

XCTL System



XCTL System

The new Structure of XCTL Web Site

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The new Structure of XCTL Web Site

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1. Introduction
2. Technical Structure
3. Formal Structure
 - Introduction
 - Human Factors of Software Systems
 - Examples: XCTL Web Site and get information
 - Examples: XCTL Web Site and maintain the system
4. Structure of the old XCTL Web Site
5. Location, Administration, Access

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Introduction: XCTL Documents as a Whole

- XCTL system: The computer based documents as a whole are on three places:
 - **Web site**
 - **CVS system** (Concurrent Versions System): Source files, ...
 - **Email system**: Personal letter boxes
- (XCTL) Web site: All (XCTL) Web pages in a structured form.

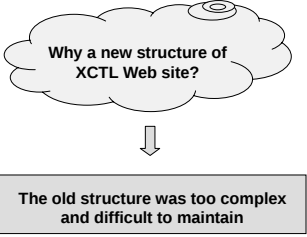
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Introduction: Why a new Structure?



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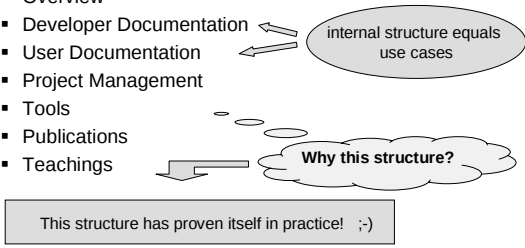
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Technical Structure

- Overview
- Developer Documentation
- User Documentation
- Project Management
- Tools
- Publications
- Teachings



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Technical Structure

- Overview
- Developer Documentation
- User Documentation
- Project Management
- Tools
- Publications
- Teachings

For whom is this structure?

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Technical Structure: For whom?

Experts

- Overview
- Developer Documentation
- User Documentation
- Project Management
- Tools
- Publications
- Teachings

.....

.....

.....

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.....

Beginners

Special point: Documents from the **beginners**

Experts: System developers and administrators
Beginners: Students of the basic project

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Formal Structure: Introduction

What is the optimal formal structure?

↓

This question is the subject of
 „Human factors of software systems”
 (software ergonomics)

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Human factors of software systems: Work System: Elements and Relations

XCTL Web site: what are the elements?

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XCTL System

XCTL Web Site: Work System Elements (1)

user	task		software system
	get information	maintain the system	
beginner	X		Web browser
expert	X	X	+ XCTL Web site

XCTL Web Site: what type of software system is it?

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XCTL System

XCTL Web Site: The Type of Software System

What type of software system is it?

↓

WWW information system

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XCTL System

XCTL Web Site: Work System Elements (2)

user	task		software system
	get information	maintain the system	
beginner	X		Web browser + XCTL Web site
expert	X	X	= WWW information system

→ What says the 'Human factors of software systems' about this kind of system?

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What says the 'Human factors of software systems' about the design of such a system?

I will deal with the design of this system under two aspects:

task: 'get information' only

task: 'maintain the system' only

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1. Design of the WWW Information System

→ 'get information' only

user	task		software system
	get information	maintain the system	
beginner	X		Web browser + XCTL Web site
expert	X	X	= WWW information system

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XCTL System

Human Factors of Software Systems:

Documents about WWW information systems

- Software-Ergonomie und das World Wide Web: 10 wichtige Leitlinien für die Gestaltung von ergonomischen WWW-Informationssystemen (08.07.2002)
<http://vsys-www.informatik.uni-hamburg.de/ergonomie/>
- Die Goldenen Regeln für schlechtes HTML 70 Regeln
<http://www.karzauninkat.com/Goldhtml/goldhtml.html/>

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Die Goldenen Regeln für schlechtes HTML

- The golden Rules for bad HTML – Examples

- Let the people get browsers at first.
- Integrate many Gifs and Java Applets.
- Text must be blinking.
- Use extensive horizontal scrolling.
- Logos must be big.
- Make music.
- Don't check links.
- ...

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Software-Ergonomie und das World Wide Web:

10 wichtige Leitlinien für die Gestaltung von ergonomischen WWW-Informationssystemen (08.07.2002)

- Performanz - kurze Antwortzeiten	Performance – short response times
- Lesbarkeit und Plattformunabhängigkeit	Readability and platform independence
- HTML-Frames: Vor- und Nachteile	HTMLFrames: Advantages and dis –
- Seitenlänge	Page length
- Orientierung	Orientation
- Navigation	Navigation
- Seitenfuß	Page foot
- Hyperlinks: Gestaltung	Hyperlinks: Design
- Konsistenz der Oberfläche	Consistency of interface
- Wahl der URLs	Choice of the URLs

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2. Design of the WWW Information System

➔ 'maintain the system' only

user	task		software system
	get information	maintain the system	
beginner	X		Web browser + XCTL Web site = WWW information system
expert	X	X	

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Design of the WWW Information System

➔ 'maintain the system' only

Which are the relevant aspects?

↓

- The most guidelines of the last point
- +
- Changeability of structure!!
- ...

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XCTL Web Site and get information

Examples and the application of the 10 guidelines:

- Structure of the web site
- Structure of the directory pages
- Structure of the document pages
- Table of the developers documents
- Additional examples

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Structure of the XCTL Web Site and its Evaluation

- Basic (static) structure : Tree
- Hyperlink (dynamic) structure: Network

Orientation +

Basic structure

directory (start page)

directory

document

document

document

document

document pages

document pages (leaves)

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Structure of the Directory Pages

Head

- Navigation path
- Orientation path
- Line

Body

- Title
- Directory Forms: List or Bar

Foot

- Line
- Link to the homepage of the project
- Author with creation and change date

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XCTL System

Structure of the Directory Pages and its Evaluation

Consistency +

Navigation +

- Page head
- If bar directory

Orientation +

- Page head
- Hierarchical titles
- If bar directory

Page foot:

- Navigation +
- Information +
- Author, creation and change date

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XCTL System

Structure of the Document Pages

Page head (optional)

- Navigation path
- Orientation path
- Line

Document head

- Title
- Version, date
- Author

Document body

Page head: not by developer and user documentation

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Structure of the Document Pages and its Evaluation

Consistency +

Navigation +

- page head

Orientation +

- page head
- document head

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Table of Developers Documents and its Evaluation

SE-Phases:	Analysis and Definition				Errors				Design				Implementation				Test	
	1 Gen. Descr.	2 Use Case D.			1 Gen. Description	2 Interface (+Wrappers)	3 Configuration Files	4 File Overview	1 Gen. Description	2 Metrics	3 Dead Code			1 CTE	2 Test Cases			
Subsystems/ Use Cases:	1	2			1	2	3	4	1	2	3	1	2					
Whole System	X	X	-	-	-	X	X	-	X	X	-	-	X					
Flow Control	X	X	X	X	-	-	X	X	-	-	-	-	X					
Gen. Settings	X	X	-	-	-	-	X	-	-	-	-	-	X					

Page length +

- Very compact

Performance + (?: performance for the next step)

- information on page length
- X : long page (red)
- X : short page (blue)

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Additional Examples and their Evaluation

Readability +
Platform independence +

- Test with two browsers (Netscape and Internet Explorer)
- No horizontal scrolling
- Use the style sheet mechanism (also for guideline: consistency of interface):
 - but only for the formats and the colors for
 - headers
 - tables
 - labels and
 - lists

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Additional Examples and their Evaluation

Page length +

- Short page length for all directory pages (most without vertically scrolling)
 - Exception: Homepage
 - Good for experts: high performance, fast orientation
 - Bad for beginners: very complex

→ Experts are the main users!

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Additional Examples and their Evaluation

Links +
Information about format (and length), if other than html.

Publications

- Student Research Projects
 - Johann Ledol, Jens Harnisch
 - Automatisierter Regressionstest des XCTL-Systems Jan. 2002 (zip-Format (ps), 1.32MB)
 - Jens Klier
 - Reverse Engineering: Überarbeitung der Initialisierungsdateistruktur des XCTL-Programms zur Verbesserung der Sicherheit, Jun. 2001 (pdf-Format, 800kB)

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Additional Examples and their Evaluation

Links +
The text must be meaningful.
URLs +
The URL must be meaningful too.

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Design of WWW Information System

→ 'maintain the system' only

user	task		software system
	get information	maintain the system	
beginner	X		Web browser + XCTL Web site = WWW information system
expert	X	X	

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XCTL Web Site: maintain the system

Important aspect: **Changeability of structure**

- Changeability of formal structure: very difficult
e.g. Directory page: another head, foot, ... for all pages ??
- Changeability of technical structure: very important !!!
e.g.:
 - Directory pages: No numeration of topics**
 - Relative Links**
 - Bad examples in the next point

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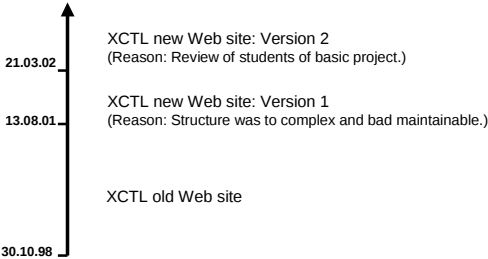
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Structure of the old XCTL Web Site: History



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Structure of the old XCTL Web Site

→ **Demonstration on the original in detail**
(No pages are in english)

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Old XCTL Web Site

Examples and the application of the 10 guidelines:

- Home page
- Directory: I. Overview
- Directory head

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Structure of the old XCTL Web Site and their Evaluation: Home page

Changeability of structure -

- Numeration of topics

Complexity -

- To much topics (new site: only 7)

Performance - (+)

- Negative for experts: No topics from second level
- Positive for beginners

- I. Überblick
- II. Projektprotokolle
- III. Emails mit der Physik (**)
- IV. Programmfiles und web-Dokumentation (**)
- V. Weitere verfügbare Dokumente (**)
- VI. Projektziele
- VII. Grundlagen zum Reverse Engineering
- VIII. Werkzeuge
- IX. Entwicklerdokumente (**)
- X. Benutzer-Handbücher (**)
- XI. Organisatorisches
- XII. Aufgabenverteilung
- XIII. Veröffentlichungen zum Projekt

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Structure of the old XCTL Web Site
and their Evaluation:
Directory: I. Overview

I. Überblick

- Erster kurzer Überblick (30.0kt.1998)
- Einführung in den Gegenstandsbereich (22.0kt.1999)

Technical structure –
(Especially bad for beginners)

Application domain document:
Mix from:

- Introduction
- Project
- Application domain

It misses:

- Glossary

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Structure of the old XCTL Web Site
and their Evaluation:
Directory head

IX. Entwicklerdokumente

Analyse und Definition
Anwendungsfälle: Gesamtvorgänge und Spezifikationen

Autoren: Gruppen projekt98 und projekt99

Navigation –

- No path in page head

Orientation +

- Hierarchical titles

- Detektoren
- Module

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XCTL Web Site: Location, Administration, Access

- **Location:**
Web server by Dept. of Computer Science
- **Administrators:**
Uli Sacklowski and Kay Schützler
- **Access:**
 - Right to reading: All, however parts restricted by **.htaccess**
 - Right to writing:
Administrators: all pages
Students: only their document pages

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