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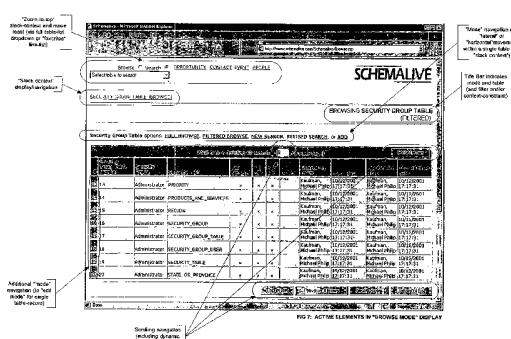
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**(54) Title:** SYSTEM AND METHOD FOR GENERATING AUTOMATIC USER INTERFACE FOR ARBITRARILY COMPLEX OR LARGE DATABASES



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**(57) Abstract:** A software system automatically and dynamically generates a fully functional user interface (UI) based upon, and connected directly to, an underlying data model (as instantiated within a relational database management system (RDBMS)). The UI is built according to an automated interrogation of the RDBMS, either as needed (on-the-fly) or by building an in-memory representation of the data model. The generated UI comprises all mode displays (e.g., browse, search, edit, add) for all tables, and a full complement of mechanisms integrated directly into the mode displays for representing, navigating, and managing relationships across tables. This embodiment has the capability of creating such a UI where the underlying RDBMS schema is complex and comprises a plurality of tables, constraints, and relationships. It utilizes a hierarchical "context stack" for maintaining (and suspending) the working state of a particular table (comprising selected record, display "mode", and filter constraints imposed from above stack contexts) while "drilling down" across relationships to work with related information (in a possibly constrained working context) and returning relevant changes to the parent-context table, and a corresponding UI convention for displaying and navigating this stack. The embodiment further provides a set of rules for traversing/navigating the context stack, and naming conventions and annotational methods for enhancing and extending the representation of table structures, constraints, relationships, and non-standard or special requirements ("business rules") so as to more fully support revelation of the schema structure through external interrogation.



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*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

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PCT/US 01/42867

**A. CLASSIFICATION OF SUBJECT MATTER**  
IPC 7 G06F17/30

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

**B. FIELDS SEARCHED**

Minimum documentation searched (classification system followed by classification symbol(s))  
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, WPI Data, INSPEC

**C. DOCUMENTS CONSIDERED TO BE RELEVANT**

Category	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	<p>US 5 950 190 A (UDY JERRY LYNN ET AL) 7 September 1999 (1999-09-07)</p> <p>column 3, line 26 -column 4, line 20 column 7, line 54 -column 8, line 3 column 12, line 45 -column 12, line 60 column 13, line 61 -column 13, line 14 column 18, line 65 -column 20, line 17 column 22, line 35 -column 22, line 65 ---</p> <p>-/-</p>	<p>1-7, 12-14, 16-19, 22,24, 26-28, 32-34, 38,41-50</p>

Further documents are listed in the continuation of box C.

Patent family members are listed in annex.

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## INTERNATIONAL SEARCH REPORT

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## C.(Continuation) DOCUMENTS CONSIDERED TO BE RELEVANT

Category	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
A	<p>HARDER T ET AL: "Supporting adaptable technical information systems in heterogeneous environments-using WWW and ORDBMS"          DATABASE AND EXPERT SYSTEMS APPLICATIONS, 1997, PROCEEDINGS., EIGHTH INTERNATIONAL WORKSHOP ON TOULOUSE, FRANCE 1-2 SEPT. 1997, LOS ALAMITOS, CA, USA, IEEE COMPUT. SOC, US,          1 September 1997 (1997-09-01), pages 295-303, XP010243308          ISBN: 0-8186-8147-0          page 296, right-hand column, line 26 -page 297, left-hand column, line 11          page 297, left-hand column, line 46 -page 298, left-hand column, line 53          page 298, right-hand column, line 27 -page 299, left-hand column, line 5          ---</p> <p>ZAMYATIN A ET AL: "Difffficulties and advantages of access to corporative information in internet"          SCIENCE AND TECH, PROCEEDINGS OF THE 4TH KOREA-RUSSIA INT'L SYMP., vol. 2, 2000, pages 112-117, XP010509618          abstract          page 113, line 25 -page 114, line 49          page 115, line 41 -page 116, line 13          -----</p>	1-50
A		1-50

**INTERNATIONAL SEARCH REPORT**

Information on patent family members

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Patent document cited in search report	Publication date	Patent family member(s)	Publication date
US 5950190	A 07-09-1999	NONE	