

The Impact of Electronic Publishing on the Academic Community

Session 1: The present situation and the likely future

Cutting the pie in a new way: the case of the Electronic Transactions on Artificial Intelligence

Erik Sandewall

Department of Computer and Information Science, Linköping University, S-581 83 Linköping, Sweden

©Erik Sandewall, 1997.

[Copyright Information](#)

The Electronic Transactions on Artificial Intelligence (ETAI) has recently been established as a new forum for the exchange of scientific results in its area. It is an Internet-based service which is available at the following URL (universal resource locator): <http://www.ida.liu.se/ext/etai/>. The ETAI is organized under the auspices of the European Coordination Committee for Artificial Intelligence, with the present author as its editor-in-chief.

The ETAI is both more and less than a scientific journal. In a certain sense, it is an electronic journal, but it is not simply a traditional journal gone electronic. The differences may be summarized by the table of communication functions (see [Table 1](#)).

Table 1
Differences in function between a conventional journal and ETAI

| Function |  Conventional journal |  ETAI |
|--------------------------------|---|--|
| Distribution of the article | major function | no |
| Reviewing and quality control | major function | major function |
| Debate about published results | not much done | major function |
| Publication of online software | impossible | welcomed |

To explain: the basic service of a conventional (paper) journal is to have the article typeset, printed and sent to the subscribers. The ETAI stays completely away from that process: it assumes the existence of First Publication Archives (similar to 'preprint archives', but with a guarantee that the articles remain unchanged for an extended period of time). The ETAI only deals with URLs pointing to articles that have been published (but without international peer review) in First Publication Archives.

The reviewing and quality control is a major topic for the ETAI, as for conventional journals. However, the ETAI has adopted the principle of posteriori reviewing: the reviewing and acceptance process takes place after the article has been published. This has a number of consequences, but the major advantage from the point of view of the author is that he or she retains the priority right of the article and its results as per the original date of publication, and independently of reviewing delays and possible reviewing mistakes.

Reviewing in ETAI also differs from conventional journal reviewing in that it uses a succession of several 'filters', rather than one single reviewing pass, and in that it is set up to encourage self-control on the side of the authors. The intention is that ETAI's quality control shall be considerably more strict and reliable than is done in conventional journals.

Besides the reviewing process, the ETAI also organizes News Journals in each of its speciality areas. News Journals are for information about current events (workshops, etc.), but they will also contain debate about recently published research results. Naturally, the online medium is much more appropriate for debate than a conventional journal.

Compared to mailgroups, the News Journals offer a more persistent and reputable forum of discussion. Discussion contributions are preserved in such a way that they are accessible and can be referenced in the future. In other words, they also are to be considered as 'published'.

One additional type of contribution in News Journals is links to software that is available and which can be run over the Internet. This is particularly valuable for software which can be run directly from a Web page. Already the first issue of an ETAI News Journal publishes two such online software contributions.

Finally, the creation of bibliographies is a traditional activity in research, but it is impractical in paper-based media since by their very nature bibliographies ought to be updated as new articles arrive. The online maintenance of specialized bibliographies within each of its topic areas is a natural function in the ETAI.

Generally speaking, it is clear that the electronic medium lends itself to a different grouping of functionalities than those which are natural or even possible using paper-based technology. For example, the bibliographic database underlying ETAI's bibliographic services is well integrated with the reviewing process and with the News Journals where new contributions to the literature

are first reported. Similarly, debate items pertaining to a particular article will be accessible from the entry for the article itself.

The ETAI therefore represents a novel approach to electronic publishing. We do not simply inherit the patterns from the older technology, but instead we have rethought the structure of scientific communication in order to make the best possible use of international computer networks as well as electronic document and database technologies.

©Erik Sandewall, 1997.

[Copyright Information](#)