



Center for  
**LifeLong  
Learning  
& Design**

University of Colorado at Boulder

Wisdom is not the product of schooling  
but the lifelong attempt to acquire it.  
- Albert Einstein

**The Seeding, Evolutionary Growth, Reseeding (SER) Model**

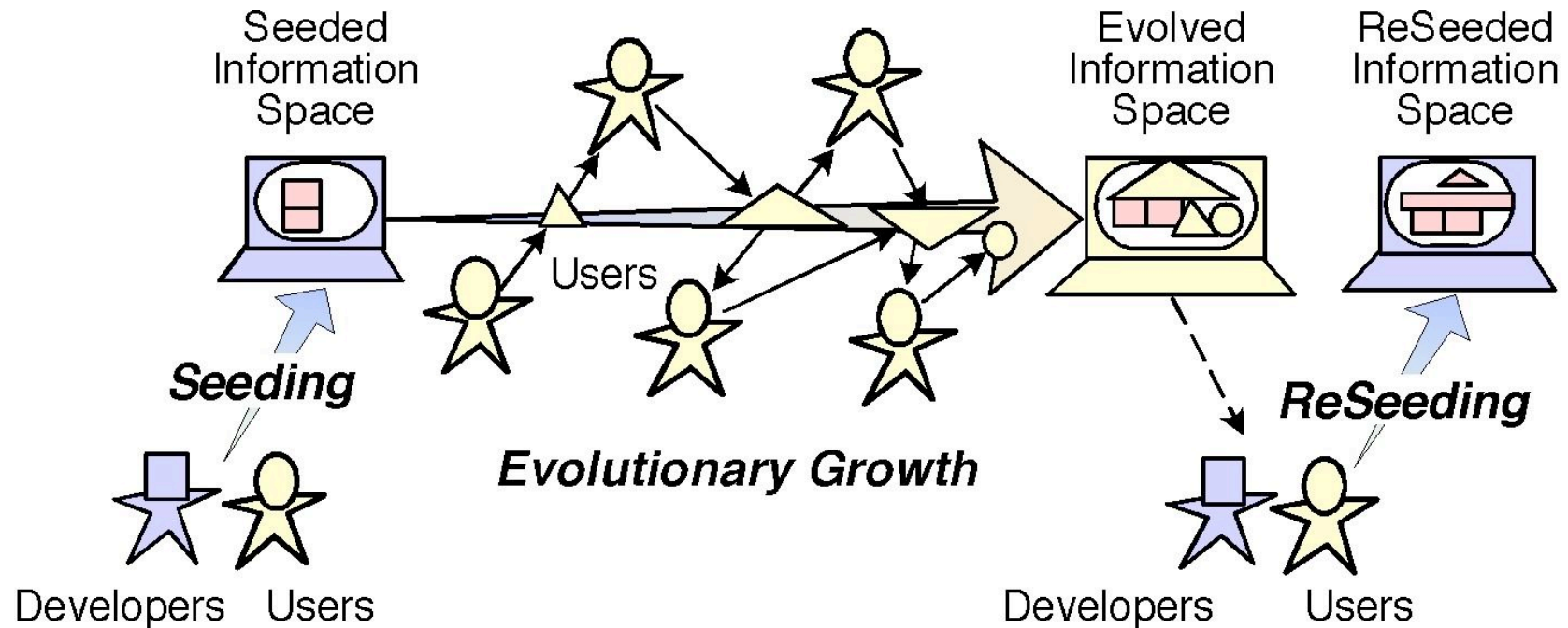
**and**

**DODEs, Courses-as-Seeds, Meta-Design, Social Creativity, Socio-  
Technical Environments and Web 2.0 Technologies**

**Daniela Fogli, Elisa Giaccardi, and Gerhard Fischer**

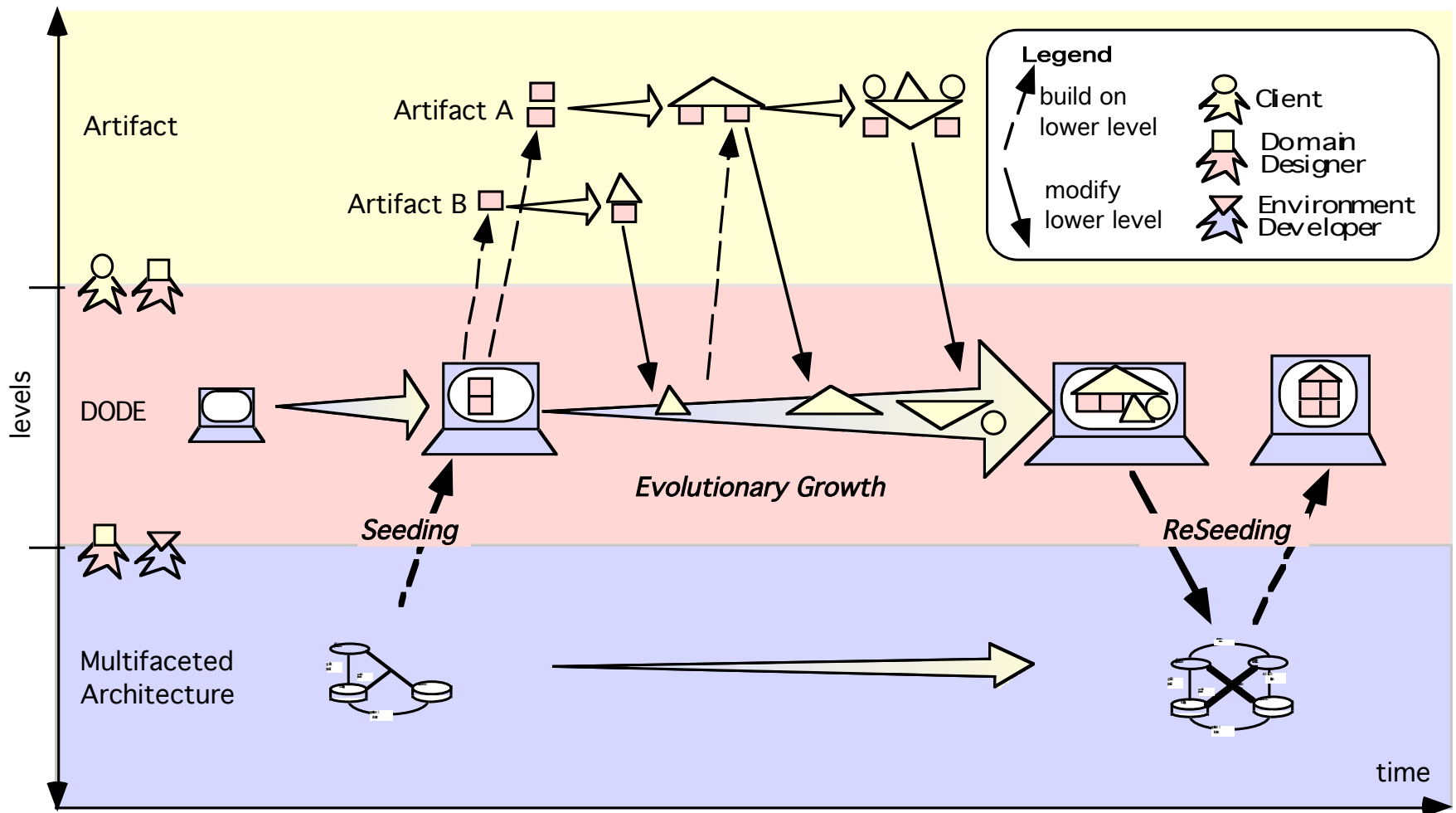
**L3D Meeting, February 13, 2007**

# Seeding, Evolutionary Growth, Reseeding (SER) Model



- **SER model** accounts for and facilitates the understanding of:
  - differentiation between design time and use time
  - relation to learning and contributing
  - the way that these concepts/objectives depend on each other

# SER Model and Domain-Oriented Design Environments (DODEs)



# Seeding, Evolutionary Growth, and Reseeding (SER)

## ▪ **seeding**

- seed a domain-specific DODE using the domain-independent, multi-faceted architecture
- provide representations for mutual learning and understanding between the involved stakeholders
- make the seed useful and usable enough that it is used by domain workers

## ▪ **evolutionary growth**

- co-evolution between individual artifacts and the DODE
- learning on demand and end-user modifiability complement each other

## ▪ **reseeding**

- formalize, generalize, merge, structure
- a social and technical challenge

# SER Model and Courses as Seeds

## Courses As Finished Products

- instructionist approach: learners answer problems given to them in the course by the instructor
- the learners are recipients of knowledge (the assumption is that the teacher/instructional designer has all the relevant knowledge)
- this model is adequate for courses where the learners get into a new field and therefore might have little to contribute, but it does not account for mutual competency and symmetry of ignorance
- this practice falls within the “gift wrapping approach” (quality is solely determined by the knowledge of the teacher and her ability to present this knowledge effectively)

# Courses as Seeds

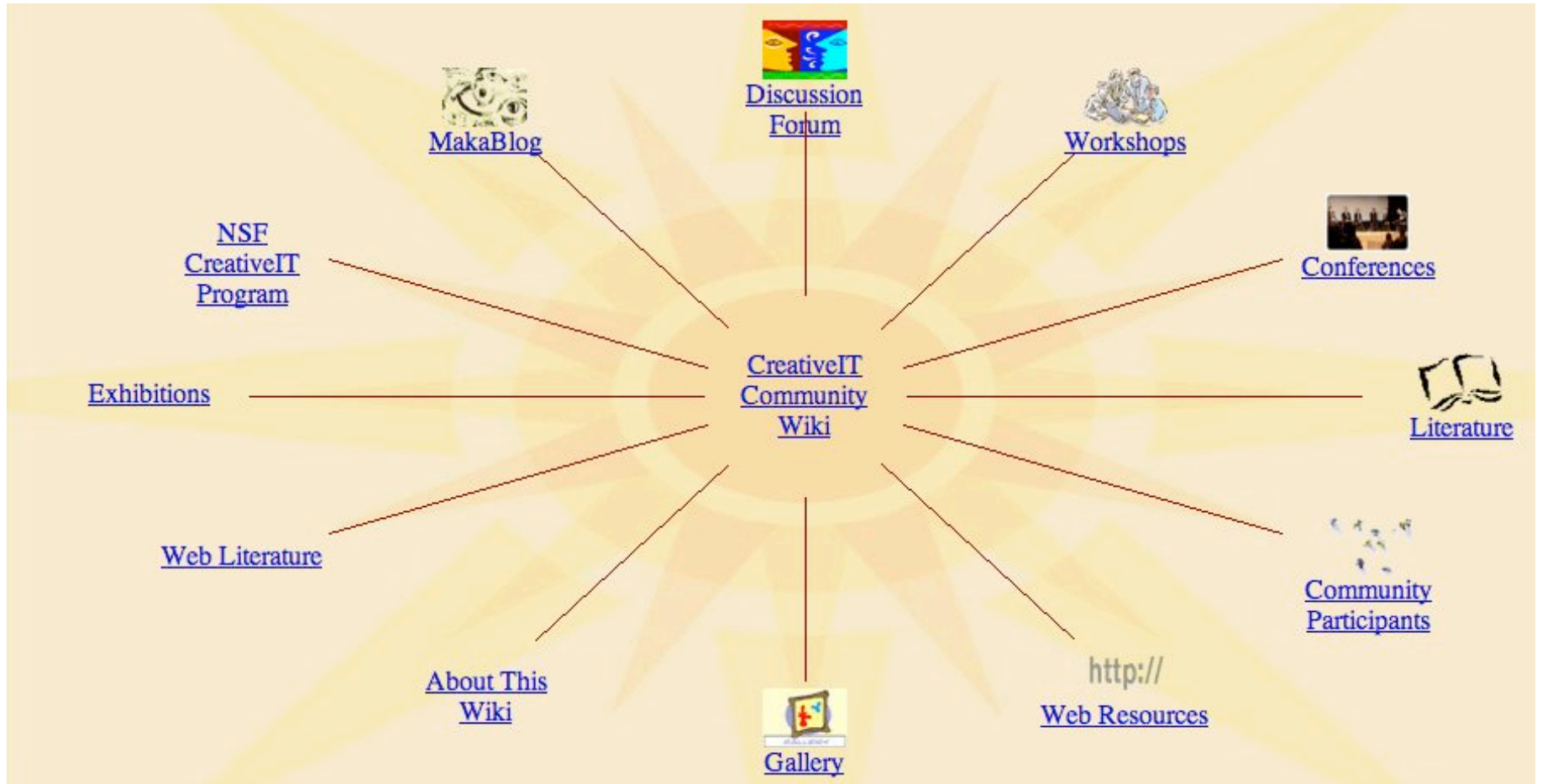
- a course considered a seed → many of the course participants are knowledgeable people in their own working environments and the learners are not just passive recipients of knowledge, but become (at least from time to time) active contributors
  
- at the end of the course, the content of the course will be greatly enriched through a semester-long interaction of knowledgeable people and important and relevant information will be incorporated into the course before it is taught the next time
  
- value added
  - a model for learning in a knowledge society which is built upon distributed cognition, peer-to-peer learning, articulated learners, long-tail knowledge distribution
  - a necessity for many domains/aspects of lifelong learning where communities of practice engage in the incremental construction and evolution of knowledge facilitated by a teacher

## Other Applications

- **DynaSites**: A Substrate Based on the SER Model — an early exploration (Jonathan)
- **Envisionment and Discovery Collaboratory** → transcending Simcity as a closed system (Hal)
- **Silence of the Lands** (Elisa)
- **CreativeIT Wiki** (Hal, Holger)
- **3D Warehouse** → or more general: user-generated content (Yingdan)
- **open source environments** (Yunwen)
- **Second Life** (Mark, Bruce)

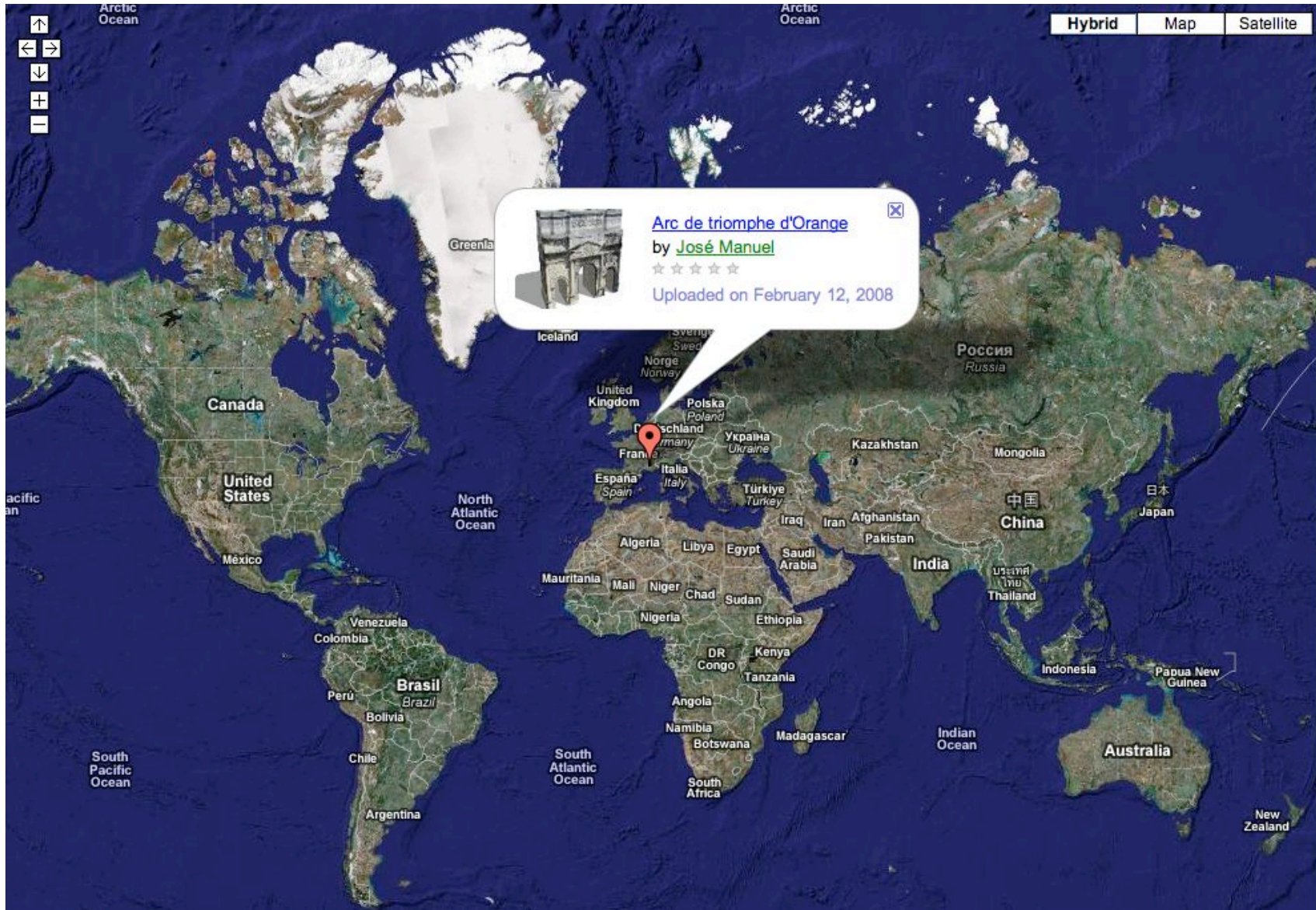
# SER: A Foundation for Next Generation Wikis

<http://l3dswiki.cs.colorado.edu:3232/CreativeIT/>





# 3D Warehouse (<http://sketchup.google.com/3dwarehouse/modelcycle?scoring=d>)



## Theoretical / Conceptual Challenges:

- explore **middle ground** between empty frameworks/architectures and complete systems
- what will **motivate** people to contribute? → utility = value / effort
- how can we reach the “**tipping point**” when the participation takes off — when did success models (e.g.: Facebook, YouTube, Second Life, Wikipedia, ...) reach their tipping point?
- socio-technical environments — how do we seed the **social** infrastructure of the SER model
- do we need to differentiate between
  - creating and contributing **content**
  - modifying and evolving the **systems**

# SER: An Opportunity to Exploit the Long-Tail Knowledge Distribution

