Abstract:

The goal of this workshop is to bring together researchers and practitioners in the area of component-based software development in order to address problems concerning the design and implementation of composition languages and to develop a common understanding of the corresponding concepts. We would also like to determine the strengths and weaknesses of composition languages and compare it with similar approaches in related fields.

The main focus of the workshop will be on language issues for composing components into applications, and not on component-based systems in general. In particular, we would like to emphasize the important issues of (i) the design and implementation of higher-level languages for component-based software development, (ii) approaches that combine architectural description, component configuration, and component composition, (iii) paradigms for the specification of reusable software assets, (iv) expressing applications as compositions of software components, and (v) the derivation of working systems using composition languages and components. Furthermore, we would particularly like to encourage authors to submit position statements focusing on formal aspects of the issues mentioned above and case studies of using composition languages for real-world applications.

Call for Papers:

The Second International Workshop on Composition Languages seeks position statements addressing the design and implementation of higher-level languages suitable for component-based software development.

A component-based software engineering approach mainly consists of two development steps: (i) the specification and implementation of components and (ii) the composition of components into composites or applications. Currently, there is considerable experience in component technology and many resources are spent for the first step, which resulted in the definition of component models and components such as CORBA, COM, JavaBeans, and more recently EJB and .NET. However, much less effort has been spent in investigating appropriate composition languages, which allow application
developers to express applications flexibly as compositions of components and, therefore, offer support for component-based software engineering.

Most available composition environments focus mainly on special application domains and offer at best rudimentary support for the integration of components that were built in a system other than the actual deployment environment. Furthermore, these systems do not enforce a clear separation of computational elements (i.e., components) and their relationships, which is needed to address the flexibility and maintainability of component-based systems. The reason for this situation is not only the lack of well-defined (or standardized) component interfaces, but the ad-hoc way the semantics of the underlying language models are defined.

Topics:

The goal of this workshop is to bring together both researchers and practitioners. By focusing on important aspects of the design and implementation of composition languages, this workshop aims to address the specific problems of existing composition systems. Suggested topics of interest include, but are not limited to:

- Higher-level abstractions for composition languages
- Programming paradigms for software composition
- Support for the specification of software architectures
- Implementation techniques for composition languages
- Scalability and extensibility of the language abstractions
- Analysis of runtime efficiency of compositional abstractions
- Formal semantics of composition languages
- Type systems for composition languages
- Domain-specific versus general composition languages
- Design and implementation strategies for cross-platform development
- Interoperability support
- Compositional reasoning
- Case studies of composition language design
- Case studies of system development using composition languages
- Tool support for composition languages
- Taxonomy of composition languages

Submission and Participation:

All submissions will be peer-reviewed by at least two reviewers of the workshop paper selection committee. Based on the quality and originality, the best position statements will be presented at the workshop. The workshop will be organized in several sessions, each dedicated to a particular subject of common interest. Instead of splitting the workshop into task forces, we intend to provoke lively discussion by preparing lists of critical questions and topics, which will be published and distributed to the participants prior to the workshop.

Authors are encouraged to address any aspects of the design and implementation of composition languages in their position statements. We solicit submissions on original
research in the form of extended abstracts. Submissions should not exceed 8 pages (with a minimum 11pt font) and must have a cover page including the paper title, abstract, names and affiliations of authors, postal contact addresses, email addresses, and telephone numbers. In addition, we ask the authors to include a list of critical questions and/or some, perhaps provocative, statements at the end of their submission which will assist the organizers to define topics for discussion in advance. Submissions should be sent in an electronic format (PDF or Postscript) to Markus Lumpe (lumpe@cs.iastate.edu) and preferably prepared for letter or A4 sizes using Springer LNCS-style (http://www.springer.de/comp/authors).

All selected submissions will be made available online prior to the workshop and be published by one of the affiliated organizations. Aspects of the best position statements as well as the workshop results will be discussed in a chapter of the ECOOP Workshop reader. The results of the workshop will also be presented to the rest of the ECOOP community in the form of a poster at the conference. We are investigating having a special issue of a journal for revisions of selected papers after the workshop.

Workshop Home Page:

For further information about the workshop, please refer to the workshop home page at http://www.cs.iastate.edu/~lumpe/WCL2002.

Important Dates:

- Position paper due: April 15, 2002
- Notification of acceptance: April 29, 2002
- Deadline for early registration: May 6, 2002
- Camera ready copy: May 15, 2002
- Workshop: June 11, 2002

Workshop Organizers:

Markus Lumpe - Iowa State University, USA
Bastiaan Schönhage - Object Technology International, The Netherlands
Jean-Guy Schneider - Swinburne University of Technology, Australia
Thomas Genssler - FZI, University of Karlsruhe, Germany

Paper Selection Committee:

Thomas Genssler - FZI, University of Karlsruhe, Germany
Markus Lumpe - Iowa State University, USA
Peter Müller - ABB, Germany
Oscar Nierstrasz - University of Bern, Switzerland
Jean-Guy Schneider - Swinburne University of Technology, Australia
Bastiaan Schönhage - Object Technology International, The Netherlands