

iClass:
Intelligent Distributed
Cognitive-based Open
Learning System for Schools

What is iClass?

An effort initiated to develop an

- intelligent,
- cognitive-based,
- open

learning system and environment, adapted to individual learners' needs, and ensuring their take-up in the education sector at a European level.

What is iClass?



- Funded under FP6
 - FP6: European Community Framework Programme for Research, Technological Development and Demonstration



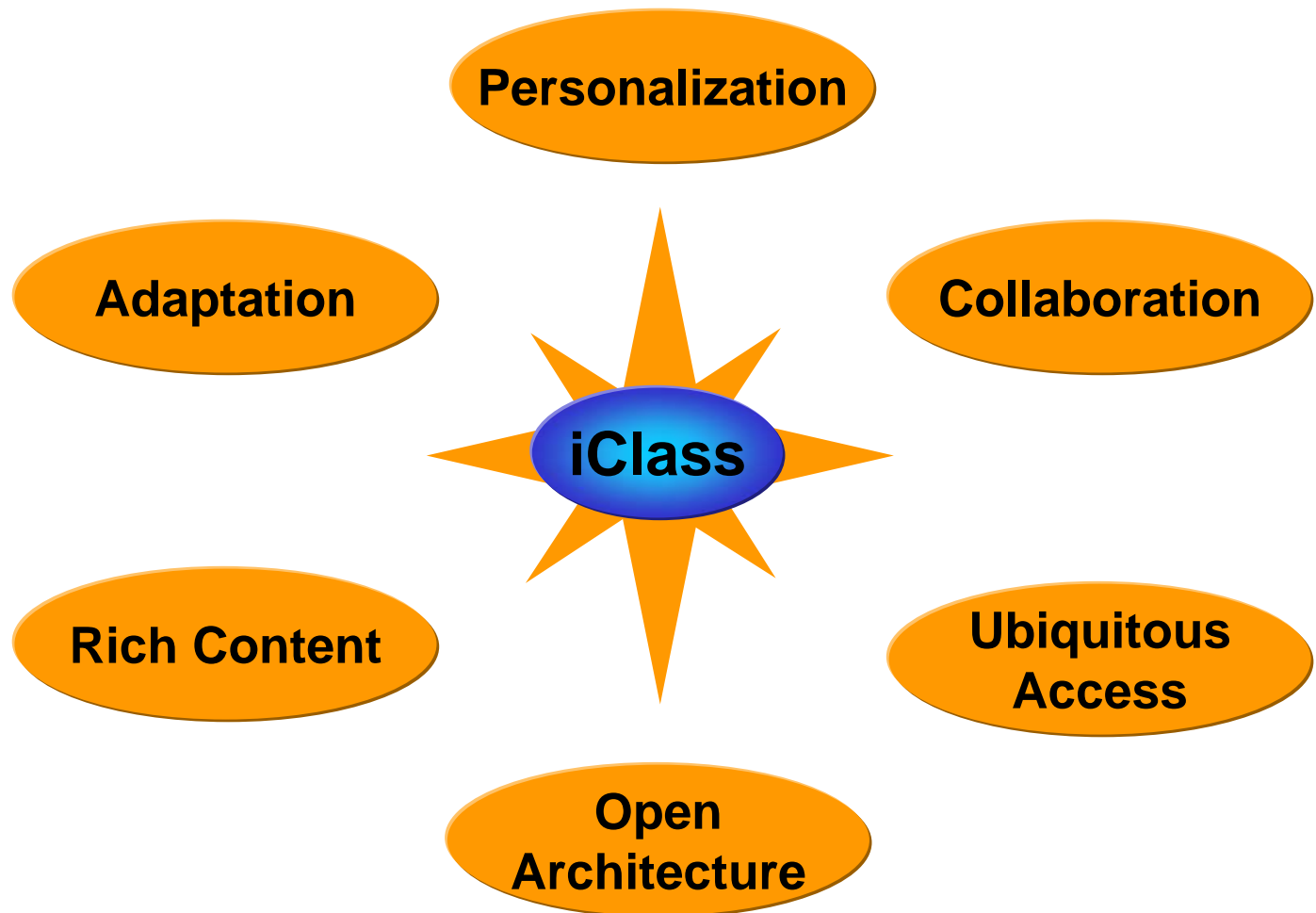
- In the “Technology-enhanced learning and access to cultural heritage” action line of IST (Information Society Technologies)

What is iClass?

- Consortium of 22 partners from 11 different countries
- Lead by Siemens Business Services
- Envisioning the educational process of the future
- Efforts include:
 - extensive research for the definition and design,
 - the creation and testing of prototypes,
 - and the measurement of the impact

of next generation products and services for the future learning environment of K12 education, ensuring effective utilization of technology.

What Is iClass?



What Is iClass?

Personalization

Pedagogical approach exploiting the potential of ICT to support a learner-centred approach

Adaptation

Content dynamically adapted to learners' learning styles, existing knowledge, and cultural background

Rich Content

Gathering critical mass of adaptive content with rich media, residing at distributed repositories

What Is iClass?

Open Architecture

Capable of guaranteeing an adequate degree of interoperability with legacy learning systems and tools

Ubiquitous Access

Service-oriented, web-based framework that can be accessed via Internet with a single sign-on

Collaboration

Collaborative environment with ubiquitous access for all stakeholders (parents, teachers, students, Ministries, publishers)

iClass Standardization (1)

- Enhance / extend existing E-learning standards:
 - Education
 - Metadata
 - Knowledge spaces
- User interfaces & accessibility:
 - W3C Web Content Accessibility guidelines
 - IMS accessibility guidelines

iClass Standardization (2)

- Learning Content Management systems & Interoperability:
 - Content server & database modules:
 - IMS content packaging standards
 - ADL SCORM 1.3 (+ simple sequencing)
 - Learning objects:
 - Modify IEEE LOM & IMS Learning Resource Metadata
 - Interoperation of disparate LO databases:
 - IMS DRI (Digital Repositories Interoperability): extending of learning object metadata to allow advanced query mechanisms
 - iClass Adapter:
 - Extend Learning Legacy System data structures

iClass Standardization (3)

- Open architecture & systems:
 - Model Driven, Service Oriented Architecture:
 - XML web service standards (WSDL & SOAP)
 - OMG Model Driven Architecture
- Learning Design:
 - Processes and relations:
 - IMS Simple Sequencing (but static)
 - Probably dynamic sequencing models
 - Learning activities:
 - IMS LD (Learning Design) out of EML (Educational Modelling Language)

iClass Standardization (4)

- Taxonomies, vocabularies & ontologies:
 - Shared vocabulary or vocabulary mappings (FP5 CELEBRATE, R2R controlled vocabulary, ...)
 - Domain ontologies & knowledge representation:
 - ISO/IEC 13250 Topic Maps
 - OWL (based on RDF)
 - DAML (based on OIL)
 - IEEE Standard Upper Ontology (SUO) study group
 - Goal of iClass:
 - Bring these technical standards closer to educational community by providing concrete framework

iClass Standardization (5)

- Multimedia:
 - MPEG-4 for media / transport
 - MPEG-7 for multimedia metadata
 - MPEG-21 for sharing ubiquitous resources
- Digital libraries:
 - IMS Digital Repositories or
 - MIT OKI OSIDs

iClass information

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