This volume contains revised and expanded versions of the papers presented at the 15th Monterey Workshop, held during September 24–26, 2008 in Budapest, Hungary.


The topic of the 2008 workshop was “Foundations of Computer Software, Future Trends and Techniques for Development.” Modern computer systems manage very large amounts of information, performing complex computations in a distributed way. At the same time, there is a need to display information in a way that aids human actors in the interpretation of this information and in decision making. The systems are becoming more and more dynamic, adaptive, and increasingly pervasive. Computer systems affect all aspects of our lives, from the electric grid to banking to drive- and fly-by-wire control. Safety and security are becoming central issues of computer system design, and verification, validation, and certification are critical. Hardware technology and user needs are both changing faster than software development methods evolve to accommodate them.

There is a growing concern in the research community that existing foundations of software development are not adequate for this new dynamic world and that software development is becoming increasingly ad hoc. The papers presented at the workshop explore how the foundations and development techniques of computer software could be adapted to address such a challenge. Material presented in the papers spans the whole software life cycle, starting from specification and analysis, design and the choice of architectures, large-scale, real-world software development, code generation and configuration, deployment, and evolution.
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