

RULE 2001

Second International Workshop on Rule-Based Programming

Affiliated with PLI2001

September 4, 2001, Firenze, Italy

CALL FOR PAPERS

Rule-based programming began with AI rule-based systems in the seventies. This paradigm is inherent in Prolog and has been used in program-manipulation systems like Refine. Indeed, the rewriting concept appears throughout CS, from its theoretical foundations to very practical implementations. Extreme examples include the mail system in Unix which uses rules in order to rewrite mail addresses to canonical forms and the transition rules describing the behaviour of tree automata. Rewriting is used in semantics in order to describe the meaning of programming languages, as well as in program transformations like the re-engineering of Cobol programs. It is used to compute, implicitly or explicitly, as in Mathematica or OBJ, but also to perform deduction when using inference rules to describe a logic, theorem prover or constraint solver. Last, but not least, this approach is central to systems that raise the notion of rule to an explicit first class object, like expert systems, programming languages based on equational logic, algebraic specifications (e.g. OBJ), functional programming (e.g. ML) and transition systems (e.g. Murphi).

Rule-based programming is currently experiencing a renewed period of growth with the emergence of new concepts and systems that allow one to better understand and better use it. From the theoretical side, after the in-depth study of rewriting concepts during the eighties, the nineties saw the emergence of the general concepts of rewriting logic and of the rewriting calculus. On the practical side, new languages, like ASM, ASF+SDF, Claire, ELAN and Maude, systems like LRR, and also commercial products, like Ilog Rules, have shown that the concept of rule could be of major interest as a programming tool. In particular, because it is now of practical use, fundamental questions arise, like the theoretical study of the algorithmic complexity of programs written in such languages, as well as their optimisation. Of course, semantics of such languages, compilation techniques and methodological studies of their use should also be explored.

Rule based programming is closely related to both functional programming (when the term rewrite system is confluent and terminating) as well as classical logic programming (when the rewrite system is used for nondeterministic search).

Accordingly, the purpose of this workshop is to bring together researchers from these various domains to foster fertilisation between theory and practice, as well as to favour the growth of this programming paradigm.

Program Committee:

Mark van den Brand (CWI, Amsterdam, The Netherlands)
Iliano Cervesato (ITT Industries, Alexandria, USA)
Nachum Dershowitz (Tel-Aviv University, Israel)
Bernd Fischer (RIACS/NASA Ames, Moffett Field, USA)
Claude Kirchner (Loria & INRIA, Nancy, France)
Jean-Yves Marion (Loria & INRIA, Nancy, France)
Narciso Marti-Oliet (Universidad Complutense de Madrid, Spain)
Rakesh M. Verma (University of Houston, USA)
Eelco Visser (Utrecht University, Utrecht, The Netherlands)

Address of the program co-chairs:

RVerma@UH.EDU
<http://www.cs.uh.edu/~rmverma>
Mark.van.den.Brand@cwi.nl
<http://www.cwi.nl/~markvdb>

The workshop will be focussed on the following topics for rule based languages:

- Logic and semantics
- Rewriting for computation and deduction
- Methodological program development
- Reports on practical experiences using such languages
- Algorithmic complexity
- Partial evaluation techniques
- Evaluation and compilation
- Combination of rule based techniques with other programming paradigms
- Non-deterministic rewriting
- Abstract machines for rewriting
- Extensions of rewriting

Submitted papers must be original. Suggested length is 10-15 pages. We are planning to have advance proceedings in the form of a web-accessible volume of accepted talks. Authors are strongly encouraged to use LATEX and the Springer style files. The primary means of submission will be electronic, in POSTSCRIPT format. Papers should be emailed as attachments, or as uuencoded compressed files, to the program co-chairs.

Submission deadline:	June 15, 2000
Notification of acceptance:	July 15, 2000
Final copy due:	August 15, 2000

RULE2001 Web Site — <http://www.cwi.nl/conferences/RULE2001>