FOCUS

RESEARCH AGENDA

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CALT RESEARCH AGENDA - Key Research Areas

**CALT Key Research Areas**

**Individual Learning Systems**
- Intelligent Learning Agents
- Advanced Simulations

**Organizational Learning Systems**
- Virtual Communities
- E-novation Studies

**Key Application Domains**
- e-Learning
- Knowledge Management
- Innovation & Change Processes
- e-Business & e-Management
CALT RESEARCH AGENDA - Overview

CALT Key Research Areas

**Individual Learning Systems**
- Intelligent Learning Agents
  - modelling of highly interactive learning & change processes
  - modelling of knowledge domains (ontologies)
  - intelligent conversational agents (InCAs)
- Advanced Simulations
  - effectiveness of advanced experiential learning systems
  - design of multi-user, virtual reality environments
  - object-oriented modelling of organizational dynamics

**Organizational Learning Systems**
- Virtual Communities
  - online platforms design and evaluation
  - analysis of online social dynamics
  - analysis of knowledge- & value-creating processes (learning communities)
- E-innovation Studies
  - cyberentrepreneurship cases and studies
  - innovation processes at company and market level
  - sector-specific studies (banking, content, etc.)

**Key Application Domains**
- e-Learning
- Knowledge Management
- Innovation & Change Processes
- e-Business & e-Management
CALT RESEARCH AGENDA – An Overview

CALT Research Projects focus on learning and change/innovation at the individual as well as at the organizational and community level.

**Individual Learning Systems**

Much of our research focuses on learning at the individual level. Our objective is to design, develop and analyse the impact of two types of advanced learning models and systems: **Intelligent Learning Agents (InCAs)** and **Advanced Simulations of Organizational Dynamics**.

**Intelligent Learning Agents (InCAs)** operate primarily at the individual learning level. Their objective is to accelerate the acquisition and the adoption of relevant new concepts and practices by individuals. InCAs are a very advanced approach to technology-enhanced or e-learning. They operate first at the motivational level, and then gradually involve the learner in an interactive process, in which an individual first better understands and develops interest for the new concepts and practices, and then successfully integrates and adopts them, individually as well as in his/her organizational or social context. In our current projects and research plans, we are modelling, designing and developing prototypes of InCAs operating in different application domains such as making people learn to manage and share knowledge in organizations better and faster (K-InCA), generate and extract value from virtual communities (C-InCA), or become more learning-oriented (L-InCA).

**Advanced Simulations of Organizational Dynamics** are experiential learning systems exploiting technologies such as multimedia or virtual reality to accelerate the understanding and learning of organizational processes. Such simulations are built on models of human behaviour and social processes in organizations, and their design and evaluation helps us to understand the opportunities and the limits of supporting learning through the design and creation of highly realistic, simulated learning experiences. In our current projects and research plans, we are modelling, designing and developing extensions of the kernel (organizational behaviour processes) as well as of the interactive components (learning in multi-user virtual reality environments) of the EIS Simulation, which addresses learning in the domain of change management and resistance to change in organizations, and which is currently extensively used as a pedagogical and research tool in a number of universities and organizations world-wide (providing a rich continuous flow of feedback data for evaluation research).

**Organizational Learning Systems**

Our other research projects completing the CALT Research Agenda focus on learning and change/innovation processes taking place at the organizational or community level. Here, our objective is to understand the design and the social dynamics of **Virtual Communities** and to analyse how the Internet and the emerging ‘Net Economy’ is a source for new models of learning, knowledge and value creation (we call these **E-nnovation Studies**).

In the domain of **Virtual Communities**, our research projects address and contribute to knowledge creation in the domain of the design of effective online environments in which communities (of researchers, employees of one or more companies, customers, service providers, etc.) learn, structure and manage knowledge as well knowledge- and value-creating processes. In our current projects and research plans, we are extending further the technical features, the underlying social dynamics model, and the evaluation of the ICDT Platform, a virtual community environment which is used in a variety of research projects, knowledge management and e-learning contexts.

In the domain of **E-nnovation Studies**, our research projects aim at better understanding the phenomenon of ‘innovation in the Information Age’ by studying new models and forms of innovation taking place at the individual level (‘CyberEntrepreneurs’), in organizations (e.g. through the introduction of ‘incubators’), as well as in whole market or industry sectors (e.g. the transformation and evolution of the content, of the banking, and the education sectors).
CALT RESEARCH AGENDA - Projects

CALT Key Research Areas

Individual Learning Systems

- Intelligent Learning Agents
  - Knowledge Management Agents (K-InCA)
  - Learning in Organizations Agents (L-InCA)
  - OntoLogging
- Advanced Simulations
  - C-VIBE - Simulations in Virtual Reality
  - Organizational Simulations Modelling & Evaluation
  - eCAMP

Organizational Learning Systems

- Virtual Communities
  - ICDT platform design and evaluation
  - Dynamics of Communities of Learning (CoL)
  - EdcomNet
- E-novation Studies
  - CyberEntrepreneurship studies
  - eMCP and Corporate Innovation Cases
  - HortoNet

Key Application Domains

- e-Learning
- Knowledge Management
- Innovation & Change Processes
- e-Business & e-Management
CALT RESEARCH AGENDA - Highlights

CALT Key Research Areas

**Individual Learning Systems**
- Intelligent Learning Agents
  - K-InCAs: Intelligent Knowledge Management Learning Agents
- Advanced Simulations
  - Managing Change: The EIS Simulation

**Organizational Learning Systems**
- Virtual Communities
  - Growing Virtual Learning Communities: The ICDT/Alpha Platform
- E-novation Studies
  - Understanding new business models and forms of organizational innovation

**Key Application Domains**
- e-Learning
- Knowledge Management
- Innovation & Change Processes
- e-Business & e-Management