

Lecture Notes in Computer Science

1579

W. Rance Cleaveland (Ed.)

Tools and Algorithms for the Construction and Analysis of Systems

**5th International Conference, TACAS'99
Held as Part of the Joint European Conferences
on Theory and Practice of Software, ETAPS'99
Amsterdam, The Netherlands, March 1999
Proceedings**



Springer

Integrating Printed and Online Information

Thomas Frieze¹, Tiziana Margaria², and Thomas Rakow³

¹ NeoMedia Technologies, Vienna (A), www.neom.com

² MetaFrame Technologies, Dortmund (D), www.metaframe.de

³ Springer Verlag, Heidelberg (D), www.springer.de

This LNCS volume concretizes a pilot project between NeoMedia Technologies, MetaFrame Technologies, and the Springer Verlag aimed at flexibly combining the strengths of printed and online documents. In a typical scenario, a combination of technologies enables researchers and students who normally frequent a library for taking copies to order their own high-quality print-outs of selected literature by scanning bar codes identifying the relevant papers as well as an authorization code (e.g. from a membership card). This automatically directs the print-outs to the most appropriate printer, e.g., at the member's institute or directly at the library. Costs are deducted from the member's or institution's account. Using light-weight bar code readers, this avoids the typical drawbacks of traditional copying, like physically carrying the volumes to the queue at the copier, lengthy operations, which also deteriorates the books, and the often bad quality of the copies. Technically, our solution combines

- a Digital Object Identifier (DOI), a unique and persistent identification code identical for printed and electronic versions of a document,
- an IDOCsTM¹ enabled bar code on the printed documents corresponding to the DOI, and
- an internet service managing the overall workflow.

The Springer Verlag is among the publishers supporting the introduction of the DOI global identification system for intellectual property in the digital environment. Additionally, in our prototype comfortable and intelligent access to electronic documents is realized by linking light-weight string code technology with the power of modern internet. Via the bar code or the numeric code below it, IDOCs (NeoMedia Technologies's Intelligent Document Solutions) guides the interested party over internet directly to a specific, customizable online service offered by MetaFrame Technologies which manages the subsequent workflow. In particular, it is possible to direct the request to further detailed information on a web page (here, the online version of the paper), and to add extra functionality (printing and billing) without modifying the underlying web presence. This combination of technologies guarantees not only the shortest distance to the required information but also enables additional, flexible support.

Common goals of the present project are to provide a framework for managing intellectual content, link customers with publishers, facilitate electronic commerce, and enable automated copyright management. The technology is in fact easily applicable to many more scenarios where the currently lacking consequent coherence between printed and online information would dramatically simplify the workflow for library users, librarians and publishers.

¹ IDOCs is a registered trademark of NeoMedia Technologies.

STTT

International Journal on

Software Tools for Technology Transfer

Editors in Chief

E. Tselis

J. Kozliff

Coordinating Editor

T. Margalec

published by
 Springer
www.springer.com