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Object-Based Models and Languages for Concurrent Systems

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for Coordination of Parallelism and Distribution
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Preface

The difficulties that designers meet in the development of distributed applications encourage the introduction of new tools and languages. In fact, a new class of models, formalisms, and mechanisms for describing distributed systems and computations has emerged in the past few years.

Some significant representatives in this new class are models and languages based on a notion of pattern-based communication, which complements the name-based communication of traditional (concurrent) object-oriented languages: Linda, Linear Objects, ACL, PoliS, Gamma, and ActorSpaces are among the most relevant examples of coordination languages and models.

All these models and languages share a few basic concepts: simple features for describing data and a small number of mechanisms for coordinating the work of agents in a distributed/parallel setting. Integrating such features with those offered by concurrent OOP may lead to a significant step forward in the state-of-the-art of language support for distribution and software composition.

The growing interest in coordination as a mechanism for both open system design and software reuse provided the motivation for organizing a workshop as part of ECOOP 94 (the European Conference on Object Oriented Programming), in order to assess the state of art in the field of coordination language design. The workshop was titled *Models and Languages for Coordination of Parallelism and Distribution.*

We got more than 30 submissions, including position papers, and about ten were selected for presentation at the workshop. We also had two invited speakers: Gul Agha and Peter Wegner. More than fifty people attended the workshop. As a result of the high quality of the contributions selected for presentation, we decided to produce a record of the proceedings of the workshop.

We thank Antonio Corradi and Letizia Leonardi, who were responsible for coordinating the workshops at ECOOP 94. We thank also all the participants, who made this the most crowded workshop, and the contributing authors. And we thank the referees who helped in choosing and improving the papers presented at the workshop or published in these proceedings.

March 1995

Paolo Ciancarini
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