Conceptual Evaluation of a Complex Interactive Retrieval Interface for Usability Information

Project Overview & Exploratory Results

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Human-centred design process
ISO 9241:210

- Need for human centred design
- Understand and specify context of use
- Specify the user and organizational requirements
- System satisfies specified requirements
- Produce design solutions
- Evaluate designs against requirements

Use Cases
Personas

Content-/
Functional-
Requirements

UI-Specifications
Prototypes

Results of Expert-Reviews
Survey-Results
Reports from User Tests
Current Management of Usability Information

Pictures: usability.de, usability-toolkit.de
Problem

All this usability knowledge **available within many organizations** is not used systematically:

- **Cost** for Evaluations:  
  Don’t repeat yourself

- **Quality improvement**:  
  Don’t repeat mistakes

- **Internal results**:  
  Look at most specific information first

- **Internal Usability Guidelines**:  
  Create and maintain your own library on an empirical basis
Research Project

User Research

Model & Prototype Generation

Evaluation

- Akute Gestaltungsentscheidungen
- Umfassend in Bereich einarbeiten
- Standards ableiten
- Produkte vergleichen
- Umsetzung verfolgen
- Informationen bereitstellen

IWS: Usability-Informationssystem

System

User

Concepts
Interviews and Focus Groups

- Help for Design-Decisions
- Guidance for employees new to an application domain
- Derive Standards & Pattern
- Compare Products
- Tracking of User-Requirements
- Information for others

Usability-Practitioner

Tools
- Documents on Fileservers
- Issue Tracking
- Spreadsheet-Overviews

User Research
Model & Prototype Generation
Evaluation
Research Project: Model Generation & Evaluation

Scenarios of Use (Rosson & Carroll 2002)

Wireframes based on Scenarios

Usability-Database for Input of Usability-Results

Corpus with Results of Usability-Tests by students
Prototype

Interactive Search Tool

- Support Exploration
- Support simple information analytics
Evaluation of Prototype

Evaluation

- Cognitive Walkthrough with Usability Engineers from different Organizations (10 Interviews)
- Qualitative Feedback about Prototype
- Technology Acceptance Model (TAM)
- Questions about perceived potentials and risks

Results:

- Validated Taxonomy for Usability Information
- Validated and prioritized Requirements for Usability Information Systems
Evaluation: Conceptual Analysis
Content-Types, Classification, Links

User concepts not represented within the System
• New Concept

System concepts that the User has to know about
• Change Interface?
• Remove Concept?

User- and system concepts are similar, not identical
• Change System

Analysis of User-System-Misfits
Example: What is a Usability-Finding?

**System**
Findings occur only in one Usability-Test

**User**
Findings grouped by number of tests they occur in. Recurring Findings (e.g. iterative Usability-Tests)

Data Model ↔ Fundamental Domain-Concepts
Lessons Learned:

Complex search-system and analytical tasks are not easy to evaluate
- Users with domain knowledge needed
- Interactive User Testing needs training time
- Conceptual Walkthrough appears to be a reasonable compromise

Analyze users comments and questions, try to find underlying needs...
Literature


