Editorial Policy

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revised from June 1981

Background

In the late 1960s ACM perceived a need among its members for a journal to help people discover new specialties, and to help practitioners stay abreast. It perceived among its members a strong base of expertise for achieving these purposes. It founded the *COMPUTING SURVEYS*.

The *SURVEYS* began publication in March 1969 with Bill Dorn as Editor-in-Chief and Myrtle Kellington as Executive Editor. Lee Revens became Executive Editor in 1970, Art Blum in 1976, Mark Mandelbaum in 1979, and Janet Benton in 1981. Each printing run of the *SURVEYS* is presently about 28,800 copies; *SURVEYS* is the choice of almost 52.7 percent of our members.

On taking over from Bill Dorn in 1973, Elliott Organick established an informal editorial panel—senior people who advised both on the suitability of particular papers and on areas of special interest or importance. He promoted this panel to an Editorial Board in December 1975. He instituted the practice of publishing special issues. Through mid 1981, there have been special issues on programming (December 1974), computer architecture (December 1975), database management (March 1976), software reliability (September/December 1976), parallel processors (March 1977), queuing network models of computer system performance (September 1978), graphics standards (December 1978), encryption (December 1979), microprogramming (September 1980), and user psychology (March 1981).

Peter Denning took over from Elliott Organick at the start of 1977. With the December 1977 issue, he elevated the Editorial Board to a Board of Associate Editors. He established the *Surveyors' Forum* in order to provide readers with an opportunity to

comment on papers published in the *SURVEYS* and instigated the option to submit short notes. The first Forum appeared in September 1977; the first Short Note appeared in March 1978.

I took over at the start of 1979, pleased to be given the opportunity to continue such prestigious history. During the last two years, Associate Editors have taken an increased role in assuring the quality of *SURVEYS*. Those listed in the current masthead (Alan Borning, Herbert Bright, Roy Levin, Richard Muntz, Anthony Wasserman, Bruce Weide, and Eric Weiss) and past Associate Editors deserve special acknowledgment for their thoughtful and timely service.

Table 1 was constructed from the *COMPUTING SURVEYS* tables of contents, 1969–1982. It summarizes the distribution of papers and pages among subjects. The first three categories of the table account for about 42.3 percent of the papers and 34.4 percent of the pages. The SIGs with direct interests in these three categories comprise about 43.7 percent of all SIGs—the *SURVEYS* has, to a first approximation, matched its attentions to our members' interests.

What Are Surveys and Tutorials?

The main differences between a survey paper and tutorial paper are emphasis and audience. A survey paper assumes its audience has a general knowledge of the field; it emphasizes an overall view of the literature. A tutorial assumes its audience is inexperienced; it emphasizes the basic concepts of the field and provides concrete examples that embody these concepts. In practice, most of the papers published in *SURVEYS* combine the two approaches: they survey a range of material *and* explain the underlying concepts.

Table 1. Summary of *Computing Surveys*, Vols. 1–12 (1969–1982)

Subject	Papers		Pages	
	Number	Percent	Number	Percent
Programming Methods, Validation, and Testing	26	16.2	506	12.2
Data Management and Organization; Information Systems; Business Applications	24	14.9	606	14.6
Modeling, Measurement, Simulation, and Evaluation	18	11.2	316	7.6
Graphics; Picture Processing	15	9.3	461	11.1
Computer Architecture; IC Design	14	8.7	365	8.8
Theory of Computation	10	6.2	207	5.0
Computer System Design	8	5.0	279	6.7
Encryption; Data Security	7	4.4	206	5.0
Man–Machine Interface Software Packages; Text Editors	6	3.7	175	4.2
Programming Languages	5	3.1	275	6.6
Data Communications; Networks, Distributed and Cooperative Computing	5	3.1	160	3.9
User Psychology, Learning Programming	5	3.1	103	2.4
Compiling and Loading	4	2.5	85	2.0
Privacy; Legal Issues	3	1.9	99	2.3
Fault-Tolerant Software	3	1.9	90	2.2
Microprogramming	3	1.9	65	1.6
History	3	1.9	55	1.3
Humanities Applications	2	1.2	65	1.6
Artificial Intelligence	2	1.2	63	1.5
Soviet Computing	2	1.2	45	1.1
Industrial Process Control	1	0.6	32	0.8

The primary purpose of a “pure” survey is a guided tour through the literature in an area. By assuming its audience is familiar with the field’s basic concepts, it can concentrate on classifying the literature, on developing a perspective of the field, and on evaluating trends. It is up-to-date and comprehensive. It may be as long as an extended discussion of the literature with many citations, or it may be as short as an annotated bibliography with a preface.

The primary purpose of a “pure” tutorial is explaining a topic to a nonexpert who is familiar only with the basic concepts. Through its title, abstract, and introduction, a tutorial sets out clearly both what it assumes of a reader’s background and what it intends to add. A tutorial may be simple, written for people with almost no background; or it may be advanced, assuming that its readers are already versed in the subject. A tutorial’s point of view is too new to have appeared in a text; yet it is similar to a text, on a small scale. A tutorial need not contain new results or define new research problems; rather, it binds together old results in a new way. A tutorial need not be easy—to wit, an advanced tutorial,

a tutorial on a different subject, or a tutorial explaining a new way of thinking.

What Does *Computing Surveys* Publish?

We have no preconceptions about which subjects to emphasize in *SURVEYS*. We will publish any survey or tutorial paper of worth, on any subject of interest to ACM. Our concerns are quality, accuracy, and clarity.

We insist that papers of whatever ilk published in *COMPUTING SURVEYS* meet minimum standards. A standard of first importance is *technical accuracy*: readers should not have to contend with errors or omissions. Of equal importance is *clear writing*: crisp, concise, coherent prose is every bit as important as technical accuracy.

Many prospective authors shy away from the *SURVEYS* because they believe surveys and tutorials *must* be lengthy. That the average paper’s length during the first 10 years was around 60 manuscript pages feeds this misconception. We want to encourage more authors to step forward with short papers having modest objectives, perhaps

to point out a rash of new results in an area already well surveyed, or to provide new perspectives that clarify acknowledged confusions.

Shorter papers will be published in our *Short Notes* Department. To qualify, a paper must meet all our other standards and must not exceed 4000 words (16 manuscript pages) complete. We will strive for rapid reviewing and timely publication of such material.

Surveyors' Forum Policy

However hard we try for accuracy and clarity, we sometimes err. To allow readers to take us to task, to note errors, and to comment on papers we have published, we established the *Surveyors' Forum*.

Provided that suitable comment is received, The *Surveyors' Forum* appears in every issue of *COMPUTING SURVEYS*, including special issues. The subject matter is restricted to material previously published in *SURVEYS*. The Editor-in-Chief has sole responsibility for determining which submitted comments are suitable and will be published.

The commenter(s) will submit the comment, typed or printed double space, to the Editor-in-Chief. The comment should not exceed three pages; however, the Editor-in-Chief will determine if a particular case justifies a longer comment.

The Editor-in-Chief will edit the comment, have it retyped, and secure the approval of the commenter(s). This may be iterated until an agreement is reached.

The edited comment will be sent to the author(s) of the subject paper, who will be invited to reply. The Editor-in-Chief will edit the reply and secure the approval of the author(s).

The Editor-in-Chief will assign a title to the comment and reply, and will arrange a common numbering scheme for any references cited. The entire package will be sent to the Executive Editor for publication in the next available issue of the *COMPUTING SURVEYS*.

Are You a Prospective Author?

If you are planning on submitting a paper to the *COMPUTING SURVEYS*, you should

submit four (4) copies of your manuscript following the typing guidelines given below. Your cover letter should identify your manuscript as a (regular) Paper, a Short Note, or a Forum Letter. Your cover letter should also declare your intention to transfer your copyrights to ACM should the paper be accepted.

You should submit your manuscript (with copies) directly to the Editor-in-Chief, who may, in turn, direct it to one of the Associate Editors for processing. Papers and Notes will be reviewed by at least two referees. The referees, and any Associate Editor involved, will make recommendations to the Editor-in-Chief, who will make the final decision.

As you prepare your paper, keep in mind the following questions that we pose to the reviewers:

- (1) *Is the paper technically accurate?* If the paper is a survey, is it adequately comprehensive? Are there deficiencies or misleading statements, too many opinions, or insufficient examples? Does it give proper credits?
- (2) *Is the paper clearly written?* Is it crisp? Coherent? Concise? Well organized? Does it avoid undue formalism, needless notation, cabalistic symbols? Is it harder than the subject requires? Would a glossary be useful?
- (3) *Does the paper emphasize intuition rather than detail?* Does it interpret results rather than merely state or derive them? Does it show how to use results? Explain their limitations? Can difficult, but necessary, material be put in appendixes?
- (4) *Does the paper define its audience and meet its objectives?* Does it set forth clearly the assumptions on the reader's background? Are these assumptions reasonable? Does it tell the reader what to expect? What not to expect? Does it tell what material is included? Excluded? If the paper is long, does the introduction advise various classes of readers which sections to read or omit?
- (5) *Is the paper interesting?* The subject timely? Thought provoking? Is the sub-

ject of wide interest or applicability? If the paper is a tutorial, does it use examples well? Define terminology sufficiently? Does it stimulate the imagination?

- (6) *Can the references be improved?* Would annotating or categorizing items add useful information?
- (7) *If revisions in the paper are advisable, is it likely that the author will implement them satisfactorily?*

The most common criticisms from referees are: the audience is not clearly defined, the objectives and scope are not obvious, the writing is loose and verbose, and there is more detail than intuition.

Guidelines for Manuscript Preparation

Your entire manuscript, including the references, should be double-spaced type, on separate $8\frac{1}{2} \times 11$ -inch sheets, one side of the sheet only. Authors' names should be given without titles or degrees, along with the name and address of the organization for which the work was carried out. The acknowledgment section should include funding sources and presentations, if any, of the material at technical meetings (give dates and sponsoring societies).

To ensure proper indexing, classification, retrieval, and dissemination, you should include in the manuscript

- (a) descriptive title;
- (b) authors' names and affiliations—if current address differs from that at which the work was done, it should be included in a footnote;
- (c) informative abstract;
- (d) content indicators of three types:
 - (i) Categories and Subject Descriptors from *Computing Reviews* (CR),
 - (ii) General Terms,
 - (iii) Additional Key Words and Phrases;
- (e) a Table of Contents whose main sections include

INTRODUCTION

⋮

SUMMARY

ACKNOWLEDGMENTS

REFERENCES

- (f) citations to the relevant literature.

In the text, main-section headings should be all capital letters and the Introduction unnumbered.

The following suggestions may be useful in preparing this information.

Descriptive Title. Use a specific and informative title to tell accurately and clearly what the document is about. Choose title terms as highly specific as content and emphasis of the paper permit. Typically, a title might contain 6 to 12 words. Avoid special symbols and formulas in titles unless essential to indicate content. "Cute" or "clever" titles are not helpful and should not be used.

Affiliation. The affiliation appearing under the author's name should be the name of the organization for which the work was carried out. When this is no longer the author's affiliation, the latter is given in an address footnote on the first page.

Informative Abstract. The abstract should be 150 to 200 words and should consist of short, direct, and complete sentences. It should be informative enough to serve in some cases as a substitute for reading the paper itself. It should state the objectives of the work, summarize the results, and give the principal conclusions and recommendations. It should indicate clearly whether the focus is on theoretical developments or on practical questions, and whether subject matter or method is emphasized. The title need not be repeated. Work planned but not done should *not* be described in abstract. Because abstracts are extracted from a paper and used separately, do not use the first person, do not display mathematics, and do not use citation reference numbers. Try to avoid starting with the words "This paper . . ."

Content Indicators. Three types of content indicators are to be assigned: categories and subject descriptors, and general

terms from the classification system used by *Computing Reviews*; and additional key words and phrases consisting of English language words. The latest CR classification may be found in the January 1982 issue of *Communications of the ACM*, or may be obtained by addressing a request to *Computing Reviews* at ACM Headquarters.

Use as many categories and subject descriptors as may be applicable. General terms are those common to more than one area of the computing field and are chosen from the fixed list given at the beginning of the classification system. Additional key words and phrases can be synonymous with those already in the classification system, or they can be more specific in relation to the paper than the subject descriptors, or they may not be covered by the existing system at all. In this last case, the following guidelines for selection may be helpful:

- (a) use important terms from the title; include also their synonyms, related words, and words of higher or lower generic rank;
- (b) use English nouns, or noun-noun and noun-adjective combinations; do *not* use hyphens except if the hyphenated parts are *always* treated as a single unit;
- (c) use specific terms whose meanings are generally accepted in the computer field; do *not* use broad catchall terms (such as "computer," "automatic," "machine," "system," "discussion," "description"); do *not* use private terms or acronyms that may not be generally known;
- (d) do *not* use negative terms stressing what your paper does not do; emphasize only the positive content and contribution.

In the text, main-section headings should be all capital letters.

Citations. COMPUTING SURVEYS uses alphanumeric bibliographic keys, such as DENN78a, DENN78b, and COX70. The capital letters are the prefix, four letters or less, of the first author's last name. The two digits specify the publication year. A trailing a, b, c, . . . distinguishes multiple papers by the same author published during that

year. If different authors would have the same key, the fourth key letter is replaced by another distinguishing letter such as the author's first initial. Keys cited in the text are enclosed in square brackets [DENN78a] except when used as nouns—as in "see DENN78a." The reference list should be double-spaced in the usual lexicographic ordering by authors, identified by keys in the left margin.

Algorithms and Program Segments. Algorithms and displayed program segments are set in reduced type, flush left on the column. Because of the narrow column width, long lines or heavily indented material cannot be accommodated on a single line, and the material should be arranged accordingly. Alignments should be clearly demonstrated, acceptable breaking points noted, and the placement of runovers indicated.

Figures. Figures should be drawn on smooth white paper or drafting linen. Letters and numbers should be drawn professionally with a LeRoy Lettering Set and with clear black ink (preferably India ink). Since figures will be reduced to center on a maximum width of 5 inches, with capital letters approximately 2 mm high after reduction, the original figures must be scaled accordingly. Captions will be set in type by the compositor. The figure number, author's name, and name of the publication (abbreviated) should appear on the back of each figure. Because your figures are to be photographed, not typeset, even the smallest correction requires reshooting. All figures, therefore, should be checked carefully for accuracy to avoid this costly and time-consuming procedure.

Mathematical Expressions

- (1) Avoid the use of built-up fractions in text; that is, instead of $\frac{1}{n}$, use $1/n$; instead of $\frac{1}{n}$, use the negative exponent form n^{-1} ; instead of $\frac{1}{(1+n)^2}$, use $(1+n)^{-2}$. If not avoided by the author, built-up fractions will be converted to equivalent expressions on the line when the paper is copy edited.

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; that is, instead of $e^{x^2+y^2}$, use $\exp(x^2 + y^2)$.

(4) Avoid the use of reference numbers for equations that are not subsequently referred to in the paper. Costs are reduced if the mathematical equations and other expressions in the text are run in (instead of each displayed on a separate line). Remember that in *COMPUTING SURVEYS*, because of the narrow column width, relatively small segments of mathematical displays can be accommodated on a single line. Authors must expect that when accepted papers are copy edited, excess equation reference numbers will be deleted and 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, should be set in boldface type. Indicate if asterisks are to be set in superscript position or centered on the line.

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