
From Learning Object Management ... to Contextualized Learning

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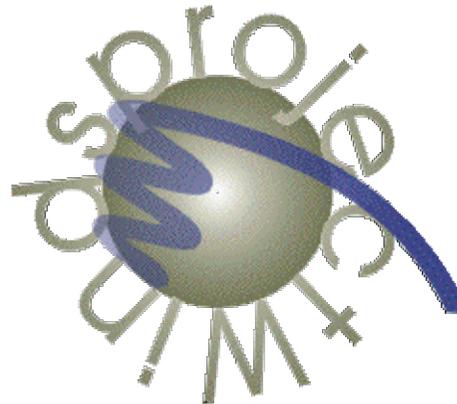


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Overview

- The WINDS Project: Understanding *domain specific content requirements*
- Author42: Authoring and Sharing RLOs *the Users' View*
- The ProLearn Network: Personalization based on standard RLOs
- The RAFT Project and the Mobile Collector: From RLOs to Learning in Context:

WINDS: Web-based Intelligent Tutoring system for Design



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User Requirements Analysis in WINDS

- 20 European Universities for Architecture, Design and Construction Engineering creating RLO
- Structuring Content in small chunks was quite unpopular. Content Sharing highly requested
- Constructivistic approaches often preferred to computer based tutoring and sequencing based
- Manual and automatic indexing needed

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Content Model in the WINDS project

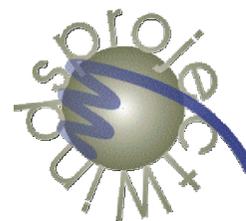
▪ Learning Objects

- Course Units,
- Learning Units,
- Learning Elements: Content, Assessment and Exercise Elements
- Content Blocks with different pedagogical roles

▪ *Concept Network*

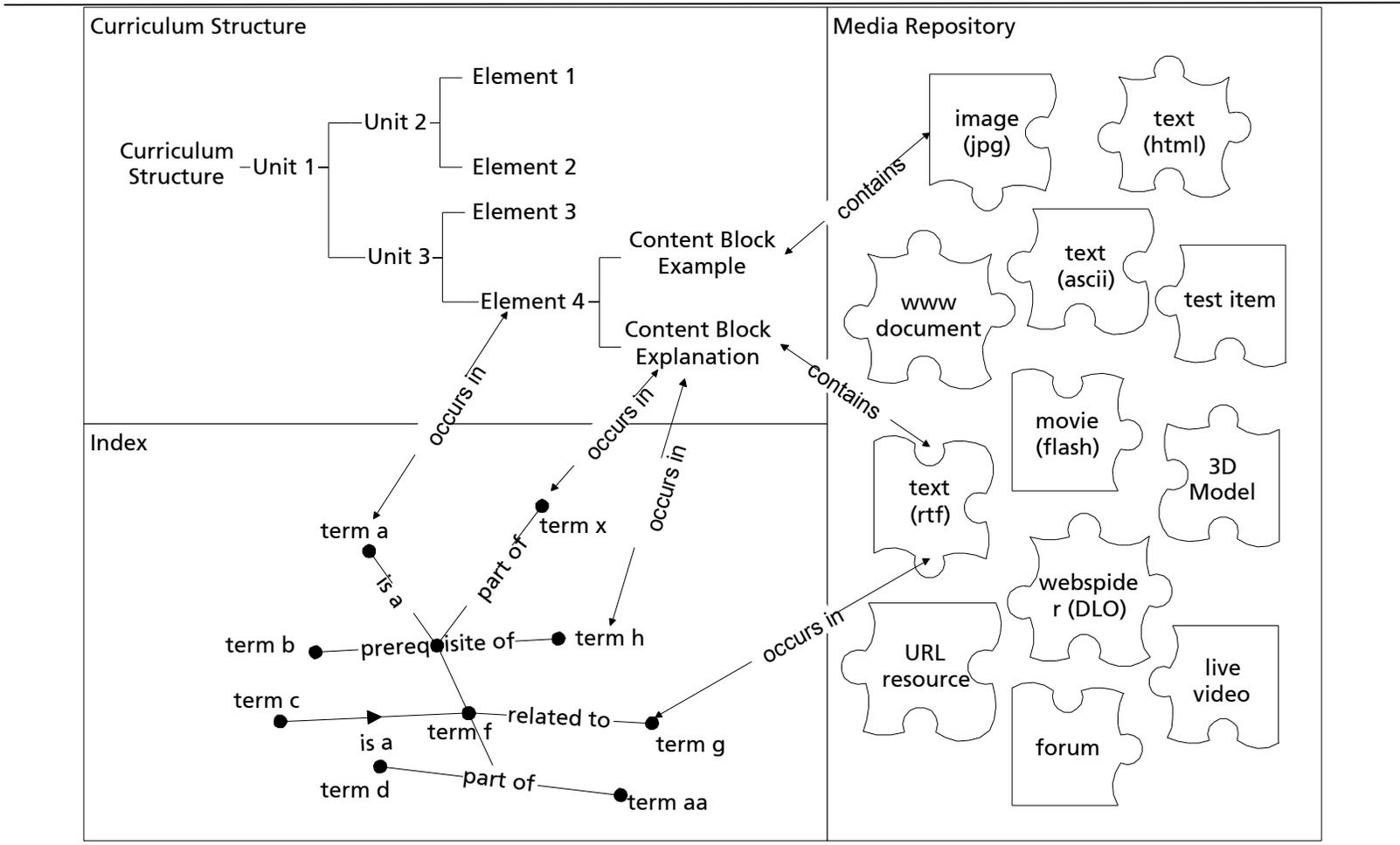
- Concepts and complex bidirectional relations

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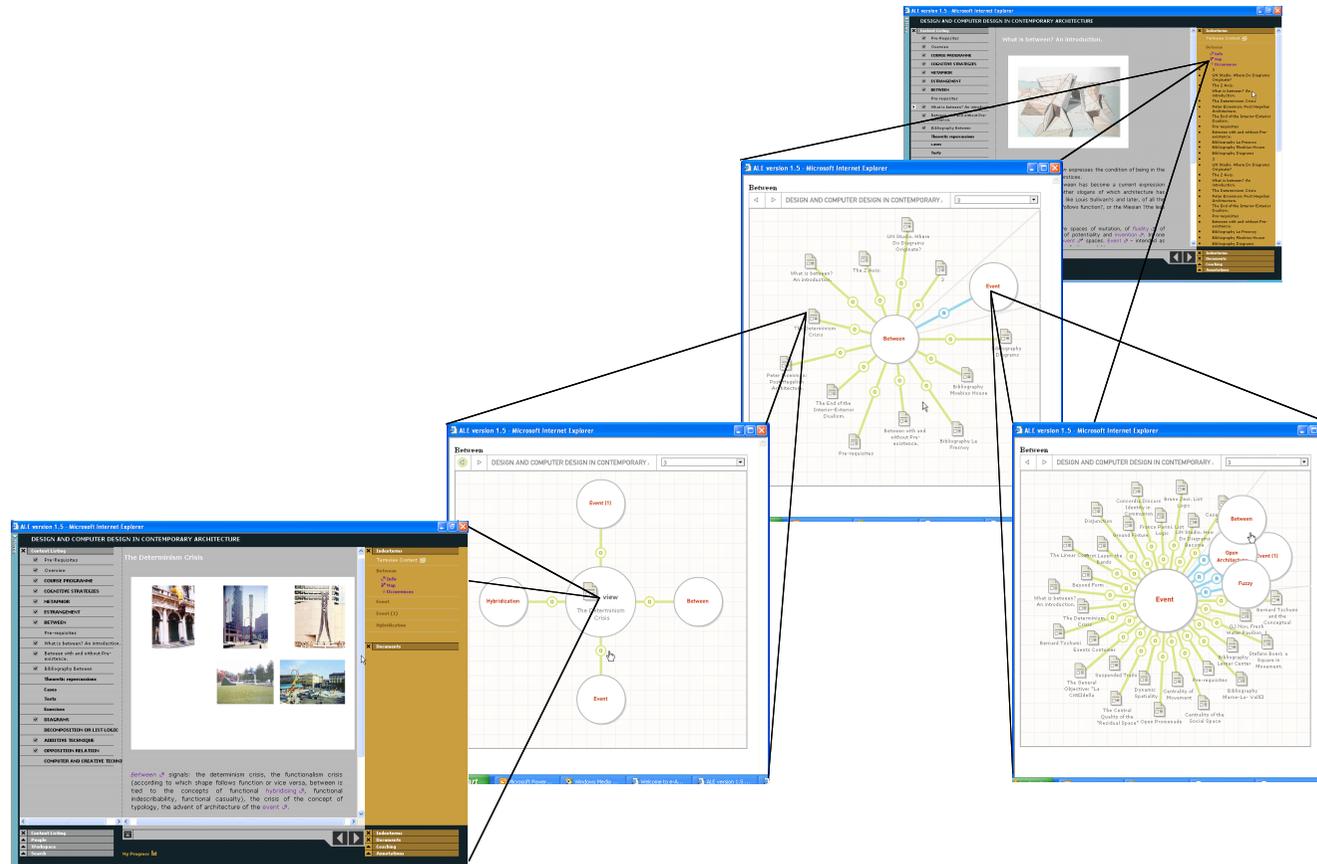
WINDS Content Model Overview



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Navigation in Semantic and RLO Layer



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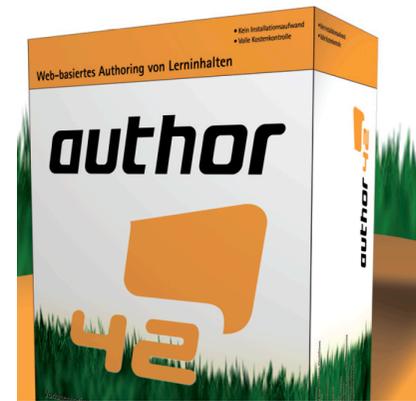
Web-based authoring of SCORM 1.2 compliant content



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Author42: Web-Based Authoring

- Offline authoring tools third party production
- Self produced content production with basic tools
- Media Libraries and content standardization
- Web-based authoring and cooperative content production



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The authors' view on content

- Professors, Assistants, Teachers, Trainers, Professional Content Developer Teams
- Pedagogical Templates for quality assurance von learning objects and visual structuring
- Easy content integration with flexible reuse of assets, content sharing on different levels
- Flexible export of content for different designs, formats, and navigation structures

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The user's view

The screenshot displays a web application interface for a user named PHILIPP KRÖPELIN. The top navigation bar includes a logo for 'bureau 42' (learning teaching brokering), the user's name, and a login button labeled 'abmelden'. Below this, there are three main navigation tabs: 'Mein Profil' (green), 'Autoren' (red), and 'Administration' (dark red). A search bar with 'Suche' and a help icon with 'Hilfe' are also present.

The main content area shows a breadcrumb trail: 'AILB Autorenschulung > LERNEINHEITEN > Arten von Seitentemplates > Text und Bild'. Below this, there are four tabs: 'Struktur', 'Bearbeiten', 'Ansehen', and 'Metadaten'. The 'Ansehen' tab is active, showing a list of learning units. The first unit is titled 'Text und Bild' and contains two paragraphs of text and two images. The second unit is titled 'Lesen' and contains one paragraph of text and one image.

The left sidebar contains a navigation menu with the following structure:

- Herausgeberumgebung
 - Mathematik 2
 - Mathematik 3
 - AILB Autorenschulung
 - LERNEINHEITEN
 - Bausteine für die Seitenerstellung
 - Arten von Seitentemplates
 - Text
 - Text und Bild**
 - Bild und Text
 - Visualisierung
 - Bilder und interne Links
 - Text und interne Links
 - Bild und interne Links
 - Text und interne Links mit ein...
 - Lesen
 - Kapitel Rechnen
 - Arten von Testtemplates
 - Lexikon
 - Index
 - Beispielkurs

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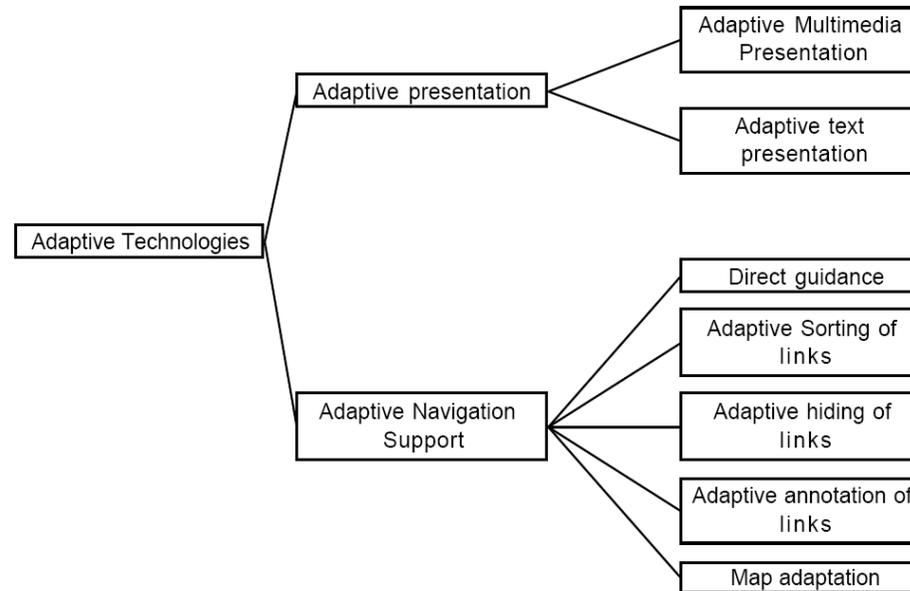
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ProLearn: Personalization based on standard RLOs



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ProLearn: Personalization and Standards



When to use what adaptive method
to reach which pedagogical goal?

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Adaptive Instructional Methods

▪ **What is adapted ...**

- Learning goal
 - Content
- Teaching method
 - Content
 - Teaching style
 - Media selection
 - Sequence
 - Time constraints
 - Help
- Presentation
 - Hiding
 - Dimming
 - Annotation

▪ **... to what features...**

- Learner
 - Preferences
 - Usage
 - Previous knowledge, professional background
 - Knowledge
 - Interests, Goals
- Task
 - Context
 - Complexity
- Situational Context
 - Position
 - Setting
 - "Ubiquitous Learning", Learning on demand

▪ **... and why?**

- Didactical reasons (Salomon 75)
 - Preference model
 - Compensation of deficits
 - Reduction of deficits
- Ergonomic reasons
 - Efficiency
 - Effectiveness
 - Acceptance

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The RAFT Project and the Mobile Collector - from RLOs to RFTOs



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... to Context Management

- Understanding Contexts and Situated learning
 - Situated Learning
 - Context Specific Interactions needs

- RLO Production and Delivery in Context
 - Mobile authoring and content delivery
 - Authentic collaborative learning tools

- Flexible Metadata Management
 - Supporting multiple schemas
 - Schema transitions and Context Metadata

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Standard
Gruppen
Attribute

[Neue Gruppe hinzufügen](#)

Gruppe	Attribute	Aktionen
<p>▶ <u>Technical</u> This category describes the technical requirements and characteristics of this resource</p>	Size, Location, Type of Requirements, Format, Name of Requirement, Duration, Maximum Version, Minimum Version, Installation Remarks, Other Platform Requirements,	<input type="button" value="↑"/> <input type="button" value="↓"/> <input type="button" value="🗑️"/>
<p>▶ <u>General</u> This Group describes the general information of the resource as a whole</p>	Language, Catalog Entry, Title, Keyword, Description, Coverage, Structure, Aggregation Level,	<input type="button" value="↑"/> <input type="button" value="↓"/> <input type="button" value="🗑️"/>
<p>▶ <u>LifeCycle</u> This category describes the history and current state of this resource and those who have affected it during its evolution</p>	Status, Version, Contribution, Date, Role, Entity,	<input type="button" value="↑"/> <input type="button" value="↓"/> <input type="button" value="🗑️"/>
<p>▶ <u>Educational</u> This category describes the key educational or pedagogic characteristics of this resource.</p>	Context, Interactivity Type, Interactivity Level, Learning Semantic Density, Language, Intended User Role, T Difficulty, Typical Learning Time,	
<p>▶ <u>MetaMetadata</u> This category describes this metadata record itself rather (who created this metadata record, how and when) than the resource</p>	Catalog Entry, Role, Language, Cotribution, Version Schema, Entity, Date, Name of Metadata Schema,	
<p>▶ <u>Classification</u> This category describes where this resource falls within a particular classification system.</p>	Purpose, Source of Taxon Path, Taxon ID, Keywords, Description,	
<p>▶ <u>Rights</u> This category describes the intellectual property rights and conditions of use for this resource</p>	Cost, Copyright and Other Restrictions, Description,	
<p>▶ <u>Relation</u> This category defines the relationship between this resource and others.</p>	Kind, Resource, Description, Catalog Entry,	
<p>▶ <u>Annotation</u> This category provides comments on the educational use of this resource and information on when and by whom the comments are created</p>	Person, Date, Description,	

Standard
Gruppen
Attribute

Name:

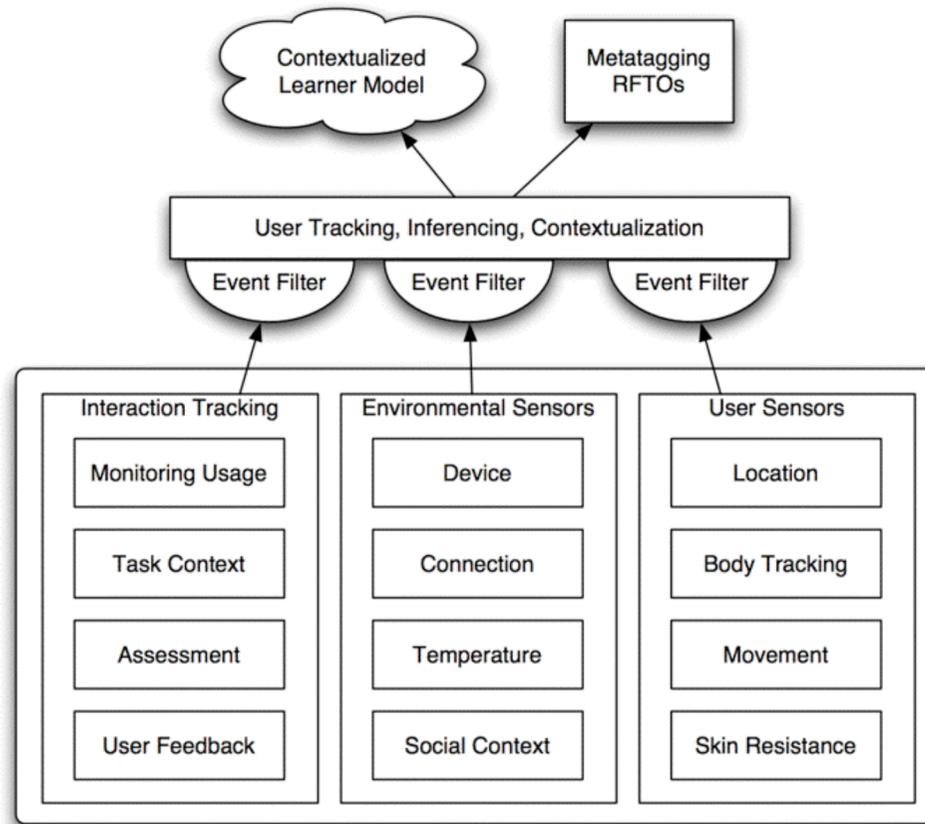
Beschreibung:

[In XML-Datei exportieren](#)

Speichern

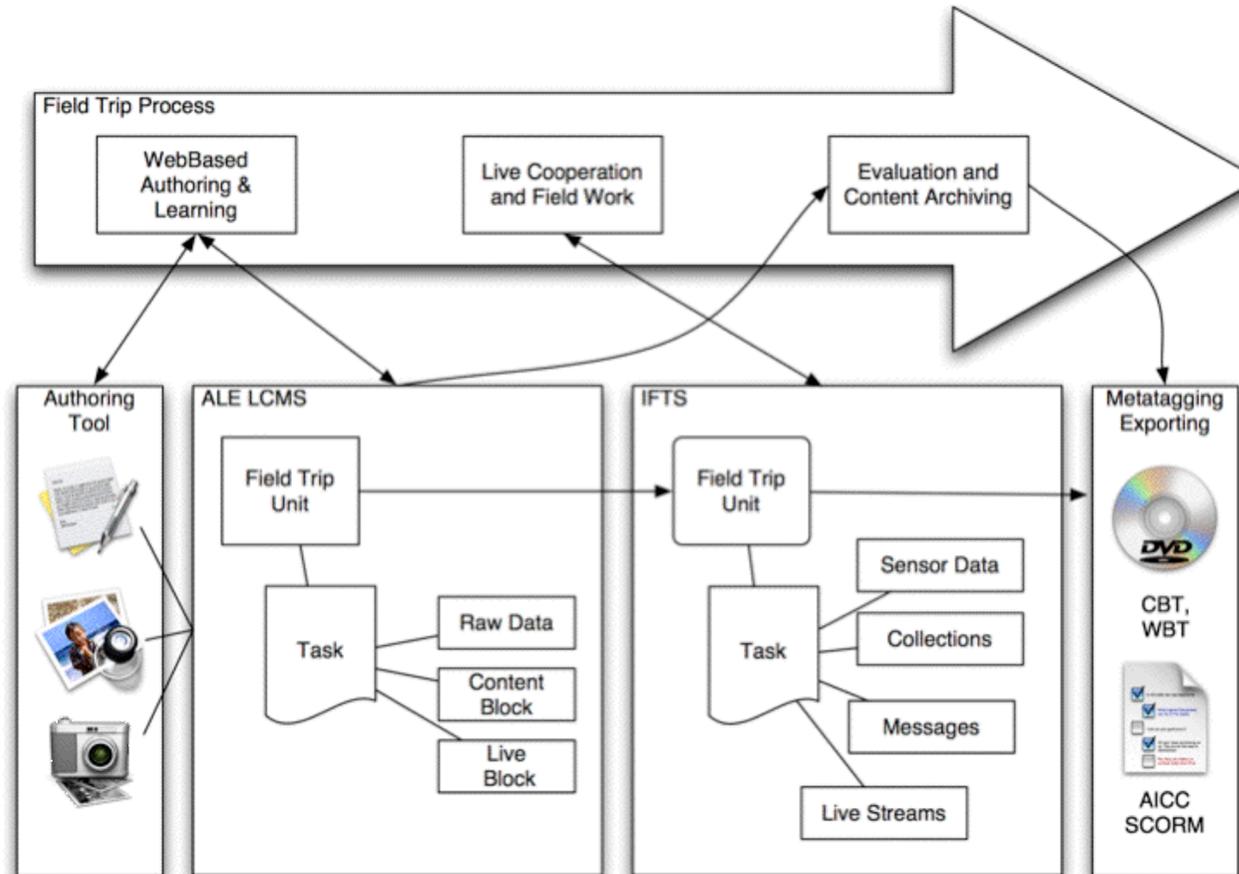
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Sensing and Context Tracking



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Mobile Learning Support



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