Building Component Frameworks with Component Pascal

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In this tutorial, attendees will learn how to architect safely extensible component systems. The tutorial introduces to the concepts of component-oriented programming before presenting and explaining compound documents as an application example of extensible component systems. Creation of an add-on component to this system will be demonstrated. Finally, architecting for safe extension will be discussed. The matter will be illustrated with a small case study, exemplifying a common type of pitfall and showing a solution pattern. For the demonstrations, Component Pascal will be used. Component Pascal is designed specifically for programming extensible systems and for specifying architectural properties. The IDE used in the demo can be downloaded for free from our Web server.

Audience

- programming experience
- object technology experience
- system design experience

Benefits

- Programers shall:
  - understand component software issues and learn to keep them in mind when programming
- Software architects / experienced software engineers shall:
  - deepen their understanding of component issues
  - get ideas what to watch out for when architecting for components
- Software project leaders shall:
  - see how to distribute tasks between differently skilled team members
  - understand the importance of software architecture in component systems
- Deeper understanding of component software concepts such as:
  - the component engineering skill-level model
  - software evolution through component software
  - component markets
  - component frameworks and architectures supporting components
- Understanding of relationships between components and their environment
- Understanding of the importance of architectural precautions through component frameworks
- Understanding of how programming languages can support or hinder component software

Wolfgang Weck recently joined Oberon microsystems as a software architect. Before, he has been researching and teaching component-oriented programming in academia. He has published and presented papers in conferences such as TOOLS, OOPSLA, and ECOOP.
Cuno Pfister is co-founder and managing director of Oberon microsystems Inc, a company specializing in component-oriented software architecture. He is an architecture consultant and the designer of several commercial component frameworks. He has been presenting within industrial courses of Oberon microsystems, and has been speaker at a number of industrial conferences.