Contextualised Learning

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Introduction

• Authentic learning contexts
• Supporting/mediating: learning in context
• Standardised approach? Reference model + technical framework
• Practical examples
Introduction: Learning in Context

Takes into account (Zimmerman, et. al. 2007):

- Identity
- Location(s)
- Time
- Environment or activity
- Relations/Social context
## Reference model

<table>
<thead>
<tr>
<th>Content</th>
<th>Context</th>
<th>Information flow</th>
<th>Pedagogical model</th>
<th>Purpose</th>
</tr>
</thead>
<tbody>
<tr>
<td>Documents</td>
<td>Individuality</td>
<td>One-to-one</td>
<td>behaviourist</td>
<td>Sharing knowledge</td>
</tr>
<tr>
<td>Annotations</td>
<td>Time</td>
<td>One-to-many</td>
<td>cognitive</td>
<td>facilitate discussion</td>
</tr>
<tr>
<td>Messages</td>
<td>Locations</td>
<td>Many-to-one</td>
<td>constructivist</td>
<td>social awareness</td>
</tr>
<tr>
<td>Notifications</td>
<td>Environment/ Activity</td>
<td>Many-to-many</td>
<td>Social constructivist</td>
<td>guide communication</td>
</tr>
<tr>
<td>Relations</td>
<td>Relations</td>
<td></td>
<td></td>
<td>engagement and immersion</td>
</tr>
</tbody>
</table>
Technical Framework

- **Context Metadata and Management**
  - Indicator/Actuator Layer, Interaction Logic and Dynamic Multimodal Output
  - Event Bus

- **Electronic Media**
  - Audio Channel
  - Text Document

- **Physical World Object**
  - Activity 2
  - Step
  - Condition
  - Activity 3

- **Control Layer, Application Logic and Process Definition**
  - Event Bus

- **Semantic Layer, Data Aggregation and Entity Definition**
  - Event Bus
  - Annotation
  - Notification
  - Message
  - Document

- **Sensor Layer, Sensor Proxy, Data Capture**
  - Event Bus
  - Multi Select
  - Button
  - Image Capture

- **User**
  - User 2
  - User N

- **Physical Object**
ContextBlogger

• Example of technological framework
  – Contextualised media delivery
  – Contextualised media creation
  – Notifications
ContextBlogger (cont.)

• Enriching learning objects in content (MACE)
• Contextualised Language learning
ContextBlogger: Screenshots
Contextualised Language Learning

• Language related to:
  – locations/places (Ogata & Yano, 2004)
  – objects
• But: context is more than location (Nova, et. al. 2005)
• Scenario: rooms with different learning themes
Contextualised Language Learning
The Ekahau software

- WiFi-based location tracking
- Accessible via web services
- Signal strength and triangulation algorithm
- Rough calibration: tracking on room-level
References


• MACE project: http://www.mace-project.eu/