



# Software Architecture: Past, present & future

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Helsinki, August 22<sup>nd</sup> 2012

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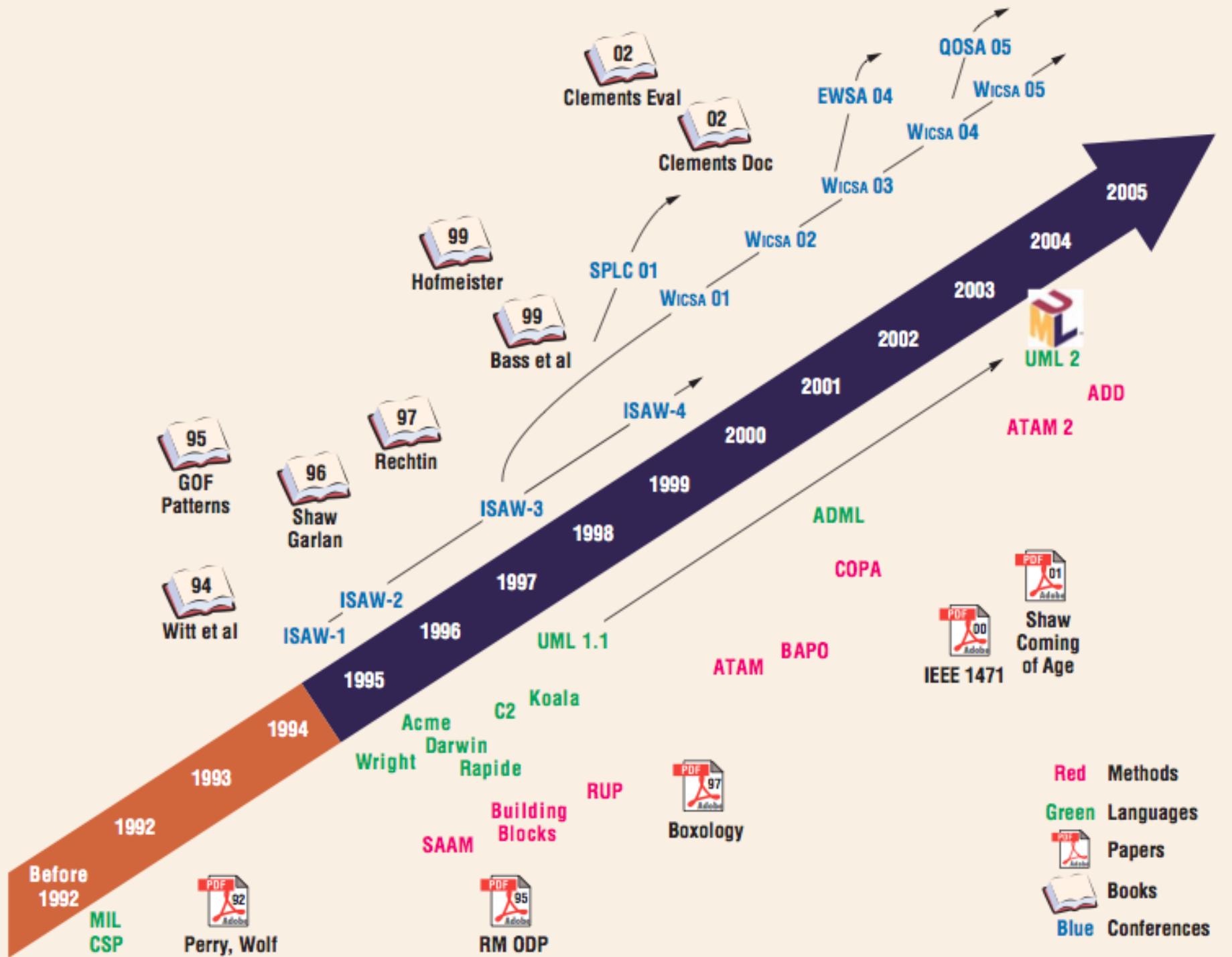


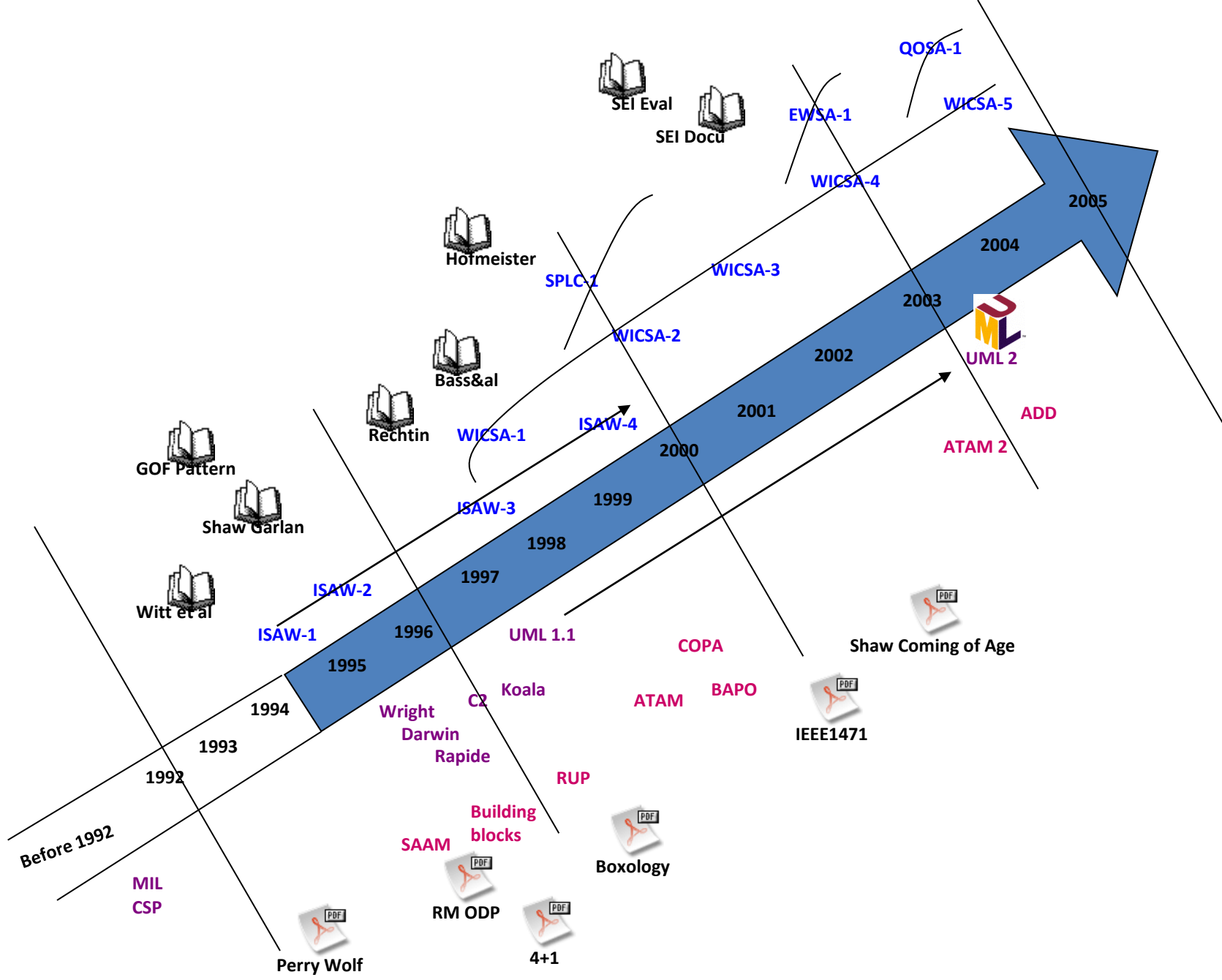
*Founder and president*

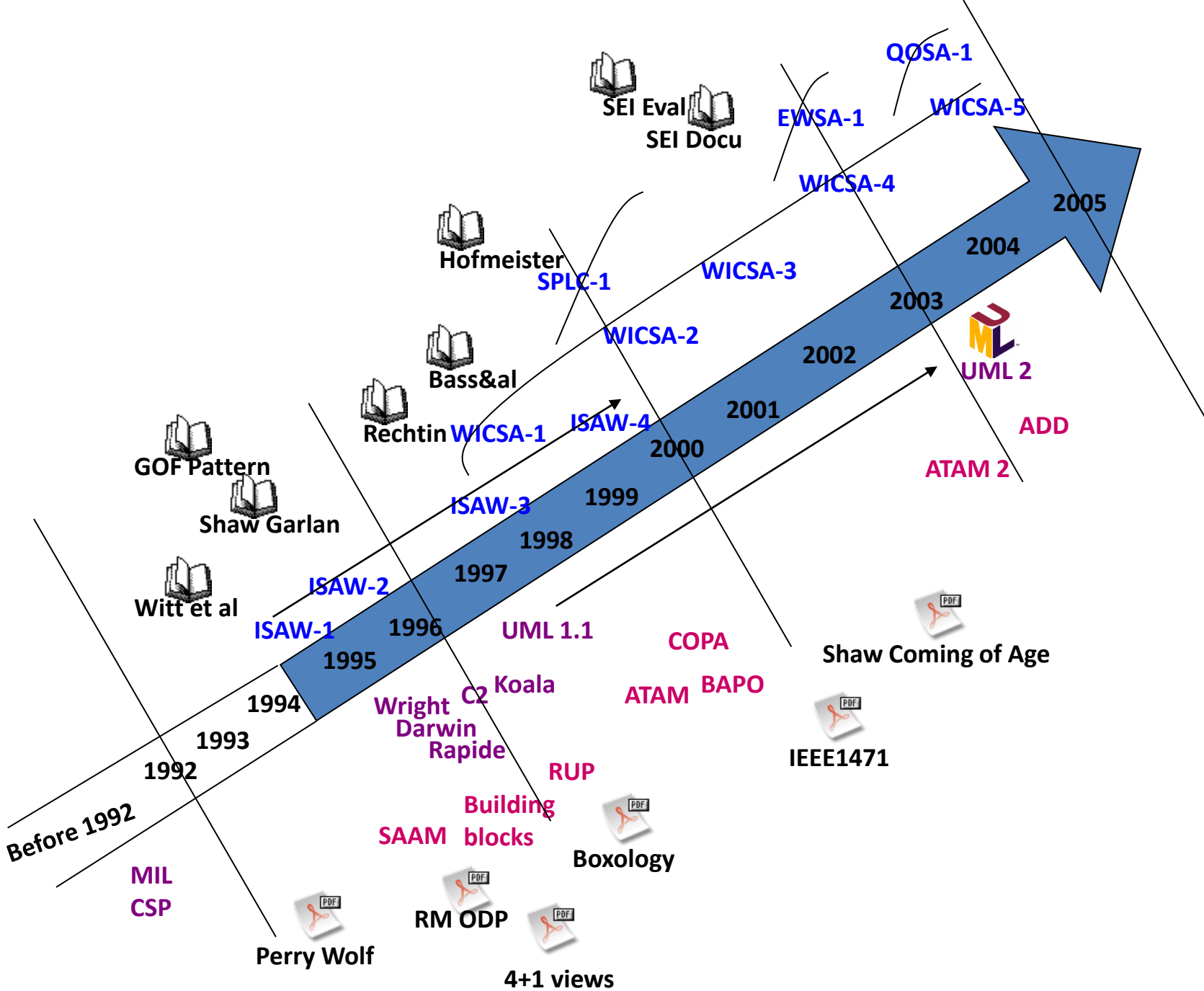
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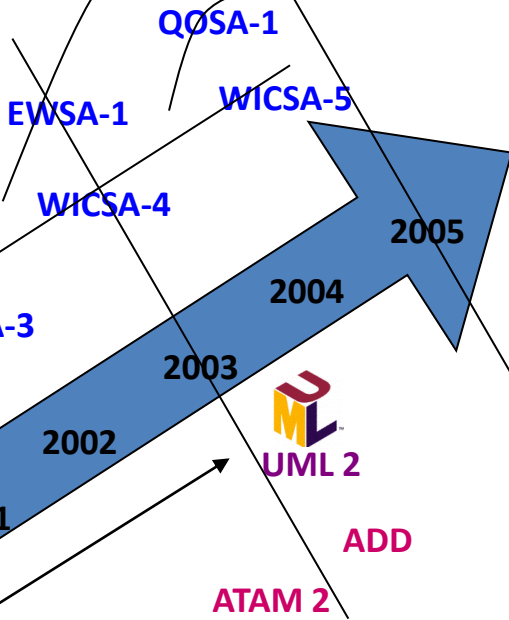
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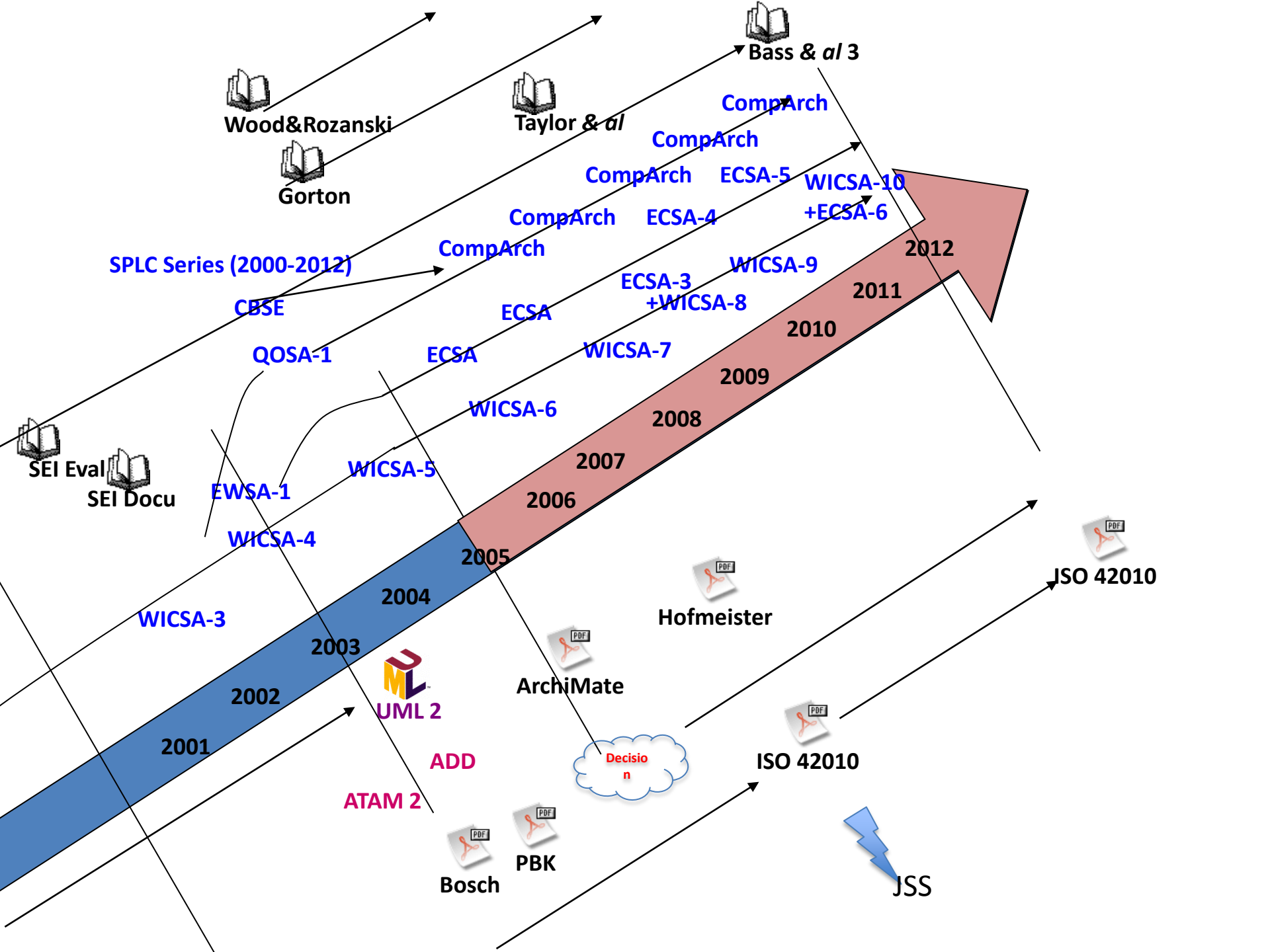
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# Reflections: the Good

- Stabilization
  - Concepts, representations, roles, processes
  - Standards
  - Books have 2<sup>nd</sup> and 3<sup>rd</sup> edition
  - Certifications
- Education
  - Academia: Taylor, Bass et al.
  - Industry: Gorton, or Wood&Rozanski



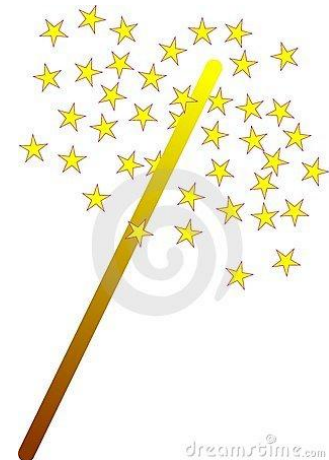
# Reflections: the Bad

- Proliferation of conferences...?
- Widening industry-academia gap
  - Academic game
    - Tenure, publish/perish,
    - Granularity
    - Funding
  - Access to information
  - Agile methods
  - IP
- Fragmentation of research
  - Integration
  - Scaling
  - CS vs. SW Eng.

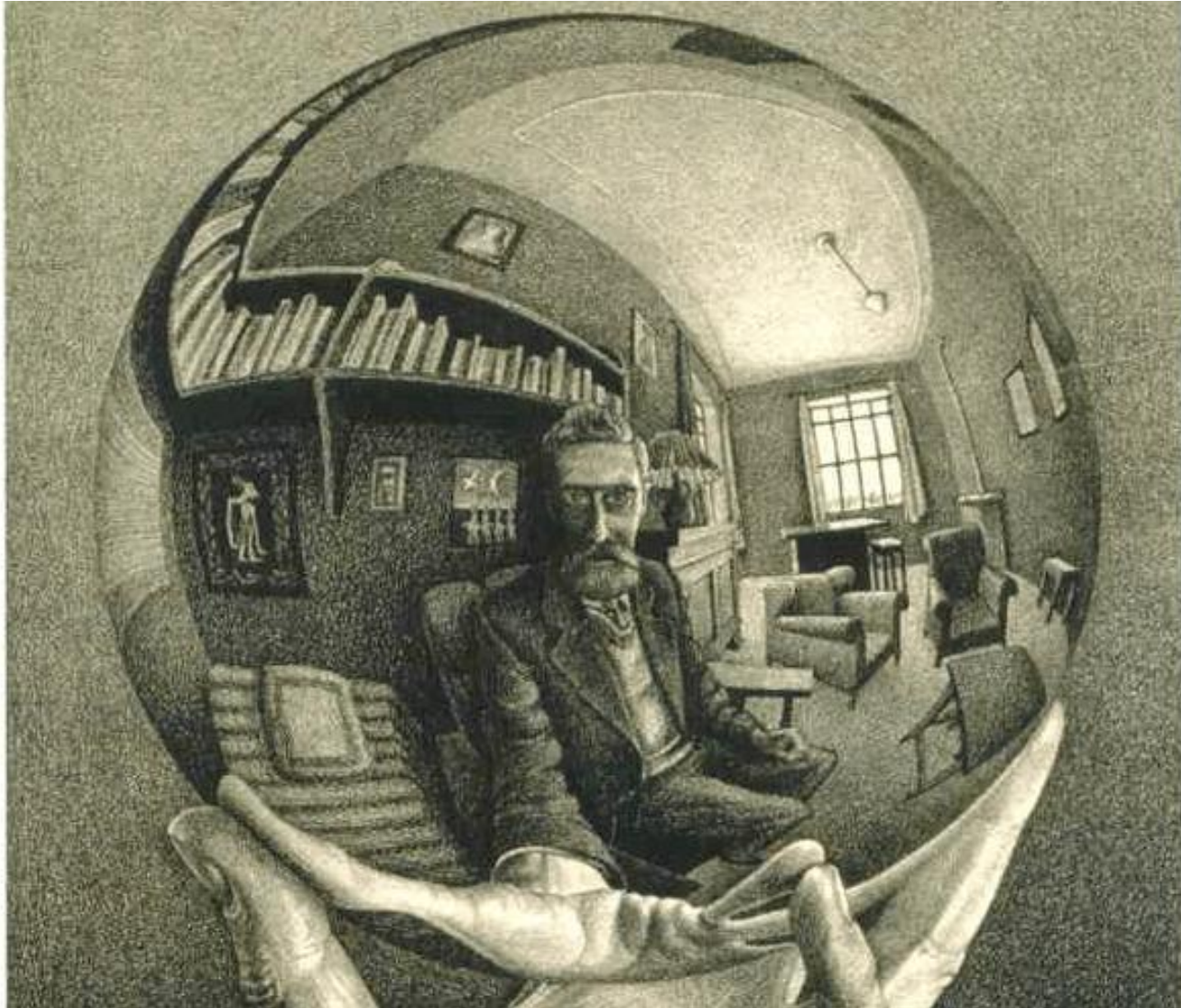


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  - CS vs. SW Eng.



# Future



- The real issues? the “wetware”
  - Culture (values, beliefs, attitudes)
    - Collaboration and coordination
    - Trust
  - Process
  - (not YAMW Yet another magic wand)
  - Reasoning process
- Qualitative research
  - Hard, different, not in a lab, longer
- Larger, coordinated research efforts
  - Integrating many magic wand

# Two kinds of SW architect

## Architectus Reloadus

- External Focus
- Requirement facing
- New technologies
- Business
- Partners
- Ecosystem
- *Arch. specification*

## Architectus Aryzus

- Internal focus
- Code-facing
- Structure
- Development process
- Communication
- Implementation
- *Arch. delivery*

Fowler 2003 Who needs an architect

# Whom are we focusing on?

## Architectus Reloadus

- External Focus
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- *Arch. specification*

Economic (Value vs. cost)

Culture (values, beliefs, attitudes...)

Ways of working (Process)

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Economic (Value vs. cost)

Culture (values, beliefs, attitudes...)

Ways of working (Process)

# Foundations for the Study of Software Architecture

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## ABSTRACT

The purpose of this paper is to build the foundation for software architecture. We first develop an intuition for software architecture by appealing to several well-established architectural disciplines. On the basis of this intuition, we present a model of software architecture that consists of three components: elements, form,

more toward integrating designs and the design process into the broader context of the software process and its management. One result of this integration was that many of the notations and techniques developed for software design have been absorbed by implementation languages. Consider, for example, the concept of supporting “programming-in-the-large”. This integration has tended to blur, if not confuse, the distinction between *design* and *implementation*.



# Perry & Wolf 1992

- “accept with minor revisions”
- All the ingredients are present, except maybe:
  - the process (architecting)
  - the role (architect)
  - Views? What views?
- It tells a story, not a complete story
  - Examples not prescriptions
- We can retell their story in our own ways, in our own context. Which we did. Very slowly.