

Specification and Analysis of Contracts Tutorial

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SEFM School, Oct. 27 - Nov. 7, 2008
Cape Town, South Africa

What Is This Tutorial About?

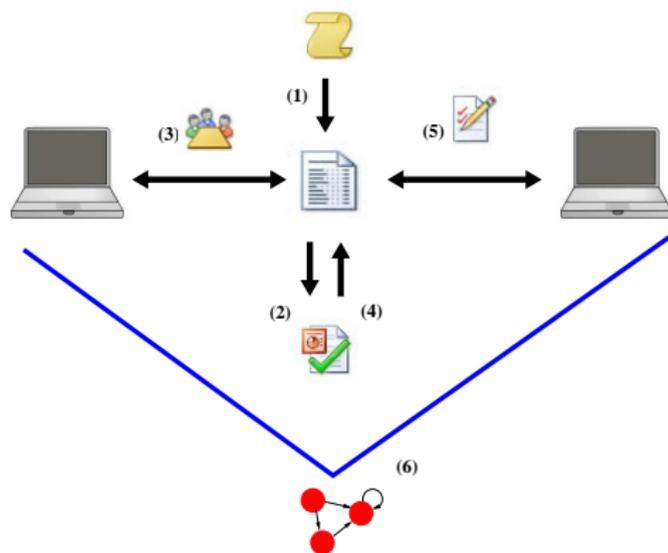
- Specification and analysis of contracts for software services
- Many of the material is state-of-the-art and on-going research
- Main focus on **deontic contracts**
- It is **not** an exhaustive exposition of
 - Service-Oriented Architecture (SOA), Web-services
 - Components
- We will discuss how to use (a special kind of) contracts in the context of services and components

Aim

- 1 To learn about the topic
- 2 To raise your curiosity and convince you that it is a nice research topic

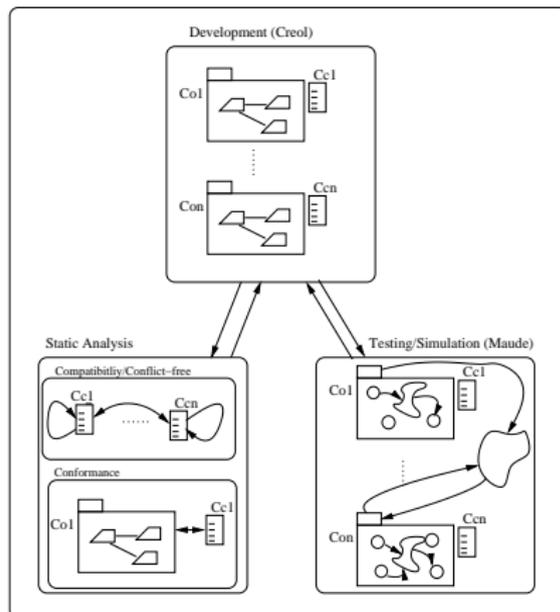
What Is This Tutorial About?

- Contracts and Service-Oriented Computing (SOC)



What Is This Tutorial About?

- Contracts and Components



What Is This Tutorial About?

We will see:

- A bit of formal methods
- SOC and components
- Deontic logic (and background)
- A formal language for writing contracts
- Analysis of 'deontic' contracts

Plan of the Course

- 1 Introduction
- 2 Components, Services and Contracts
- 3 Background: Modal Logics 1
- 4 Background: Modal Logics 2
- 5 Deontic Logic
- 6 Challenges in Defining a Good Contract language
- 7 Specification of 'Deontic' Contracts (\mathcal{CL})
- 8 Verification of 'Deontic' Contracts
- 9 Conflict Analysis of 'Deontic' Contracts
- 10 Other Analysis of 'Deontic' Contracts and Summary