

2nd Conference on Domain-Specific Languages

Sponsored by USENIX in cooperation with ACM SIGPLAN and SIGSOFT

October 3-6, 1999

Omni Hotel

Austin, Texas

Important Dates for Refereed Papers

Papers due: *March 22, 1999*

Author notification: *June 2, 1999*

Camera-ready final papers due: *August 24, 1999*

Conference Organizers

Program Chair

Thomas Ball, *Lucent Technologies*

Program Committee

Tim Bray, *Textuality*

Charles Consel, *University of Rennes / Irista*

Mary Fernandez, *AT&T Labs Research*

Paul Hudak, *Yale University*

James Larus, *University of Wisconsin - Madison*

Doug Lea, *State University of New York at Oswego*

Jay Lepreau, *University of Utah*

Brad Myers, *Carnegie Mellon University*

Todd Proebsting, *Microsoft Research*

David S. Rosenblum, *University of California, Irvine*

Michael Schwartzbach, *University of Aarhus*

Invited Talks Coordinator

Carlos Puchol, *Lucent Technologies*

Introduction

Language is central to the discipline of software engineering. Programmers use a variety of languages in their daily work, and new languages appear frequently. These languages may offer new solutions to problems such as software production, distribution, maintenance and enhancement. However, not all languages address the problem of general-purpose computing: domain-specific languages (DSLs) are explicitly designed to address a particular class of problems, while offering compelling advantages within that class.

This conference is dedicated to the discussion of the unique aspects of DSL design, DSL implementation, and the use of DSLs in software engineering.

Domain-specific languages give rise to a number of questions:

What are the design principles for the creation of new DSLs?

What are the concrete technical advantages and disadvantages of DSLs?

What roles can DSLs play in software engineering, and how does their use affect software engineering process?

What are the tools, environments, and techniques needed to support DSLs?

What are the economic costs and benefits of DSLs?

These and other questions are the focus of this conference, which seeks to advance the practice of DSL design, DSL implementation, and software engineering generally by:

- eliciting examples of successful DSLs
- highlighting the spectrum of benefits which DSLs can provide (e.g., compile-time guarantees of behavior, improve program performance, reduced interval, ...)
- discovering design principles and methodologies for creating DSLs
- eliciting design techniques and tools for working with DSLs throughout the software engineering lifecycle
- providing a framework within which language designers from different domains can easily communicate
- establishing the practical value of DSLs through the publication of empirical data concerning productivity, quality, and maintainability
- creating a community that will continue to study and refine the practice of software engineering through DSLs

Conference Topics

The technical sessions will include refereed papers, invited talks, tutorials, and Birds-of-a-Feather (BoF) sessions. We seek papers that draw on experience in a wide variety of areas, including but not limited to the following topics:

Example Domains:

Arts

graphic arts
architecture (CAD/CAM)

Sciences

computational biology/chemistry
DNA sequencing
medical instrument control
image analysis

Computers

databases/heterogenous data management
graphics/multimedia
extensible operating systems
structured documents (SGML, XML)
active networks
distributed and parallel computing

Entertainment

games
animation

Music

composition

Computer Science:

declarative languages
object-oriented languages
visual languages and environments
software design, specification, and architecture
software engineering and software process
language implementation infrastructure
program analysis and automated transformation
formal methods
type theory
testing/prototyping

Best Paper Awards

Awards will be given for the best paper and best student paper at the conference.

Paper Criteria

Authors are required to submit full papers by March 22, 1999. Submitted papers should be no longer than 14 single spaced 8.5" x 11" pages, including figures, tables, and references. Papers longer than 14 pages will not be reviewed.

Papers will be judged on the depth of their insight and the extent to which they translate specific experience into general lessons for domain-specific language designers, implementers, and software engineers.

Papers can range from the practical to the theoretical; papers should refer to actual languages, tools, and techniques with pointers to full definitions and implementations where possible. Empirical data on results

should be included where possible. Case studies are also welcome. A good paper will demonstrate that the authors:

- are attacking a significant problem
- are familiar with the literature
- have devised an original or clever solution
- have implemented the solution and characterized its performance
- have drawn appropriate conclusions

For detailed author guidelines, send email to **dsl99authors@usenix.org**.

Note: DSL, like most conferences and journals, requires that papers not be submitted simultaneously to more than one conference or publication, and that submitted papers not be previously or subsequently published elsewhere. Papers accompanied by non-disclosure agreement forms are not acceptable and will be returned to the author(s) unread. All submissions are held in the highest confidentiality prior to publication in the Proceedings, both as a matter of policy and in accord with the U.S. Copyright Act of 1976.

Authors of accepted papers will be expected to provide both a PostScript file of the final paper and an HTML version that includes links to their slides and software, if available. These will be included in an electronic version of the conference (see <http://www.usenix.org/publications/library/proceedings/dsl97>)

Specific questions about submissions may be sent to the program chair via email to **dsl99chair@usenix.org**.

Publication

The conference papers will be published in the conference proceedings and in an issue of *SIGPLAN Notices*, the primary informal monthly publication of the Special Interest Group on Programming Languages (SIGPLAN) of ACM.

How/Where to Submit

Submission of all papers must be made in both paper and electronic form. Fifteen (15) paper copies (double-sided if possible) of the paper must be sent to:

Thomas Ball
Room 2A-314
Bell Laboratories, Lucent Technologies
263 Shuman Boulevard
Naperville, IL 60566-7050

One electronic copy in PostScript (not ASCII) must be submitted by electronic mail to **dsl99papers@usenix.org**, accompanied by the author information form at **<http://www.usenix.org/events/dsl99/authorinfo.txt>** (MIME attachments are allowed).