

(12) INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)

(19) World Intellectual Property Organization
International Bureau



(43) International Publication Date
28 February 2002 (28.02.2002)

PCT

(10) International Publication Number
WO 02/017115 A3

(51) International Patent Classification⁷: **G06F 17/60**,
17/30, 17/24

(21) International Application Number: PCT/CA01/01207

(22) International Filing Date: 21 August 2001 (21.08.2001)

(25) Filing Language: English

(26) Publication Language: English

(30) Priority Data:
60/226,572 21 August 2000 (21.08.2000) US

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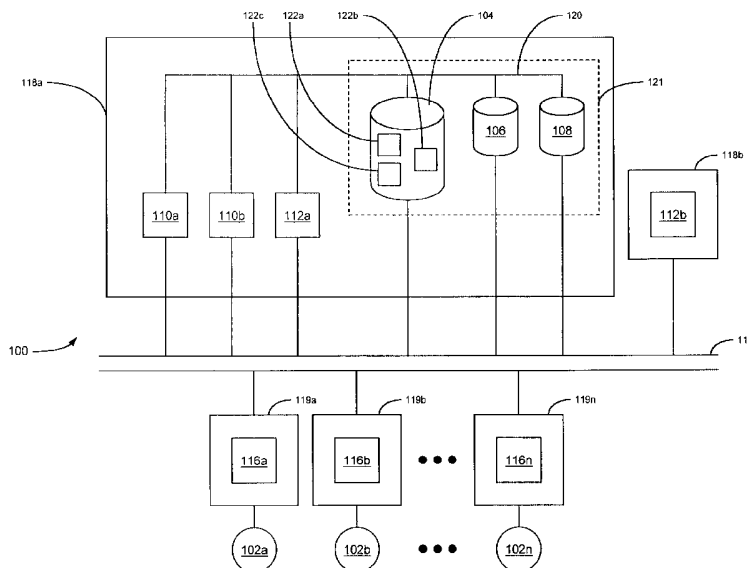
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(81) Designated States (*national*): AE, AG, AL, AM, AT, AU,
AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU,
CZ, DE, DK, DM, DZ, EE, ES, FI, GB, GD, GE, GH, GM,
HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK,
LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX,
MZ, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL,
TJ, TM, TR, TT, TZ, UA, UG, US, UZ, VN, YU, ZA, ZW.

(84) Designated States (*regional*): ARIPO patent (GH, GM,
KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZW), Eurasian
patent (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European
patent (AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE,
IT, LU, MC, NL, PT, SE, TR), OAPI patent (BF, BJ, CF,

[Continued on next page]

(54) Title: SIMULTANEOUS MULTI-USER DOCUMENT EDITING SYSTEM



(57) Abstract: A system and methods for simultaneous editing of one or more documents by two or more distinct users is disclosed. Each document is divided into a number of mutually exclusive sections, which together contain the entire document. Each section is stored in a separate data container. Each document has primary data of a primary data type. The containers that store the primary data for each document have a common parent container, which is at the head of a document sub-tree corresponding to the document. A document may also include embedded data, which may be of the same or a different type than the primary data. The embedded data is typically stored in embedded data containers, which are typically child containers of the primary data containers. Each of the parent containers is a child container of a root container, which is at the head of a

container tree in which all documents in a workspace are stored. Each workspace also includes a member list. The system may include more than one workspace, and may include users who are members of more than one workspace. Editors are provided for editing documents and embedded data of a number of data types that are supported by the system. Each editor is configured to allow a member to edit data in a section of a document. Typically, data may only be edited after obtaining an exclusive lock for the container in which the section is stored. However, in some cases, data may be edited without first locking the associated container and the modified container may be blindly posted. Different sections of a document may be simultaneously locked by different members, allowing the members to simultaneously edit the two different sections. Editing changes to a document are posted by each editor to a workspace server, which then broadcasts the changes to all connected members of the workspace, allowing members to view changes to a document after they are posted.

WO 02/017115 A3



CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).

(88) Date of publication of the international search report:
21 August 2003

Published:

— *with international search report*

For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.

INTERNATIONAL SEARCH REPORT

Inte Application No
PCT/CA 01/01207

A. CLASSIFICATION OF SUBJECT MATTER

IPC 7 G06F17/60 G06F17/30 G06F17/24

According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)

IPC 7 G06F

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practical, search terms used)

EPO-Internal, INSPEC

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category °	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	US 5 220 657 A (LEWIS BRIAN T ET AL) 15 June 1993 (1993-06-15) abstract; figures 1,2,7,10,13-15 column 2, line 1 - line 28 column 8, line 55 - line 61 column 10, line 27 - line 48 column 12, line 55 - line 66 column 22, line 10 - line 30 ---	1-40
X	US 6 088 702 A (BEREZIN JEFF ET AL) 11 July 2000 (2000-07-11) abstract; figure 8 column 2, line 6 - line 54 column 7, line 28 - line 63 ---	1-40
A	US 5 966 512 A (BATES CARY LEE ET AL) 12 October 1999 (1999-10-12) abstract; figures 3,6 --- -/-	1-40

☒ Further documents are listed in the continuation of box C.

☒ Patent family members are listed in annex.

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L document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)

O document referring to an oral disclosure, use, exhibition or other means

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T later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention

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* & * document member of the same patent family

Date of the actual completion of the international search

10 January 2003

Date of mailing of the international search report

17/01/2003

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INTERNATIONAL SEARCH REPORT

Intern	Application No
PCT/CA 01/01207	

C.(Continuation) DOCUMENTS CONSIDERED TO BE RELEVANT

Category °	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
A	WO 99 33007 A (RIGHTWORKS CORP) 1 July 1999 (1999-07-01) abstract; figures 10,13 -----	1-40

INTERNATIONAL SEARCH REPORT

Information on patent family members

International Application No

PCT/CA 01/01207

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