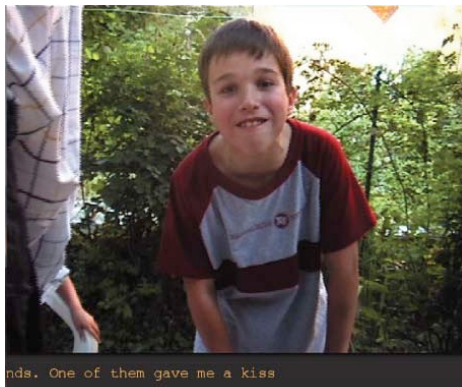
video labeling

Mechanism

from shooting videos to becoming "video-jockey"



video database

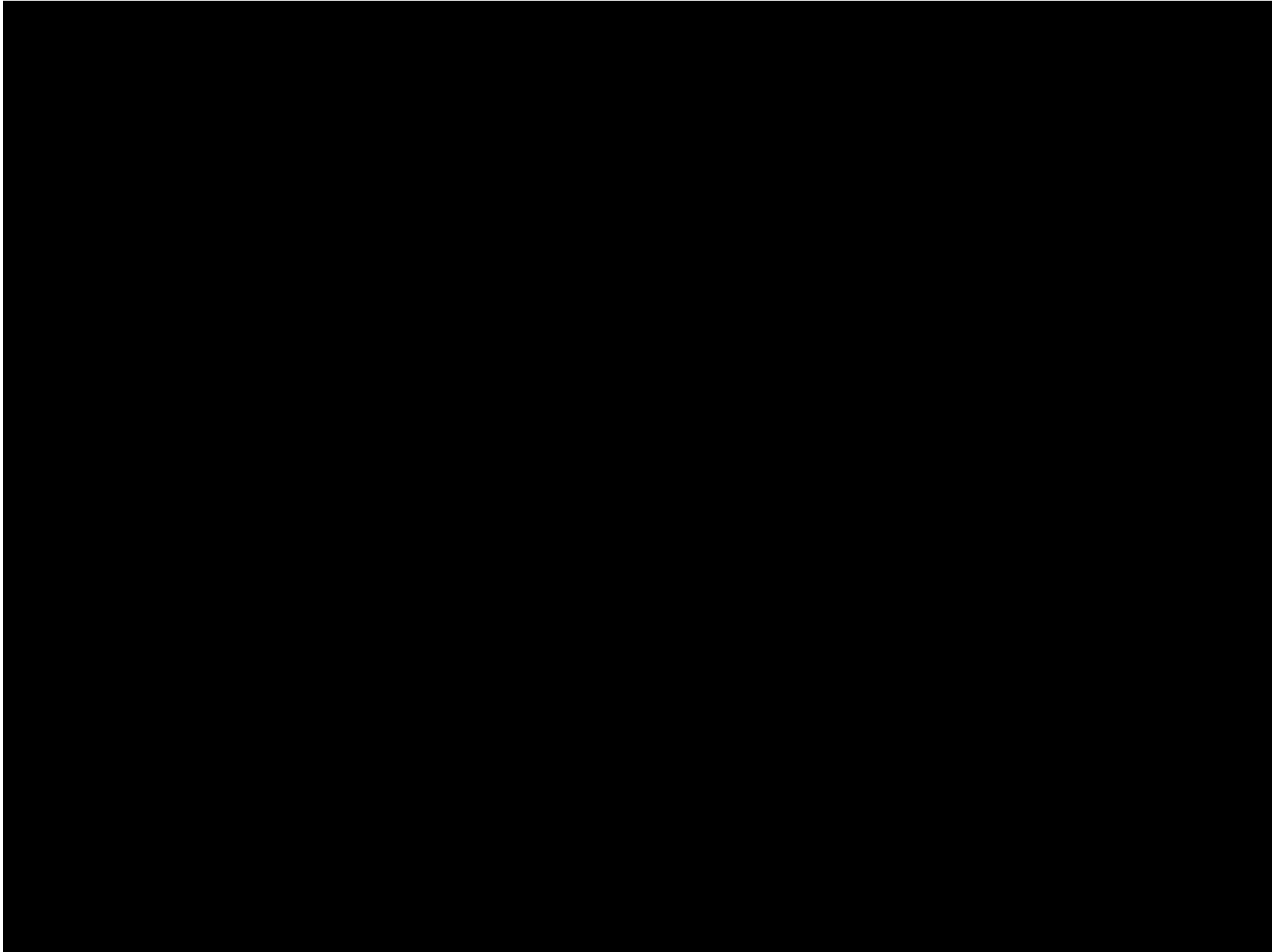


video projection

The workshop features a design cycle that begins with concept development and continues onto storyboarding, video production and editing;

as it is realized, participants test and evaluate their video-stories using Textable Movie.

Video



From GUI to TUI



The tangible potential of the direct use of video container for movie creation presents three opportunities that are critical to this research

- a need for a more transparent relationship between shooting and editing
- enhance collaboration at various levels of production: from shooting to experiencing to creating a composed sound-video
- privilege improvisation for spontaneous creativity
- the reinvestigation of the video & sound medium, allowing a direct and immediate understanding of the effects of combining these elements together

Participatory design sessions

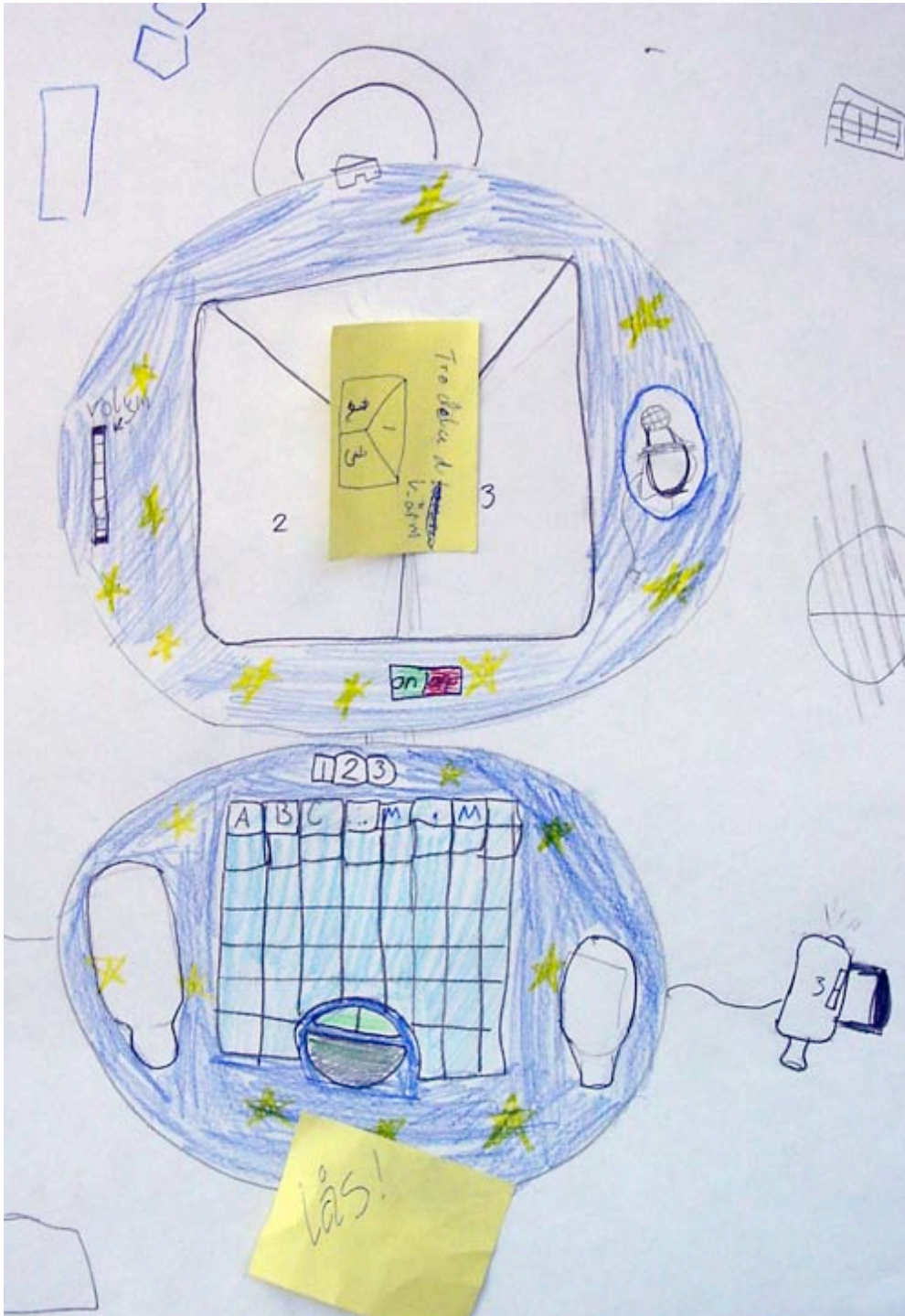
Collaboration with the Umea Institute of Design - research partner Diana Africano

Moderators from Ireland and Sweden organized design sessions with children as co-partners over a period of 8 months.

Moderators brought & test existing technology (RFID tags, Ipaqs, cell phones)



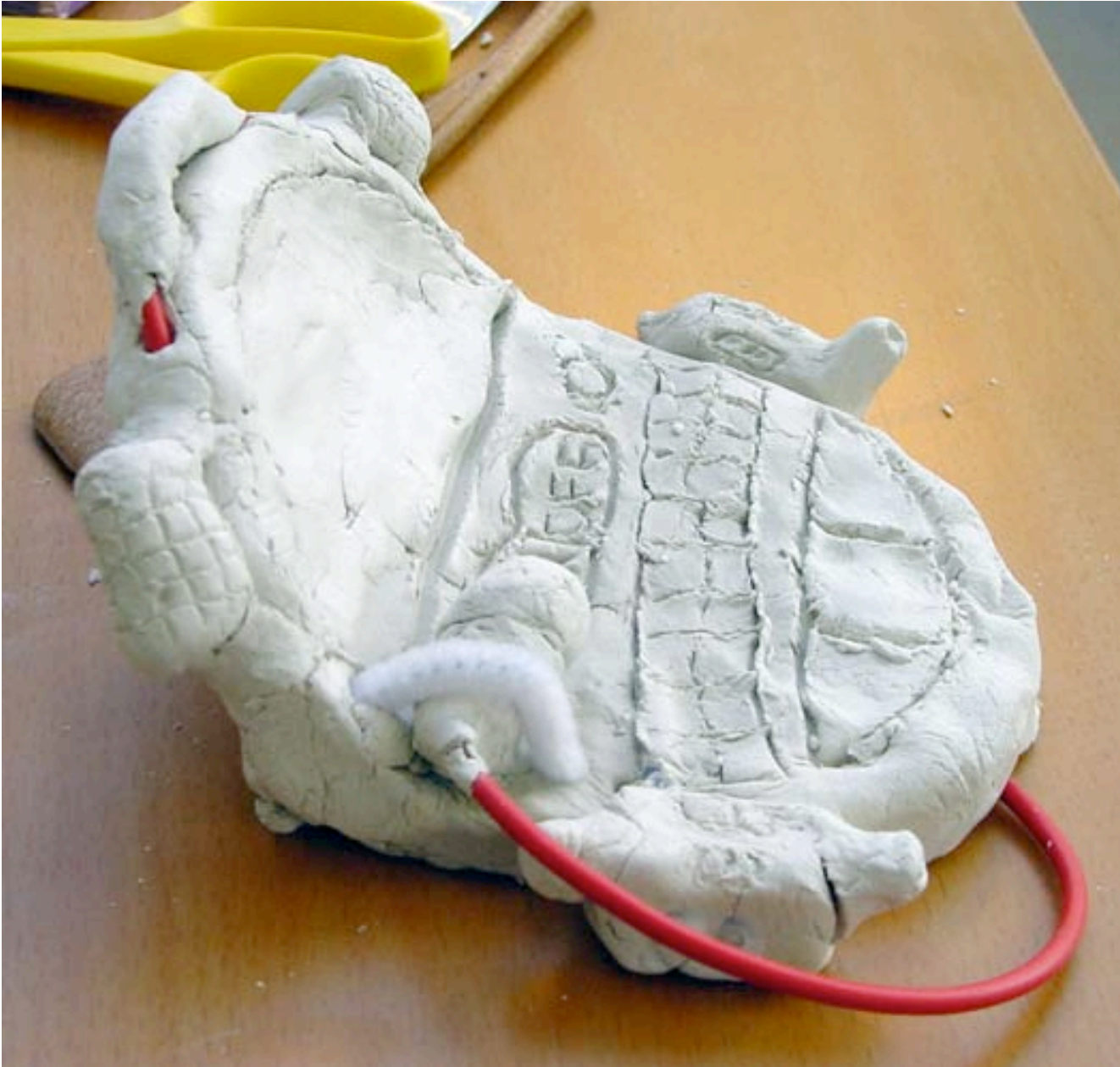
Participatory design sessions - *Craft*



Participatory design sessions - *Craft*



Participatory design sessions - *Craft*

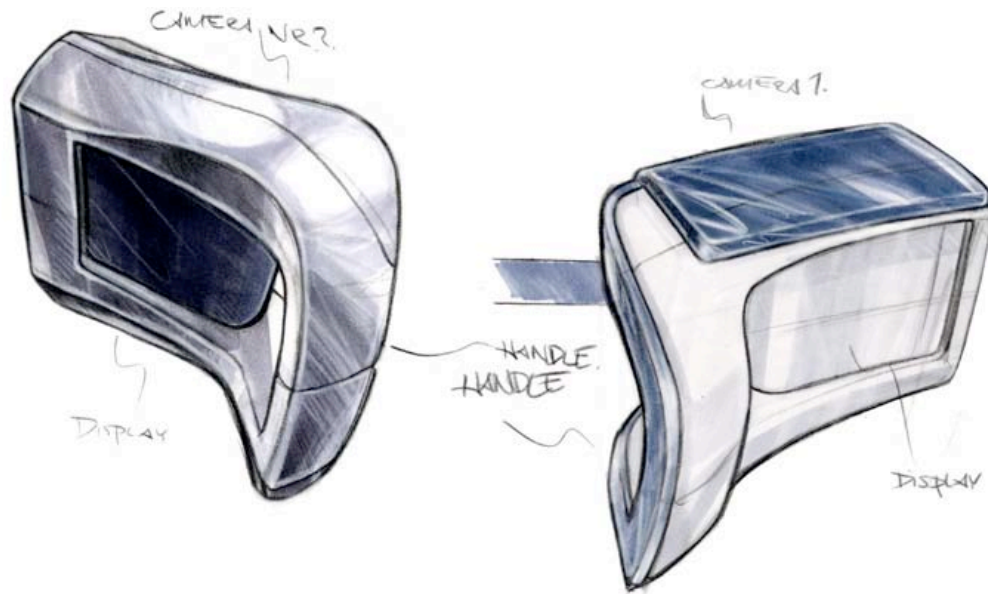




In parallel design sketches

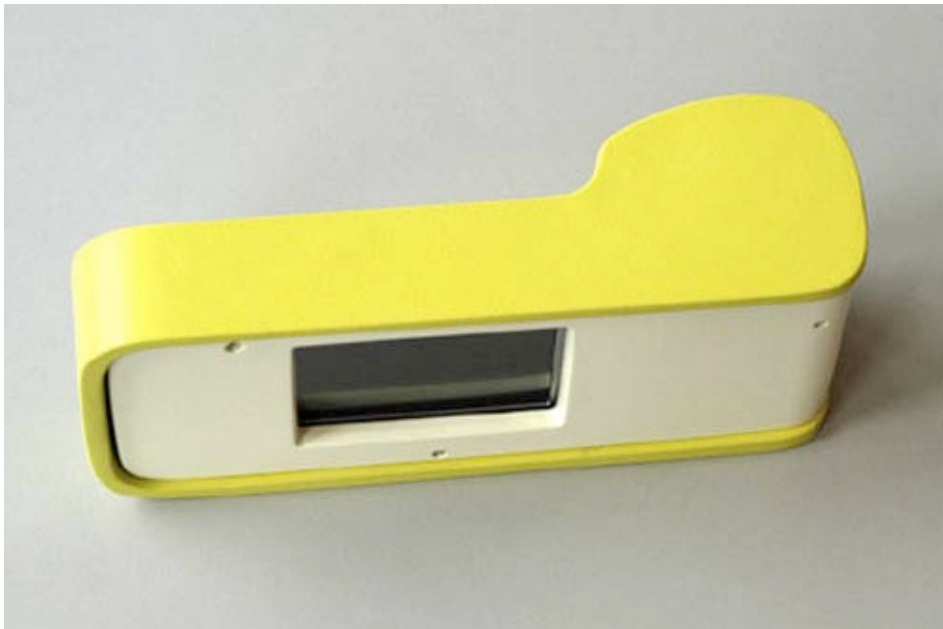


In parallel design sketches

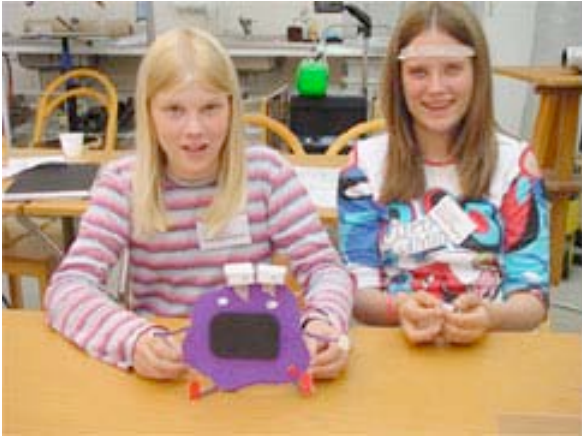




First working prototypes



Participatory design sessions



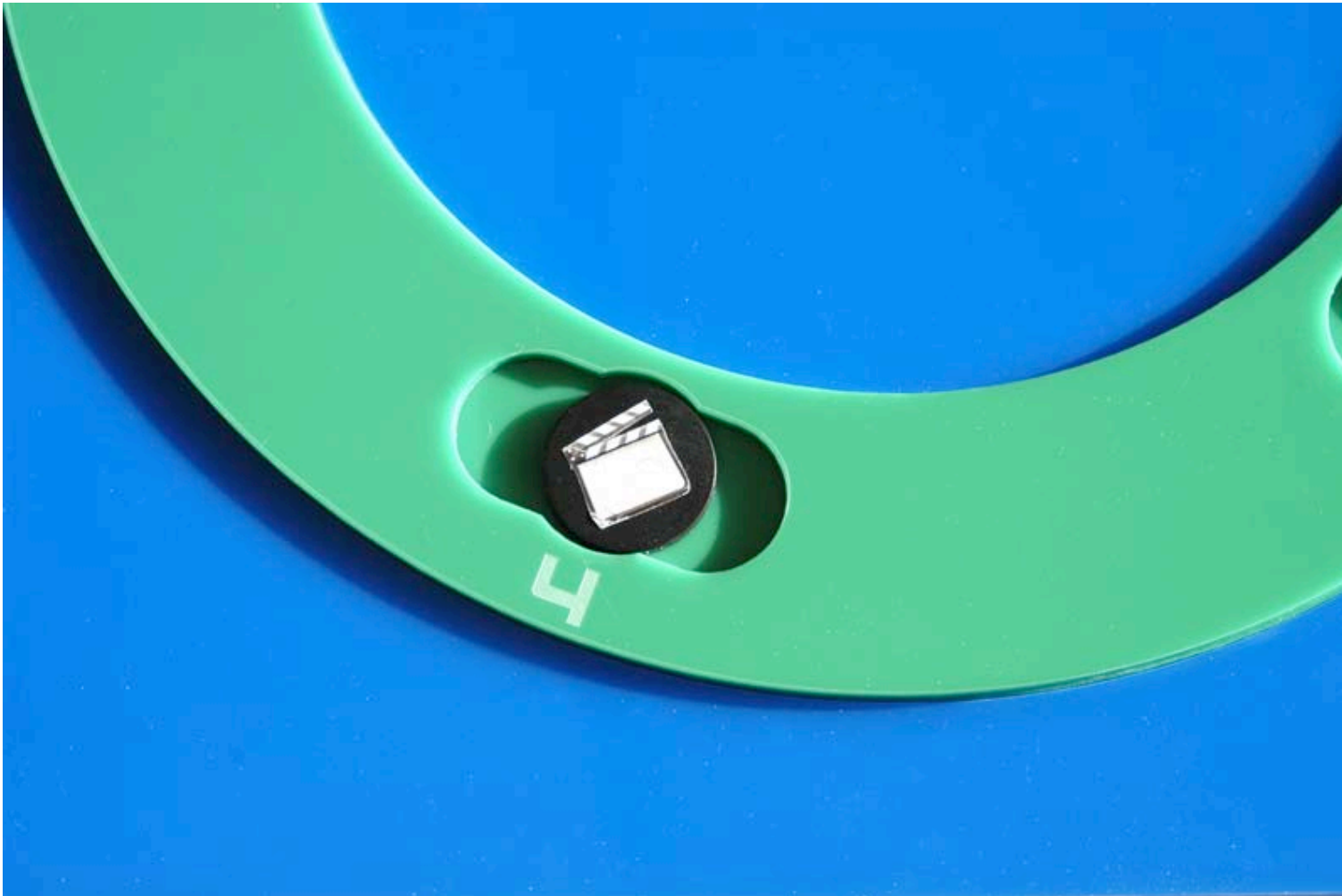
Participatory design sessions - *hardware*



Participatory design sessions - *hardware*



Participatory design sessions - *hardware*



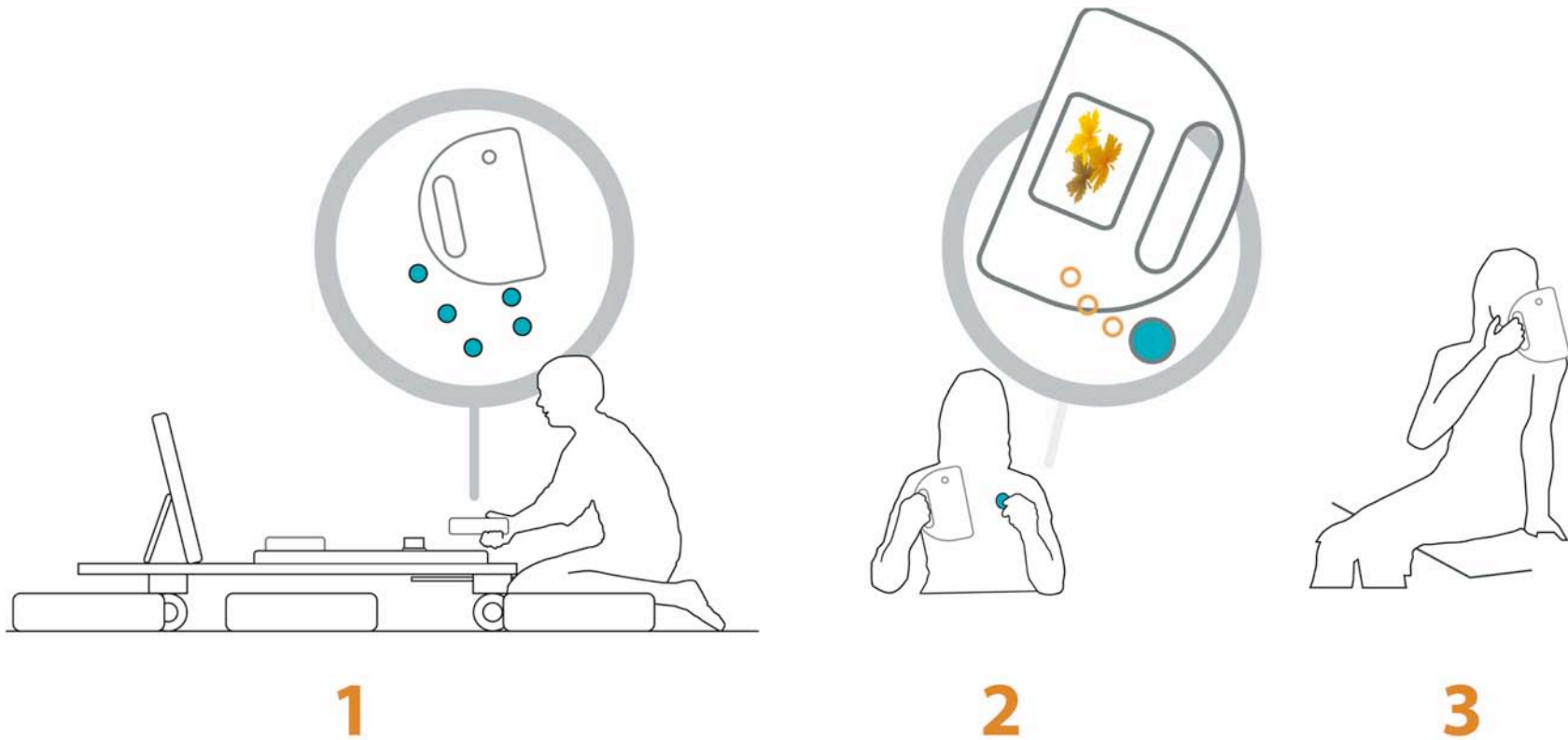
First tests - *video*

QuickTime™ and a
MPEG-4 Video decompressor
are needed to see this picture.

First GUI - video



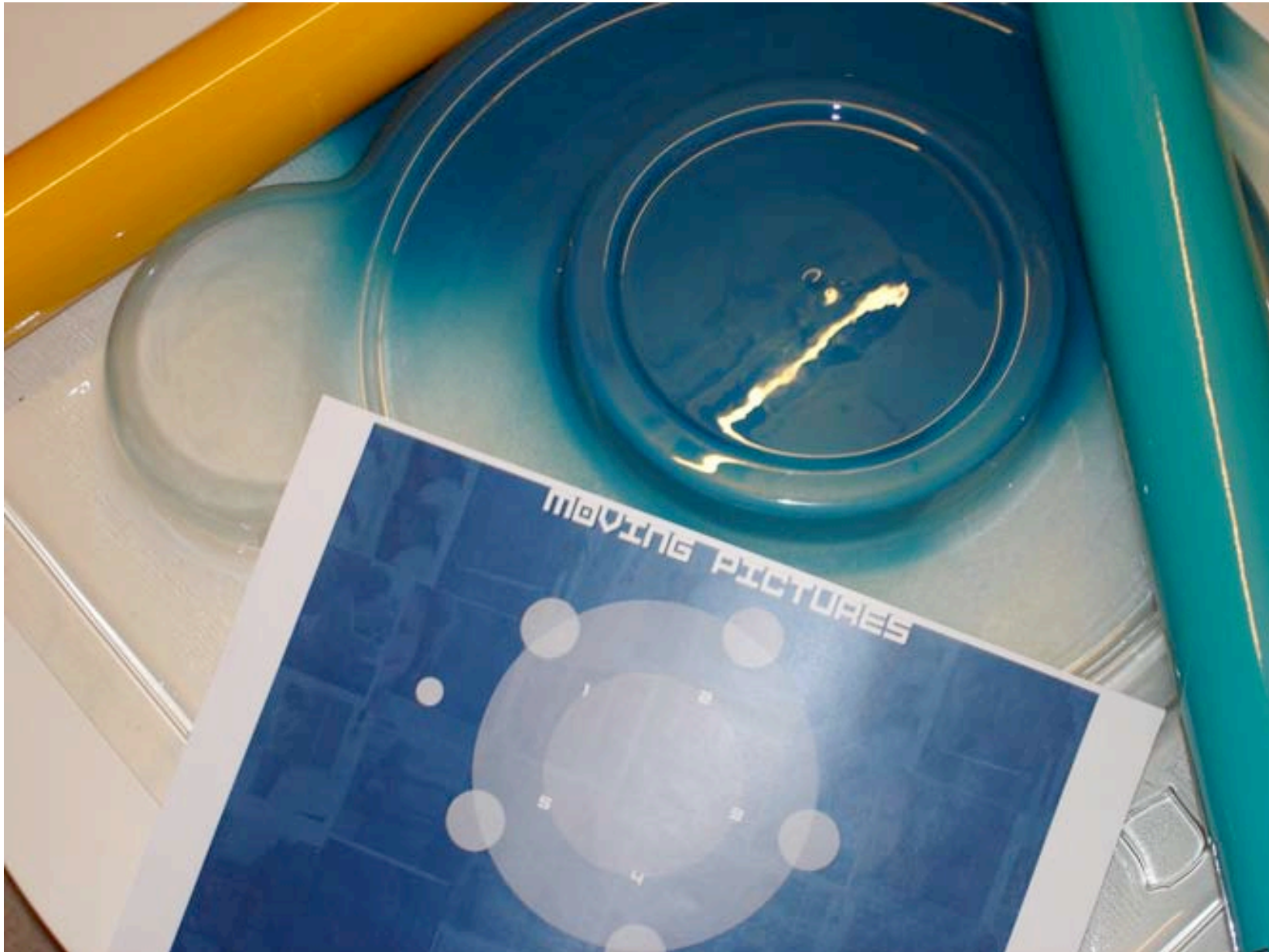
Collaborative Content Creation



Moving Pictures enables a meaningful, spontaneous and collaborative approach to video creation, selection and sequencing.

The tangible metaphor of a token symbolizes a single shot and refers to the different shots in a storyboard.

Building the final prototype





Moving Pictures

We synthesize performance and editing to facilitate a flow between improvisation and postproduction of a movie.

Our multi-user system is targeted for 10-12 year olds. It integrates different layers of complexity, from digitizing the media and performing a movie, to storyboarding a more complex narrative.

Reference: Vaucelle, C., Africano, D., Davenport, G., Wiberg, M., and Fjellstrom, O. 2005. *Moving pictures: looking out/looking in*. In ACM SIGGRAPH 2005



storyboard
+
video
jockey



camera

camera



camera



camera

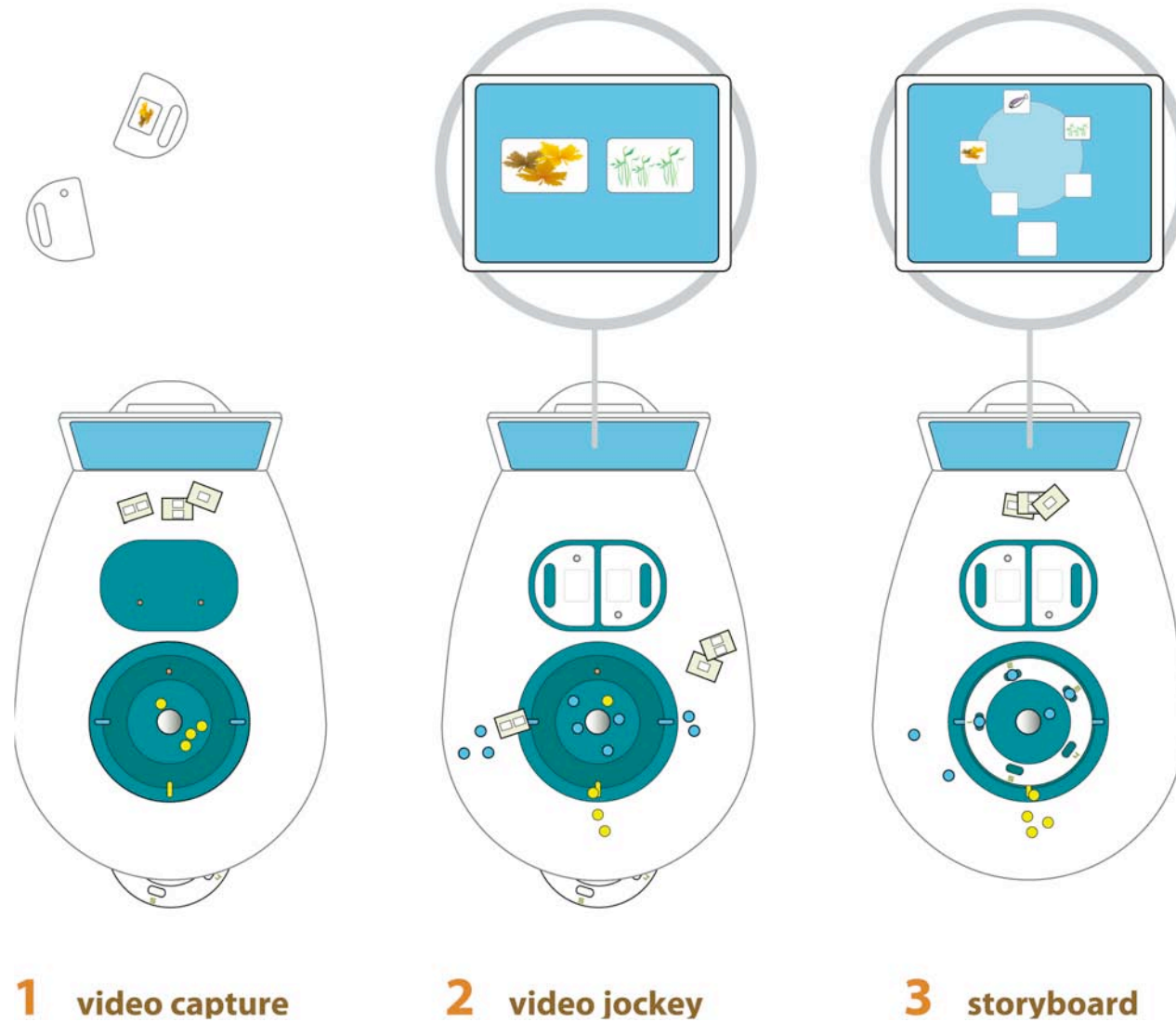


Two video camera

tokens



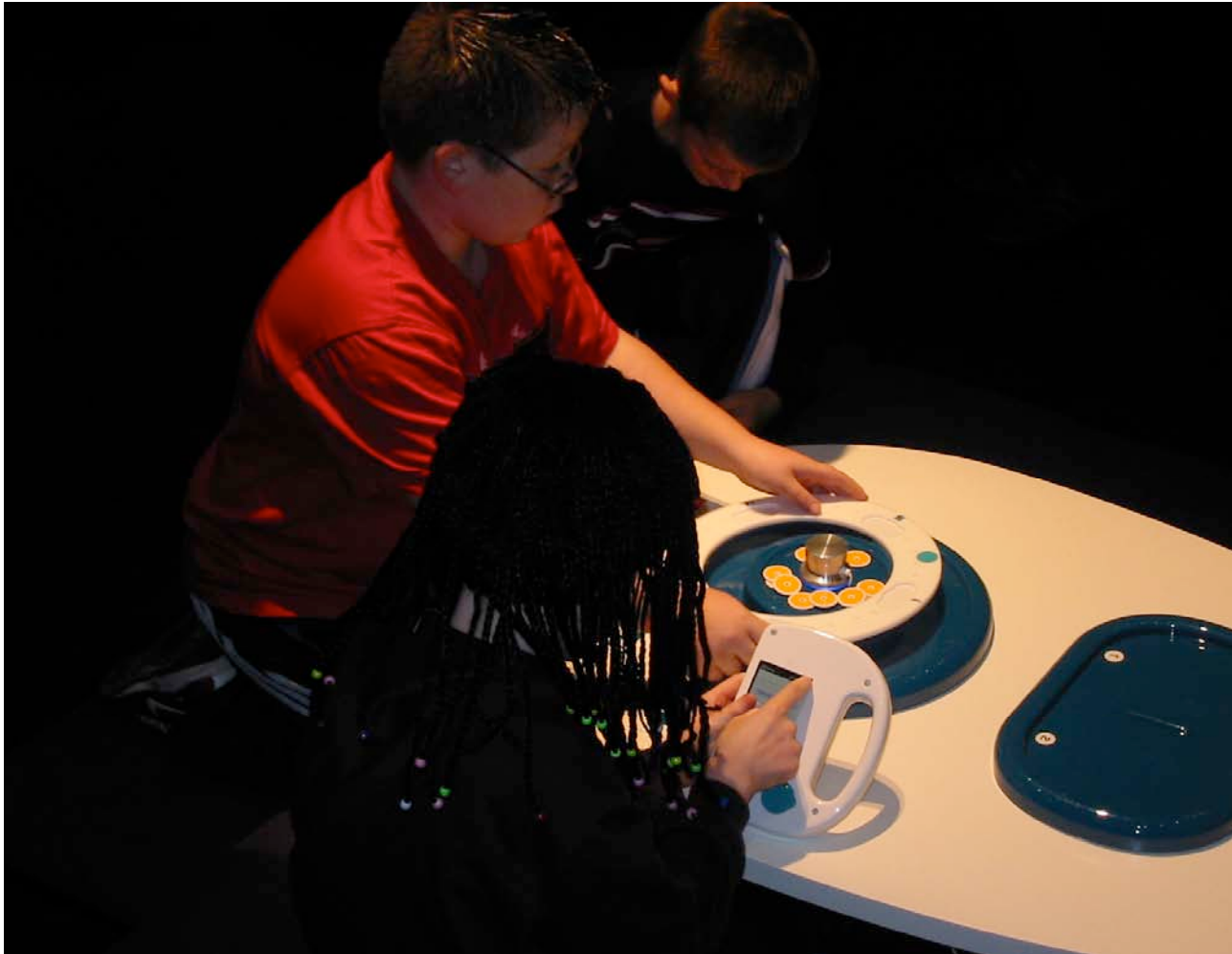
Blue and yellow tokens to record



The system is composed of:

two video cameras with token recognition, a video jockey to perform instantly the videos and sounds captured, a storyboard to compose a final movie.

General user interaction observations

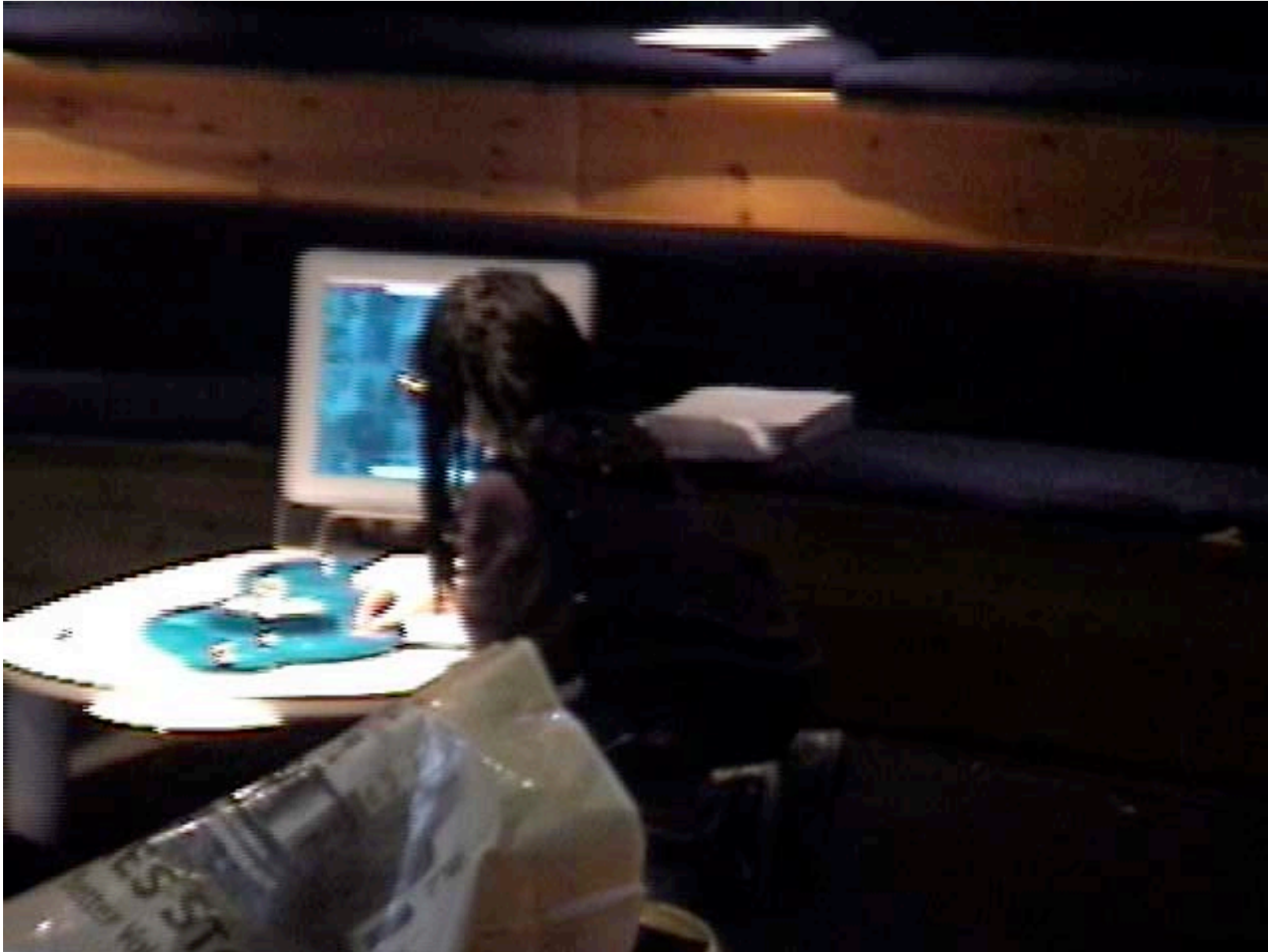


Observing more than 200 children from Boston, Dublin and Umea showed how intuitive the system is.

Observations - collecting video clips on the streets of Dublin



Observations - getting to know the Moving Pictures platform by retrieving their collected data



Observations - figuring out the video storyboard without explanation



Results - children as co-designers

Group 1 of 7 12 year-old girls and group 2 of 5 11 year-old boys and 6 11 year-old girls.

General interaction: Half of the children understood it without instruction.

Confidence in the system: The lack of explanation on what to do with Moving Pictures made the children exchange ideas and explore the system with each other.

The use of the tokens: The children actively used the tokens for data retrieval.

Results - children as co-designers

The level of complexity of the interaction: Half of the children retrieved data created by others and the other half mixed their own footage with sound effects.

MP cameras versus professional cameras: Children found easy to remember how to interact with them and easy to use. Some children like using a smaller camera to carry in the pocket.

Round shape of the table: Preference for a round shaped table to interact with simultaneously as well as to move around. According to the children, a square table would have meant a four user table.

Table size: Children suggested that the table should be smaller if used in a home. However, the table was too small to accommodate more than eight users at a time.

Results - children as co-designers

Group Size: If group bigger than 20, not all participants got a chance to interact during the process of previewing and arranging movies and sounds.

Effectiveness of Group Work: Children recommended the working groups to be smaller, but they also expressed that it was more fun to work in a large group. In contrast, some children expressed that working in a group made the work easier and more effective, because participants helped each other in generating ideas for movie making.

Agreement vs disagreement: Many children considered disagreement as being a negative factor in their creative work. They explained how they made efforts in achieving a consensus.

Final evaluation



Our final evaluation consisted of two two-weeks workshop.

Children participated voluntarily.

Participants are from: - a local school in Umea, Sweden
- a tailored workshop on video making in Dublin, Ireland.

Final evaluation



In all sessions, children were free to choose their role in the film-making activity.

Driven by their personal interests, they chose to be film script-writers, director, actors, camera-men, or scenographers.

Children and moderators discussed and clarified the tasks for each role during the sessions.

Most children chose the same role repeatedly.

Themes for the movies

Children chose and selected the following themes:

- . Journalistic interviews limited to five shots
- . Explorations in the city using more than ten shots
- . Five individual shots of the children in front of their favorite Dublin place
- . A five shots criminal story
- . A theater play using ten shots

The most popular movies were the individual shots and the criminal story

Movie example 1 - individual shots of the children in Dublin



Movie example 2 - a criminal story



Results - Individual shots vs a story

	Individual shots	The story
<i>Paper storyboard / planning</i>	No storyboard. The children had in mind their favorite place they wanted to be videotaped in front of.	Children spent an hour planning their story, storyboarding and looking for the right spot.
<i>Video Capture / process of revisiting/erasing shots</i>	One child revisited the way to jump from one side to the other side of the frame to create continuity within the final movie. His peers were part of his exploration and repeated the same idea.	The shots were constantly revisited, erased and accumulated. Children labeled the token to have the choice of different shots for the same segment of the story.
<i>Visualizing briefly the shots</i>	All of the shots were pre-visualized and organized.	All of them were visualized and organized.
<i>Editing using the storyboard ring on the table</i>	No editing of the sequences seemed necessary. Children used their appearance order when they started shooting.	Children enjoyed different outcomes using the same shots. They end up selecting three final movies.
<i>Editing a soundtrack using the respective yellow tokens</i>	One specific sound per location. Children did not choose to perform complex sound mix, but carefully chose their sounds.	Children performed a complex sound mix, overlapping sounds and creating continuity within the soundtrack.
<i>Publication as performance</i>	Children did not try various movies out of the shots, only performed a final movie.	Children kept three favorite movies for videojockeying.

The most complex features of MP were used during a narrative movie

Results - Cultural exchange ?

The students did not want to edit the other country's final movies.

They were excited to watch the variations in the movies and to continue them.

This shows potential for cultural exchange through video making.

Exchange - a movie that started in Dublin and finished in Umea



Discussion - benefits of TUI such as Moving Pictures

- . Allows quick revision of footage
- . Invites for improvisation
- . Engages in group collaboration
- . Sustains children's attention - with iMovie children lost focus and patience during editing (study for Textable Movie)
- . Allows experimentation with movie sequences and alternation of shots
- . Constraints children in selecting what is important during capturing (a more natural process for children)



Discussion - limitations of TUI such as Moving Pictures

Architecture

- . Needs scalability design to centralize data for international exchange
- . Technology should assist the user while capturing content
- . GUI should better assist the user while navigating through the retrieved content
- . New communication technology for multiple video platforms

Moving Pictures design features

- . RFID -> Pattern based technology with any cell phone
- . Moving Pictures should offer more editing possibilities. We tested tangible tokens as transitions and physical cuts
- . Moving Pictures should allow users to record and play with their own sounds

Conclusion



Interface video capture, editing and publication in a self-contained platform

Understand interfaces that empower people in expressing and sharing ideas about their social environment

Systems for constructing personal content

Acknowledgment Media Lab Europe where

Textable Movie + Moving Pictures emerged. **Glorianna**

Davenport who supported this research from 2002-2005. **Diana**

Africano and **Oskar Fjellstrom** for our collaborative research

on Moving Pictures in 2004 at the **Umea Institute of Design**

in Sweden. **Joakim Salberg** for the model making. **Jenny**

Fredriksson for co-observing the participatory design sessions in

Sweden. **Michael John Gorman**, **Leo Mc Kenna**, the Ark in

Dublin, **Vincent Le Bail**, **Eoghan Kidney**, the School of Ostermalm.

Brendan Tangney at Trinity College. **Diana Africano**, **Adam Boulanger**,

the conference reviewers for their feedback on the paper. The tangible

media group - past and present members - the storynetworks group and

Carol Strohecker at MLE and The MIT Media Lab community.

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