

RECENT ADVANCES IN JAVA TECHNOLOGY  
THEORY, APPLICATION, IMPLEMENTATION

James F. Power  
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(Eds.)



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Theory, Application, Implementation

James F. Power and John T. Waldron (Eds.)

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## Preface

Since its launch, the Java programming language has quickly established itself as a backbone technology in many areas of computer science and information systems. By leveraging the power, reliability and portability of the Java framework, application developers have harnessed a means of creating robust and mobile applications. In this book, we investigate the present day widespread use of Java and Java related technologies to provide a platform for cutting-edge developments in computer software.

The chapters give some idea of the breadth of application of the Java programming language. The applications presented here range from simulation, databases, networks, cryptography and software localisation, right through to voice and music applications. Other chapters, relating to the foundations of the language itself, reflect the evolving nature of the technology, and the prospect for further innovations in programming language design.

Also explored are issues relating to the design and engineering of intermediate representations, of which Java bytecode is an example. These compare prominent, widely-used systems such as the Java Virtual Machine and the Common Language Infrastructure, as well as related systems and architectures ranging from Forth to Oberon. Such work is of prime importance in laying the foundations for future technologies that build on the example of Java.

Finally, Java has quickly established itself as the language of choice for teaching programming in universities and third-level institutions, and six of the chapters discuss issues in this domain. These chapters are based on the experiences of educators who have used Java, and offer a selection of practical reports and solutions.

Many of the chapters in this book are revised versions of papers presented at the Conference on the Principles and Practice of Programming in Java (PPPJ 2002) and the Workshop on Intermediate Representation Engineering for the Java Virtual Machine (IRE 2002) held in Trinity College Dublin, Ireland, in June 2002.

The editors would like to thank all the authors for their contributions, both in person at the conference, through the papers themselves, as well as their patience and co-operation during the editing process.

November 2002

James Power  
John Waldron  
Editors.



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