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# Advanced Component-Based Software Engineering

## Assignments

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# Assignment 1 - PROPOSAL FOR COMBINATIONS

- A: 1,2, 6
- C: 3, 4, 9
- D: 5, 11, 12
- E: 12, 13, 14
- F: 1, 3, 5
- G: 10, 13, 14
- H: 12, 13, 16
- I: 13, 14, 15

Describe them,  
find relations  
between them

- 1 Basic Concepts in CBSE
- 2 On the Specification of Components
- 3 Architecting Component-based Systems
- 4 Component Models and Technology
- 5 Component-Based Development Process
- 6 Semantic Integrity in CBD
- 7 Role-Based Component Engineering
- 8 Dispelling the Myth of Component Evaluation
- 9 Component Composition and Integration
- 10 Predicting System Trustworthiness
- 11 Components in product-line architecture
- 12 The Koala Component Model
- 13 Components in RT systems
- 14 Components in Safety-Critical RT Systems
- 15 Providing RT Services for COTS
- 16 CB Embedded Systems
- 17 ABB AIP
- 18 Application Integration
- 19 Dassault System Component Model

Advanced CBSE

# Systematic review

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## □ Review protocol

1. Intro/background
2. Research Question
3. Inclusion/exclusion criteria
4. Search Strategy
  1. Databases to be searched
  2. Search keywords
5. Study selection
  1. Exclusion based on formal criteria (peer reviewed etc.), and on obvious off-topic contents.
  2. Exclusion based on title and abstract.
  3. Exclusion based on full text.

# Systematic review (2)

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## □ Review protocol (cont)

### 6. Data extraction

- ◆ *Article Authors*
- ◆ *Title*
- ◆ *Publishing place*
- ◆ *Type of article (journal, conference, workshop)*
- ◆ *Abstract*

### 7. Analysis of the finally selected studies

- ◆ *Timing distribution*
- ◆ *Citation of the papers /ranking*

### 8. Sythesis

- ◆ *Grouping studies in (sub)chategories*

# Assignment – Systematic review

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## □ Example of research questions

- Components and lifecycle
- *What results have been reported in the scientific literature regarding Component-based lifecycle?*
- *What results have been reported in the scientific literature regarding Component binding?*
- *What results have been reported in the scientific literature regarding domain-specific component models?*
- *What results have been reported in the scientific literature regarding two new component models*
- *What results have been reported in the scientific literature regarding composition of extra functional properties?*

# Systematic review component models

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## □ Synthesis

- When finding studies (papers) they can be grouped according to the classification framework
  - ◆ Example: component model and lifecycle – grouping papers according to the phase
  - ◆

# Assignment references:

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## □ Assignment 1:

- Select a combination of chapters from