

Paper Preparation

Paper Relevance

The ACM *Transactions on Software Engineering and Methodology* is a publication for original and significant results in all areas of software engineering research. The software systems of interest for this journal are characterised in most cases by a scale requiring development by teams, not individuals. They should be sufficiently complex and long-lived to justify investment in languages, methods, and tools that support specification, design, implementation, validation, documentation, maintenance, reengineering, and other related activities. Submitted papers should address important research topics; the results described must be reproducible, extensible, scalable, and have practical relevance.

Experience reports on the use of advanced software engineering techniques are in principle excluded unless they provide thoughtful insights about the development world or the application of a technology, that result in the identification of new important challenges for software engineering research.

The scope of TOSEM includes models, languages, methods, mechanisms, and tools for the elaboration, evaluation, and evolution of products and processes all along the software lifecycle, from requirements specification to software maintenance. *Formal* and *experimental* approaches are both in the scope of TOSEM. Examples of topics include:

- Requirements engineering: acquisition, modelling, specification, analysis, and prototyping;
- Design engineering: software architectures, specification, refinement, design methods, strategies, and styles; documentation of design rationales;
- Software testing, analysis and verification: algorithms, techniques and processes for assuring or assessing software with respect to functional or non-functional requirements;
- Configuration management: version control and system evolution;
- Software understanding and reengineering;
- Reuse: techniques for reusing components such as specifications, designs, or code, and for making such products reusable;
- Software process engineering: modeling, analysis, customisation, enactment, evolution;
- Software engineering environments: organisation, tool integration and interoperability; object management, language-directed tools, knowledge-based tools, dedicated tools; software visualisation;
- Measurement, metrics, estimation methods, and empirical studies;
- Human-Software interaction;
- Collaborative software engineering;
- Special software engineering techniques for: distributed systems, real-time systems, safety-critical systems, secure systems, multimedia systems, and mobile

- computing;
- Adaptation of techniques from programming languages, artificial intelligence, or databases;
- Domain-specific software engineering techniques.

Papers submitted are judged primarily on originality, significance, technical soundness and quality of presentation. Contributions should conform to generally accepted practices for scientific papers with respect to organisation, clarity and style.

Theoretical or methodological papers should clearly show how the results presented may contribute to software engineering practice. Papers on specific systems should concentrate on technical and architectural issues rather than providing feature-by-feature descriptions. Experimental papers should describe the experimental method used and interpret the results in terms of practice. All papers should clearly indicate what is new and significant about the work presented and how it compares with related work. Every claim must be substantiated through detailed arguments. Technical precision and conciseness are other important requirements.

Prior Publication Policy

It is the ACM policy to be the sole, original publisher of articles. Manuscripts that have been submitted simultaneously to other magazines, journals or to conferences, symposia, or workshops without the prior written consent of the Editor-in-Chief will be rejected outright and will not be reconsidered. Widely disseminated conference proceedings and newsletters are a form of publication, although they are usually only semi-archival and often not fully refereed. Publication of expanded versions of papers that have been disseminated via proceedings or newsletters is permitted only if the Editor-in-Chief judges that (a) the revision contains significant amplification or clarification of the original material or (b) there is a significant additional benefit to be gained from journal publication. In either case, any prior appearance should be noted on the title page of the paper. The differences between the submission and the original version should be made explicit both in the submission letter and in the paper. A conference chairperson can arrange with the Editor-in-Chief to publish selected papers from conferences, symposia, and workshops, after suitable reviewing. The papers must meet the editorial requirements for research articles. Acknowledgement of the originating conference will appear as a credit when the paper is published in TOSEM.

Syntactical Requirements

Format

The text should be double spaced on one side of the paper. To save postage, machine reproduction of papers upon which reviewers have commented will not be returned to author(s) unless specifically requested. Each author's name should be given without titles or degrees along with the name and address of the organisation with which

the author was affiliated when the described research was carried out. A footnote on the first page should acknowledge funding sources and presentations, if any, of the material at technical meetings (give dates and sponsoring societies).

Length

It is recommended that papers not exceed 11,000 words including figures (where a half-page figure equals approximately 250 words). Papers that are longer than 11,000 words will still be considered, but may not be guaranteed publication in a timely fashion.

Styles

To ensure proper indexing, classification, retrieval and dissemination, authors must include the following in the manuscript:

- Descriptive title;
- Author names and affiliations - with addresses in a footnote (including email);
- Abstract;
- Content indicators of three types:
 - Categories and subject descriptors from Computing Reviews (CR),
 - General terms from Computing Reviews,
 - Additional key words and phrases;
- Citations to the relevant literature.

See the [Manuscript Identifiers](#) guidelines for further description of this material.

Figures

Diagrams should be on smooth white paper or drafting linen. Lettering should be done professionally with a LeRoy ruler (or, if necessary, in clear, black typing). Photographs should be glossy prints. The lead author's name and the figure number should appear on the back of each figure. On publication, figures will be reduced to a maximum width of 4 and 3/4 inches; maximum allowable printed height will be 7 and 1/2 inches. In planning, care should be taken to ensure that the legends and labels within the figure will be large enough to be readable after they are reduced by the same percentage as is required to make the whole figure fit on the page. Figure captions are all set in type by the printer; the entire set should be typed double-spaced on a separate sheet of paper.

Segments of computer programs or output are treated like diagrams and are reproduced from good quality material provided by author(s) (normal line printer output is not considered good quality).

Mathematical Expressions

1. Avoid the use of built-up fractions in the text. If not avoided by the author(s),

built-up fractions will be converted to equivalent expressions on the line when the paper is copyedited. In display matter, however, built-up fractions are preferred for clarity.

2. Avoid the use of small-type mathematical expressions centered above or below arrows. If possible, try to use an alternative format.
3. In the exponential function, avoid exponents having more than one or two characters.
4. Avoid the use of reference numbers for equations that are not subsequently referred to in the paper. Costs are reduced if short mathematical equations and other expressions in the text are run in (instead of each being displayed on a separate line). Authors must expect that, when accepted papers are copyedited, "excess" equation reference numbers will be deleted and short equations will be run in with text.
5. Be sure to indicate special marking for symbols (e.g., italics, boldface) and clearly identify any unusual symbols. Try to avoid underscored symbols because they often require hand composition and opening up lines and thus are expensive. In vector notations, indicate which letters or notations, if any, may be set in boldface type. Indicate if asterisks are to be set in superscript position or centered on the line.

Submission for Editorial Review

How to Submit

Manuscripts intended for publication should be submitted by electronic mail as PDF attachment (PostScript is also acceptable), to tosem@elet.polimi.it, together with a separate abstract of the paper in ascii format. Paper submissions in FIVE copies, to the Editor-in-Chief, are also acceptable, but will be handled much less efficiently. In both cases a submittal letter should be sent to the Editor-in-Chief that contains full contact information of the lead author together with a statement, signed by him/her, that the material contained in the submitted paper has not been previously published and is not currently considered for publication elsewhere. If the submission is an expanded version of a conference or workshop paper the lead author should identify the conference or workshop and specify the differences between the submission and the conference version.

Review Process

Papers will be refereed in the manner customary with scientific journals before being accepted for publication. The overall process is roughly as follows. (In the sequel the acronyms EIC and AE stand for Editor-in-Chief and Associate Editor, respectively.)

1. Authors submit paper to EIC.
2. EIC selects AE according to topic of paper, absence of conflict, fair distribution of load among AE's, etc.
3. AE suggests 3-4 referees to EIC.

4. EIC checks that referees suggested haven't been already solicited too much recently, have no conflict etc., THEN negotiates with referees an acceptable deadline for review, THEN emails or snail-mails paper to reviewer. Typically, 70% of reviewers commit to the proposed four weeks, 20% to 6 weeks, and 10% up to 10 weeks.
5. AE and referees review paper.
6. EIC tries to diplomatically pester reviewers when deadline is over.
7. WHEN all reviews are available EIC sends them to AE and asks AE for an editorial decision together with some justification highlighting the main reviewers' concerns. The usual decisions are: accept, minor revision, major revision, reject. Minor revisions are usually rechecked by AE only; major revisions trigger a new round of reviewing by the original reviewers.
8. EIC sends decision letter to authors together with referees' reports AND sends anonymous, verbatim copies and thanks to AE and reviewers.
9. EIC sends accepted papers to ACM.

Steps (1)-(9) are carried out over the Internet whenever possible.

Authors are expected to keep the Editor-in-Chief informed of any change of address. Correspondence on editorial matters should be addressed to tosem@elet.polimi.it. Correspondence regarding accepted papers should be addressed to Jono Hardjowirogo (with a copy to tosem@elet.polimi.it), or on paper to:

Managing Editor, TOSEM, ACM, 1515 Broadway, New York, NY 10036
with a copy to the Editor-in-Chief.

Letters and notes of detailed technical content are considered for publication as Technical Correspondence. They are formally reviewed but are usually not refereed in the same way as short contributions or full articles.

If an author has concerns about how her or his paper was handled, that author should bring those concerns to the EIC. If the author feels that the concerns are not adequately addressed by the EIC, she or he may appeal to the Chair of the Publications Board, in accordance with ACM policy.

Procedures for Accepted Papers

How to Submit

Once a manuscript is accepted, a final version must be submitted to the Editor-in-Chief for transmission to ACM for publication. Although this may be done on paper, electronic submission is again highly encouraged. ACM provides for a wide variety of formats for such electronic submissions. Please contact Jono Hardjowirogo for further details or refer to ACM's [Guidelines for Submitting Accepted Articles](#) for details.

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Referee Instructions

There is no review form for TOSEM. (Experience suggests that fixed evaluation forms are not customised enough to one paper or another; responses to a multiple-choice questionnaire do not carry much information for the editor and the authors.) A review typically contains four parts: (a) a summary of what the reviewer considers to be the paper's main achievements, (b) an overall evaluation of the strengths and weaknesses of the paper (according to various criteria, see below), (c) a recommendation that logically follows (accept, minor revision required, major revision required, reject), and (d) detailed comments. These four parts are communicated anonymously to the authors. The reviewer may also wish to make confidential remarks for the TOSEM Editorial Board only. It is most important that reviews be as *informative and constructive* as possible.

Papers for TOSEM must be of high quality and fall within the [scope of the journal](#). There are four main ingredients to an acceptable paper:

1. originality,
2. significance and interest,
3. technical soundness, and
4. quality of presentation.

Few papers excel in all of these, but a sub-standard level in any is sufficient ground for major revision or rejection.

An acceptable paper should contain: (a) motivation and clear objectives, (b) demonstration of novelty and superiority compared to related work, (c) evidence of effectiveness, reproducibility, scalability, and practical relevance. The paper should conform to generally accepted practices for scientific papers with respect to organization, style and language.

Theoretical or methodological papers should clearly show how the results presented may contribute to software engineering practice. Papers on specific systems should concentrate on technical and architectural issues rather than providing feature-by-feature descriptions. Experimental papers should describe the experimental method used and interpret the results in terms of practice. Experience reports on the use of advanced software engineering techniques are in principle excluded unless they provide thoughtful insights about the development world or the application of a technology, that result in the identification of new important challenges for software engineering research. All papers should clearly indicate what is new and significant about the work presented and how it compares with related work. Every claim must be substantiated through detailed arguments. Conciseness and technical precision are other important requirements (typical counter-examples are: concepts being used without being defined, a same concept being referred to under multiple terms, a same term referring to multiple concepts, etc.).

In general, minor revisions are checked by the associate editor in charge of the paper whereas major revisions are re-reviewed by the original reviewers. In both cases the authors are asked to prepare a cover letter detailing how they addressed the various reviewers' concerns.

Your report should be sent to the Editor-in-Chief by regular mail or, *preferably*, by email in ascii format. The address is: tosem@elet.polimi.it. An anonymous copy of your review will be emailed to the authors. Anonymous copies of all reviews will also be emailed to all reviewers together with information about the decision taken by the Editorial Board.

All manuscripts are to be treated confidentially. Please do not distribute or reference a manuscript under consideration without an author's permission. Reviewers' names are not disclosed to authors, so contacting an author can only be done at your discretion.

Publishing a high-quality research journal requires a tremendous commitment by the reviewers who give of their time and knowledge. The TOSEM readers, authors,

associate editors, and editor-in-chief owe much to the thoughtful comments you will provide.