Call for Papers

The Computer Journal

Special Issue on Engineering Complex Systems

Complex computer systems have become ubiquitous, and now influence many aspects of our lives. More and more they are becoming security and safety-critical, where undesirable behaviour can result in breaches of privacy, or worse still, great financial loss, physical damage or loss of human life.

Such systems are typically run on distributed, heterogeneous networks, and are subject to strict performance, fault tolerance and security constraints, as well as complex timing constraints, all of which may conflict.

Many engineering disciplines must contribute to the development of complex systems in an attempt to satisfy all of these requirements. No single technique is adequate to address all issues of complex system development; rather, different techniques must be applied at different stages of development to ensure unambiguous requirements statements, precise specifications that are amenable to analysis and evaluation, implementations that satisfy the requirements and various goals such as re-use, re-engineering and reverse engineering of legacy code, appropriate integration with existing systems, ease of use, predictability, dependability, maintainability, fault-tolerence, etc. There is an increasing need to integrate relevant techniques in an appropriate manner.

A special issue of "The Computer Journal" on Engineering of Complex Computer Systems, to be published in the last quarter of 1995, solicits original papers on techniques and approaches that may be applied, or scaled, to large-scale complex systems. This includes, but is not limited to:

- Formal methods and formal specification techniques
- Design Methods and Method Integration
- Hardware/Software Co-design
- Software and Hardware Architectures
- Performance estimation, prediction and optimization
- Communications, networking, mobile computing
- Highly heterogeneous, distributed and parallel platforms
- Massive databases and distributed file systems
- Software reuse, re-engineering and reverse engineering
- Tool support
- Case studies and project reports

Submitted papers must be previously unpublished and must not be under consideration for publication elsewhere. Four (4) copies should be sent by 17th February 1995, to either guest editor:

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Notification of acceptance or rejection will be sent on or before 7th April 1995; final versions in electronic (LaTeX) format will be required by 2nd June 1995. The Special Issue will be published during the last quarter of 1995.