



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**

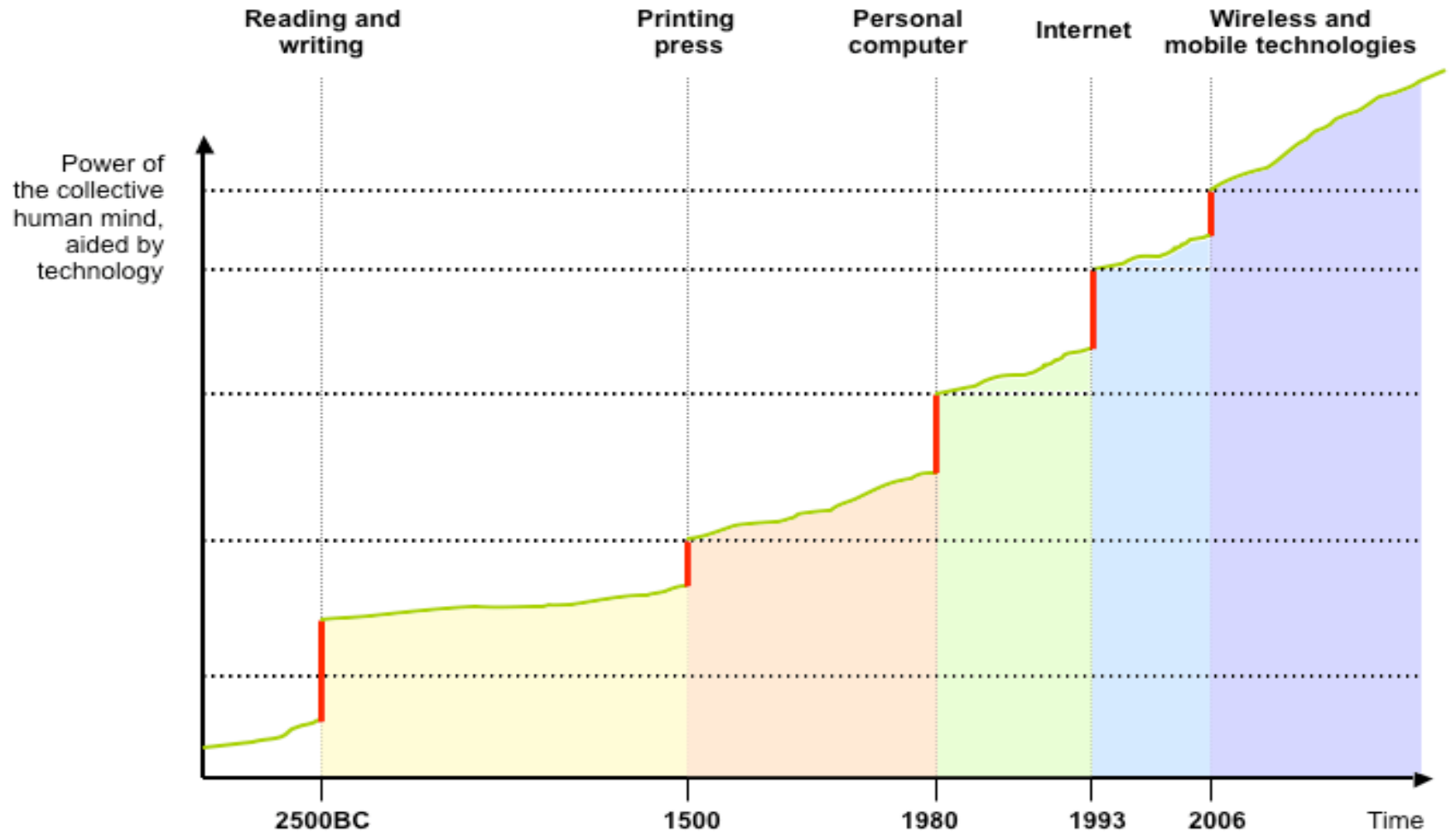
**Looking Back (and saying / discussing what has not been  
said / discussed)**

**Gerhard Fischer and Hal Eden  
Fall Semester 2006**

**Course information environment (SWIKI):  
<http://l3dswiki.cs.colorado.edu:3232/phd-intro>**

**December 13, 2006**

# Beyond the Unaided, Individual Human Mind

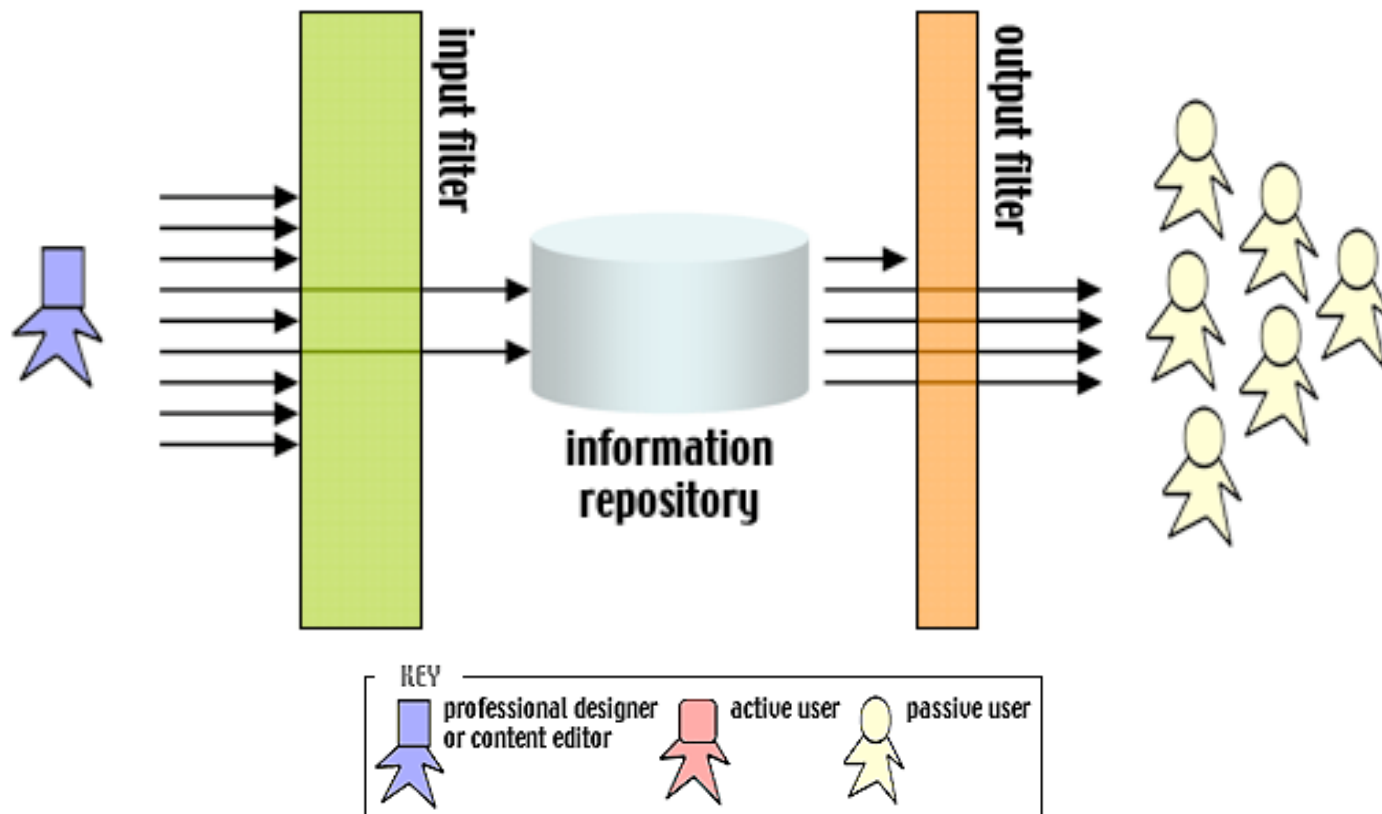


# What is the Scarce Resource: — Information or Human Attention

- *“What information consumes is rather obvious: it consumes the attention of its recipients. Hence a wealth of information creates a poverty of attention,, and a need to allocate efficiently among the overabundance of information sources that might consume it.” — Herbert Simon*
- *From “Anywhere, Anytime, Anyone” → “The Right Information at the Right Time, the Right Place, in the Right Way to the Right Person”*

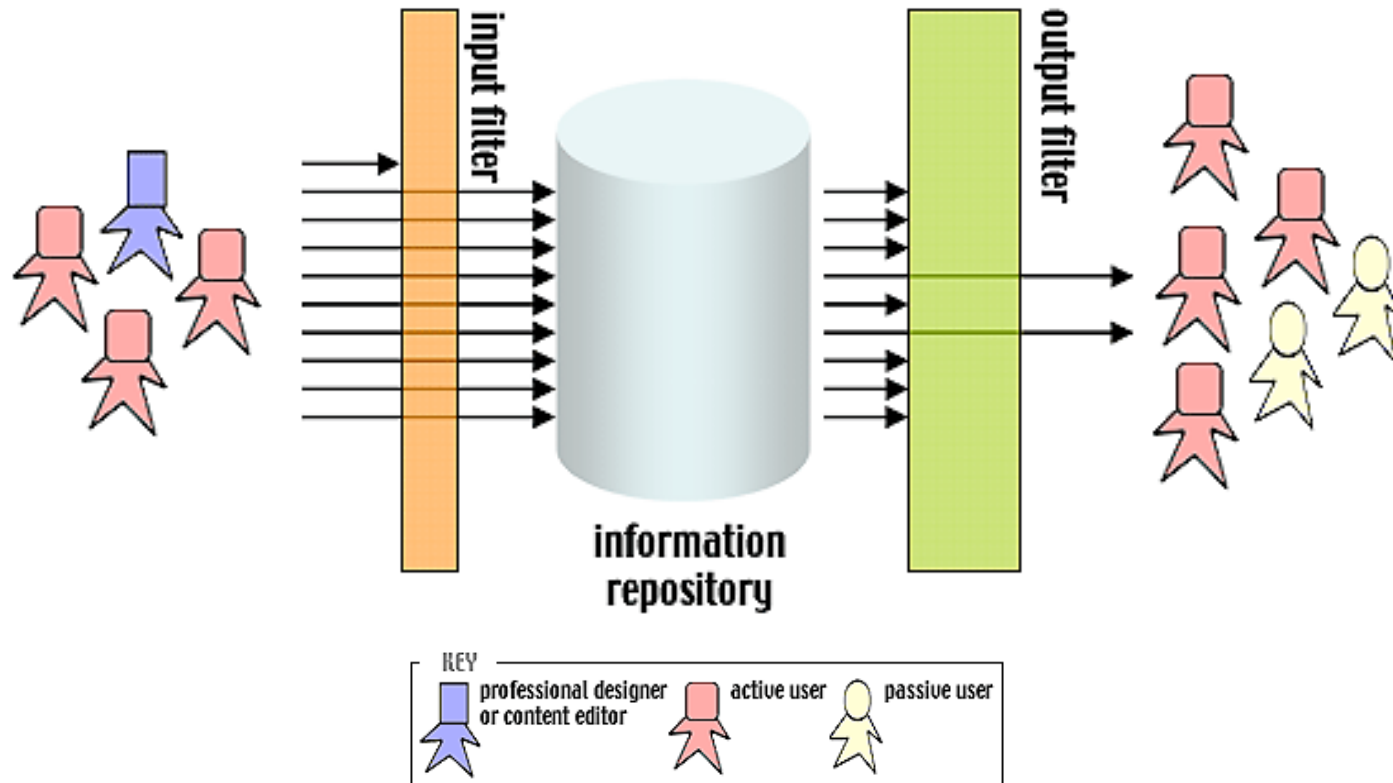
# Producer/Consumer Models in a Consumer Culture ("Access")

- Strong Input Filters, Small Information Repositories, Weak Output Filters
- Limitation: Making All Voices Heard



## Producer/Consumer Models in **Design** Culture (“Informed Participation”)

- Weak Input Filters, Large Information Repositories, Strong Output Filters
- Limitation: Trust and Reliability of Information



# Cheating ↔ Collaboration

- who **wins** and who **looses** by cheating
  - individual / student: “making the grade”
  - teacher
  - other individuals
  - society
  
- lifelong learning perspective
  - *“If the world of working and living relies on collaboration, creativity, definition and framing of problems and if it requires dealing with uncertainty, change, and intelligence that is distributed across cultures, disciplines, and tools*
  - *then graduate programs should foster transdisciplinary competencies that prepare students for having meaningful and productive lives in such a world.”*

# Current Computer Science Education and Outsourcing

	upstream activities	downstream activities
<b>themes</b>	creative work, communication, collaboration, context, integration of problem framing and problem solving, fuzzy requirements, customer satisfaction	programming, programming languages, compilers, rule-based behavior (tax returns),....
<b>emphasis in current CS programs</b>	X	XXXXX
<b>future jobs (not being outsourced)</b>	XXXXX	X