

5th ICSE Workshop on Component-Based Software Engineering: Benchmarks for Predictable Assembly

Orlando, Florida, USA

May 19-20, 2002

Note: With regret, the ICSE 2002 organizers have decided to move ICSE 2002 from the originally planned Buenos Aires, Argentina venue to Orlando, Florida, USA. The conference dates, May 19-25, 2002, remain the same.

INTRODUCTION

The critical role of software components in modern business systems is no longer a matter of analyst speculation but rather an accomplished fact. However, developers are currently unable to predict the quality of component-based systems; the success of component-based development depends on the ability to make such predictions. Research is needed in the area of Predictable Assembly to develop a component composition theory for reasoning about both the functional and extra-functional properties of component assemblies based on the properties of components.

Issues related to developing a composition theory include determining what properties are of interest to developers and users of components, how to predict the properties of assemblies, how to measure properties of components, how to verify the measurements, and how to communicate the property values to component users. Resolving these issues requires collaborative work of researchers in several domains including compositional reasoning, composition languages, component trust and certification, software architecture, and software components.

WORKSHOP OBJECTIVES

The solution to the problem of predictable assembly is the identification and application of a component composition theory, which is based upon both constructive and analytic techniques. The primary goal of CBSE5 is to achieve better understanding of compositional reasoning techniques and to test the feasibility of their use through their application to community model problems. A generic model, as well as a guide for model solutions, is available in the form of a white paper at the CBSE5 web site.

A composition theory assumes the availability of information about the properties of components but, in practice, we do not know how to measure and communicate this information. Thus, a secondary goal for the workshop is to raise issues related to identifying and specifying this information. Examples of issues include

- specification of relevant component properties
- measurement techniques for assessing the properties
- methods for certifying these measurements
- methods for communicating the resulting values

A summary of the workshop including brief descriptions of position papers and a list of attendees will be published as an article in Software Engineering Notes.

PARTICIPATING IN THE WORKSHOP

Attendance at the workshop will be by invitation, in large part, based on acceptance of position papers. Papers submitted to the workshop should

- crisply state the problem area
- provide an overview of the domain by way of background
- describe a family of components associated with the problem
- state properties that developers want answered about an assembly
- detail a technique for reasoning about the property
- validate or at least discuss plausibility of validation of the technique
- detail the reasoning technique by way of example

For more details on these criteria we suggest authors read the white paper containing a model for a predictable assembly problem that is available from the CBSE5 web site¹.

In addition to papers that meet the criteria listed above, papers that describe novel approaches or key insights on predicting properties of assemblies of components will be considered.

WORKSHOP AGENDA

The workshop will be divided into eight sequential sessions; six working sessions held between a welcome session and a closing session. The opening session will include a review of progress made at CBSE4 and introductions to the community model problems. Topics of the working sessions will be determined based on the distribution of accepted position papers. Each session will begin with an overview presentation by the session chair. The introductory presentation may be followed by short presentations of relevant papers but the primary activity of

¹ <http://www.sei.cmu.edu/pacc/CBSE5>

each session will be discussion focused on gaining a deeper understanding of the issue and discovery of areas that require further exploration. The closing session will include reviews of the six working sessions and discussion of directions for follow-on research.

IMPORTANT DATES

Due date for position papers: March 4, 2002
Notification of acceptance: March 23, 2002
Final versions due: TBD

SUBMISSION OF POSITION PAPERS

All papers must be submitted by the date listed above, should follow ICSE formatting standards and should be no more than six pages long. All papers should be submitted via email to Judith Stafford at jas@sei.cmu.edu.

WORKSHOP ORGANIZERS

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