Workshop on Component-Based Software Engineering: Composing Systems from Components

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1. Introduction

Component-based Software Engineering (CBSE) is concerned with the development of systems from reusable parts (components), the development of components, and system maintenance and improvement by means of component replacement or customization.

Building systems from components and building components for different systems requires established methodologies and processes not only in relation to development/maintenance phases, but also to the entire component and system lifecycle including organizational, marketing, legal, and other aspects. In addition to objectives such as component specification, composition, and component technology development that are specific to CBSE, there are a number of software engineering disciplines and processes that require methodologies be specialized for application in component-based development. Many of these methodologies are not yet established in practice, some have not yet been developed.

The progress of software development in the near future will depend very much on the successful establishment of CBSE; this is recognized by both industry and academia. The growing interest in CBSE is reflected in the number of workshops and conferences with CBSE tracks [2-5].

2. The workshop

CBSE distinguishes the process of "component development" from that of "system development from components". There is a difference in requirements and business ideas in these two cases and different approaches are necessary. The goal of this workshop is to bring together researchers and practitioners to share experience and research results, both of works in progress and practical experience, on topics relevant to building systems from components. Systems attributes in relation to component attributes and the composition process are the primary subjects of the workshop.

Suggested areas of interest include, but are not restricted to:

− Software architecture as related to CBSE
− Analysis/design methods for building component-based systems
− Selection/evolution criteria for components and assemblies of components
− Predictability of component compositions
− Configuration management of components and component compositions
− Verification of systems based on component attributes

The workshop will open with a statement defining the goals and objectives of the workshop, followed by a presentation by a guest speaker from industry, reporting on an industrial experience of using a component-based approach to system development. The workshop will continue as a combination of presentations of the most interesting and relevant papers and resultant discussions. The workshop will focus on the discussions pertaining to topics addressed by the highest percentage of accepted papers.

3. References

[1] Bachman, et. al. , K. C., Technical Concepts of Component-Based Software Engineering, report CMU/SEI-2000-TR-008, Software Engineering Institute, Carnegie Mellon University, 2000.

[2] 4th and 5[h] ICSE Workshops on CBSE: Component Certification and System Prediction, Benchmarks for Predictable Assembly, http://www.sei.cmu.edu/pacc

[3] 27th and 28th Euromicro Conferences: CBSE track, http://www.idt.mdh.se/ecbse

[4] First International Working Conference on Component, http://swt.cs.tu-berlin.de/cd02/

[5] ICSR7 2002 Workshop on CBD Processes, http://www.idt.mdh.se/CBprocesses