Workshop on Unanticipated Software Evolution

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Organisers
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Call for Papers

Many studies of complex software systems have shown that more than 80% of the total cost of software development is devoted to software maintenance. This is mainly due to the need for software systems to evolve in the face of changing requirements. In some cases, software evolution may need to be dynamic, with changes being performed on running systems.

Despite the importance of software evolution, techniques and technologies that offer support for software evolution are far from ideal. In particular, unanticipated requirement changes are not well supported, although they account for most of the technical complications and related costs of evolving software.

By definition, unanticipated software evolution (USE) is not something for which we can prepare during the design of a software system. Therefore, support for USE in programming languages, component models and runtime infrastructures becomes a key issue. Without it, unanticipated changes often force software engineers to perform extensive invasive modification of existing designs and code.

This two-day workshop will address the issues inherent in incremental static and dynamic evolution. The main goal of the workshop is to discuss new approaches for building large-scale software systems that are evolvable when faced with unanticipated requirements. We also want to promote lively discussion between researchers proposing new approaches and practitioners reporting on their experience with the strengths and limitations of current technologies.

Topics of Interest  The workshop is intended to cover all aspects of unanticipated software evolution, from theoretical foundations to empirical studies. Position paper topics of interest include, but are not limited to:

- Formal methods, language concepts and implementation techniques for USE.
- USE support at different stages of a program’s life-cycle: compile-time, load-time and run-time.
- USE support in programming languages, component models and related infrastructures (JVM, EJB, JavaBeans, CORBA, DCOM, and .NET).
- USE support by prototype-based language concepts, reflection, and aspect-oriented approaches.
- Consistency, safety, integrity, constraint enforcement and dependency management issues.
- Learning from object-oriented databases: Application of techniques for schema evolution and instance adaptation for run-time USE
- Experience reports on engineering for 24x7 availability and on-line software upgrades.
- Related descriptions of hard problems from a practitioner’s perspective.

Attendance  Attendance at the workshop is by invitation based on submitted papers, and will be limited to approximately 20 people in order to facilitate lively discussion and the exchange of ideas.
**Important dates**

Deadline for reviewed paper submissions: October 13, 2002
Notification of acceptance or rejection: December 20, 2002
Deadline for final versions: February 10, 2003
Deadline for late paper submissions: February 10, 2003

Late paper submissions will not enter the review process and will not be considered for publication. For late submissions, we cannot guarantee a response prior to the early registration deadline.

**Submission Guidelines** We seek high-quality submissions in two categories:

- Full technical papers, describing original, unpublished research (up to 10 pages).
- Work-in-progress papers, describing on-going work and interim results (up to 6 pages).

All articles must be submitted electronically via the workshop website. Please see the website for detailed submission and formatting guidelines. We will start to accept electronic submissions from October, 1st.

**Workshop Format** In keeping with the spirit and format of a workshop, USE will have a highly discursive nature, with different theme-based discussion tracks. All invited participants will be able to present their work. There will be plenty of time for discussion of presentations and subsequent discussions in small focus groups.

**Publications** We have arranged for two kinds of publications related to this workshop.

All papers that have gone through the regular review process and have been accepted will be published as printed proceedings. Papers that have been submitted late (after the regular deadlines) will not be included. The proceedings will be handed out to the participants at the workshop.

In addition, all submitted papers will be published online on the website of the workshop at least two weeks in advance. Participants are required to prepare for the workshop by reading the papers.

Journal Publication

The best papers of the workshop will also be considered for a special issue of the "Journal of Software Maintenance and Evolution: Research and Practice". Selection of papers to be published will be based on the results of the review process and on the discussions at the workshop. Again, late papers will not be considered for journal publication. Authors of selected papers will be informed shortly after the workshop and will be requested to prepare significantly revised and extended versions of their papers based on the reviewers’ comments and the feedback they received at the workshop. Journal publication might be preceded by a second review cycle, depending on the initial reviewer comments and the requirements of the publisher.

**Program Committee**

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