WISR'95:
7th Annual Workshop on Software Reuse
Summary and Working Group Reports

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The Seventh Annual Workshop on Institutionalizing Software Reuse (WISR '95) hosted by Andersen Consulting, took place August 28-30, 1995 in St. Charles, Illinois. Almost 50 experts representing an international group of industry, academic and government organizations gathered to discuss both the state of the art and state of the practice in adopting software reuse. As in past workshops, work began with an introductory session in which participants presented current and critical issues based on position papers they submitted to the workshop. Attendees then divided into eight working groups (two combined and one "virtual") covering a wide range of topics including:

- *The Organization* (or *Software Reuse in a Business Environment*): led by Kevin Benner (Andersen Consulting)
- *Domain Processes and Engineering:* led by Sid Bailin (CTA)
- *Domain Modeling Representation Strategies: Towards a Comparative Framework:* led by Mark Simos (Organon Motives, Inc)
- *The Reuse of Processes:* led by Bill Frakes (Virginia Tech)
- *Micro-Architecture of Software Components* and The Need For Good Mental Models of Software Subsystems: a joint working group led by Steve Edwards (The Ohio State University), Joe Hollingsworth (Indiana University Southeast), Larry Latour (The University of Maine) and Bruce W. Weide (The Ohio State University)
- *Systematic OO Reuse - A Tale Of Two Cultures:* led by Martin L. Griss (Hewlett-Packard Laboratories)
- *Barriers to Institutionalizing Reuse Using Current Tools and Environments:* led by Margaret (Maggie) J.

Davis (Boeing Defense and Space Group), and Rebecca Joos (Motorola)

The Tools and Environments group decided very early in the workshop to become a "virtual" working group, sending envoys throughout the workshop and meeting periodically to collect and discuss different perspectives on their problem. The envoy concept was also used successfully by the Systematic OO Reuse group. Envoys were again sent to other groups to pull in different perspectives on the Systematic Software Reuse/OO "two cultures" issue. This allowed the working groups to exchange ideas much more quickly and in greater detail than they could via the plenary sessions.

A number of innovative ideas came out of this year's workshop. Along with the highly successful envoy concept, two groups used the case study approach to get a different "holistic" perspective on their problem. Kevin Benner's "The Organization" working group brought in domain experts from Andersen Consulting to study a fictitious organization not unlike Andersen in many respects, and Sid Bailin's "Domain Processes and Engineering" working group adopted the metaphor of theatrical criticism to analyze the key scenes of an organization. Borrowing a page from C.P Snow's critique of the "Two Cultures" of science and the humanities, Martin Griss led his group in an analysis of "Systematic OO Reuse - A Tale of Two Cultures". Mark Simos formed and led his domain model representations group under the premise that much could be learned by attempting to develop a framework of representation strategies. The group's use of Kiviat diagrams was innovative and thought provoking. Steve Edwards and Larry Latour found it very worthwhile to discuss mental models of software within the very pragmatic context of Joe Hollingsworth and Bruce Weide's Micro-architectures group. Finally, Bill Frakes found it useful to consider issues of manipulating the reuse process as product, applying concepts of form and parameterization typically applied to more "standard" artifacts. These innovative working group approaches led to an extremely interesting and productive 2 1/2 days.

This report contains an edited version of the individual working group reports. Complete versions, along with current and past proceedings and past working group reports, are available from the WISR archive listed at the end of this summary.

"The Organization" (or Software Reuse in a Business Environment)

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Between the learning of the basic concepts of systematic software reuse and their application in a commercial environment there is a difficult transition between sterile concepts and the prickly issues associated with real-world reuse. Simple tradeoffs become multi-variable equations as competing issues com-