



XCTL System

Visualization of the use of XCTL by
multimedia means

21.08.03



Visualization of the use of XCTL by multimedia means

Contents

1. Introduction
2. Demonstration
3. Making and Effort
4. Further Development



Initiation



Novi Sad 2001:

Wish for a multimedia (MM) presentation to allow a better understanding of the XCTL problem domain.



First Steps (Chronology - 1)

- Nov. 2002: Decision for a MM production
Previous knowledge: none !!
- Dec. 2002: First dialogue with the physicists
 - Contents:
 - Announcing the intent
 - Presenting own imaginations
 - Discovering their imaginations
 - Aims:
 - Attracting the physicists
 - Concretion of contents
 - Result:
 - Interest of the physicists present 😊



First Steps (Chronology - 2)

- Jan. – Mar. 2003: concretion of project and material securing
 - 19th of Feb. 2003: Issued financial support request for the project within the framework of MM supporting program of HU Berlin (7 pages)
 - Short title: XCTL Project: Multimedia presentation
 - Contents: beside others
- Target groups
- Physics: students and lecturers
 - Pupils: „Doors Open Day“ at HU
 - Informatics: students and lecturers
 - Partners from South East Europe



First Steps (Chronology - 3)

- ...
 - Contents: beside others
 - Target groups ...
 - Applied fonts
 - 10.000 Euro for HW and SW
 - 1 student assistant
- (1 year with 80 hours per month)

First Steps (Chronology - 4)

- Jan. – Mar. 2003: concretion of project and material securing
 - 4th of Mar. 2003: acceptance of request funds **in part**:
 - 4.000 Euro for HW and SW
 - 1 student assistant
- (1 year with 40 hours per month)





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Demonstration (1)

The implementation of the product is done by
Andreas Wenzel (student assistant).
He started on 5th of August.

→ **Up to now very little time!**



Demonstration (2)

Characteristics of MM program

- Platform: Windows (UNIX later)
- Display: 1024 x 768 pixels
- Program exists in two variants
 - .exe → Main program with Flashplayer 6 included
 - .html → Using MS Internet Explorer

→ **Demonstration**



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Making and Effort (1)

Architecture and Scripts

- U. Sacklowski, Mrs Richter (physicist)
- Utilities: Word, hand sketches and screenshots

→ example



Making and Effort (2)

Implementation

- A. Wenzel
- Tools
 - Flash MX with scripting language (main tool)
Design vector graphics once and publish to print, the web, and Macromedia Flash.
 - Freehand MX (for difficult drawings)
Create interactive content and Rich Internet Applications.



Making and Effort (3)

Videos

- Shot by a colleague from the CMS (Computer and Media Service at HU)
 - Cutting and titling by same colleague from the CMS, Mrs. Richter and U. Sacklowski
- Software: Media100

Photos

- Pictures taken by a colleague from the CMS
 - Edited by A. Wenzel
- Software: Photoshop

Audio (Speech) → later (Nov. 2003?)



Making and Effort (4)

Object	Technics	PC (Software) <small>Dev. platform: Windows</small>	Format	Integration
Laboratory application flow	Video camera	Media 100	MPEG-1	Flash MX + Action script
Speech (later)	Micro	Cooledit (?)	WAV, MP3	
Laboratory picture	Digital camera	Photoshop	TIFF, JPEG	
Document	Scanner	Silverfast Photoshop	PSD, JPEG, GIF, PNG	
Text	PC	Flash MX	FLA	
Graphic	PC	Flash MX (Freehand MX)	FLA	
Animation	PC	Flash MX + Action script	FLA	





Making and Effort (5)

Getting to know on your own new media and methodology with relatively high effort.

For example:

- Exposure to new media (usage, formats)
- Managing complex synchronisations
- Working with flash scripts
- Handling dramaturgy
- Estimating the effort

Getting to know on your own new complex tools

➔ Underestimation of effort!

Making and Effort (6)

Two concrete examples:

Make three videos

- Analysis and design: about 3 days
- Shooting: about 3 hours
- Cutting and titling: about 8 hours
- Rendering: about 1 hour

Animation of azimuthal adjustment

- Analysis and design: about 5 days
- Implementation: about 7 days





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Further Development (1)

Restriction: student assistant

- 40 hours per month
- August 2003 – July 2004

Priorities

- More attractive GUI
- Choosing important examples
- Choosing attractive examples

Aim: Motivation of other chairs in the institute of physics, too





Further Development (2)

Products

- Diffraction models (e.g.: Wave fronts after C. Huygens)
- Adjustment: Theoretical explanation with Kossel cones
- Topography: Presentation of further steps

Further Development (3)

→ Demonstration



Further Development (4)



Thank you for your attention!