



US008185816B2

(12) **United States Patent**
Davis

(10) **Patent No.:** **US 8,185,816 B2**
(45) **Date of Patent:** **May 22, 2012**

(54) **COMBINING REUSABLE DATA MARKUP LANGUAGE DOCUMENTS**

(75) Inventor: **Russell T. Davis**, Bethesda, MD (US)

(73) Assignee: **E-Numerate Solutions, Inc.**, McLean, VA (US)

(*) Notice: Subject to any disclaimer, the term of this patent is extended or adjusted under 35 U.S.C. 154(b) by 892 days.

5,530,794	A *	6/1996	Luebbert	715/210
5,530,942	A	6/1996	Tzou et al.	
5,581,686	A	12/1996	Koppolu et al.	
5,603,021	A	2/1997	Spencer et al.	
5,701,400	A	12/1997	Amado	
5,706,502	A *	1/1998	Foley et al.	717/120
5,721,847	A	2/1998	Johnson	
5,737,592	A	4/1998	Nguyen et al.	
5,737,739	A *	4/1998	Shirley et al.	715/207
5,748,188	A *	5/1998	Hu et al.	715/853
5,754,939	A	5/1998	Herz et al.	

(Continued)

(21) Appl. No.: **12/222,752**

(22) Filed: **Aug. 15, 2008**

(65) **Prior Publication Data**

US 2009/0089657 A1 Apr. 2, 2009

Related U.S. Application Data

(62) Division of application No. 09/573,778, filed on May 18, 2000, now Pat. No. 7,421,648.

(60) Provisional application No. 60/135,525, filed on May 21, 1999, provisional application No. 60/183,152, filed on Feb. 17, 2000.

(51) **Int. Cl.**
G06F 17/00 (2006.01)

(52) **U.S. Cl.** **715/209; 715/234**

(58) **Field of Classification Search** **715/209**
See application file for complete search history.

(56) **References Cited**

U.S. PATENT DOCUMENTS

4,674,043	A	6/1987	Hernandez et al.
5,008,853	A	4/1991	Bly et al.
5,276,776	A	1/1994	Grady et al.
5,339,392	A	8/1994	Risberg et al.
5,371,675	A	12/1994	Greif et al.
5,423,032	A	6/1995	Byrd et al.
5,461,708	A	10/1995	Kahn

OTHER PUBLICATIONS

Copending U.S. Appl. No. 09/573,780 entitled "Reusable Macro Markup Language", filed May 18, 2000.

(Continued)

Primary Examiner — Laurie Ries

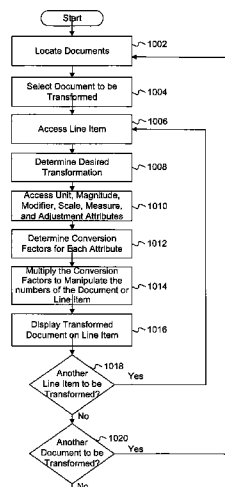
Assistant Examiner — Mustafa Amin

(74) *Attorney, Agent, or Firm* — Finnegan, Henderson, Farabow, Garrett & Dunner, LLP

(57) **ABSTRACT**

Methods and systems provide a computer markup language, referred to as Reusable Data Markup Language ("RDML"), and a data viewer for retrieving, manipulating and viewing documents and files in the RDML format that may be stored locally or over a network (e.g., the Internet). Generally, RDML permits the browsing and manipulation of numbers, as opposed to text and images like in HTML, and does so by including attributes describing the meaning of the numbers to be attached to the numbers. Documents compliant with the markup language encapsulate machine-readable documentation with numbers and data, and permit the data viewer to act as a combination web browser and spreadsheet to automatically read, interpret and manipulate the numbers and data. Furthermore, the methods and systems merge or combine RDML documents that have different data formats to produce a single data set for display.

27 Claims, 40 Drawing Sheets



U.S. PATENT DOCUMENTS

5,822,587	A	10/1998	McDonald et al.	6,493,717	B1	12/2002	Junkin
5,838,906	A	11/1998	Doyle et al.	6,502,101	B1 *	12/2002	Verprauskus et al. 1/1
5,838,965	A	11/1998	Kavanagh et al.	6,502,112	B1 *	12/2002	Baisley 715/210
5,881,381	A *	3/1999	Yamashita et al. 715/209	6,505,246	B1	1/2003	Land et al.
5,893,109	A *	4/1999	DeRose et al. 1/1	6,507,856	B1 *	1/2003	Chen et al. 715/205
5,894,311	A	4/1999	Jackson	6,513,043	B1 *	1/2003	Chan et al. 707/802
5,895,476	A *	4/1999	Orr et al. 715/202	6,535,896	B2 *	3/2003	Britton et al. 715/239
5,907,820	A	5/1999	Pan	6,581,068	B1	6/2003	Bensoussan et al.
5,913,214	A	6/1999	Madnick et al.	6,591,272	B1	7/2003	Williams
5,917,485	A	6/1999	Spellman et al.	6,594,653	B2	7/2003	Colby et al.
5,920,828	A	7/1999	Norris et al.	6,615,258	B1	9/2003	Barry et al.
5,948,113	A	9/1999	Johnson et al.	6,621,505	B1	9/2003	Beauchamp et al.
5,950,196	A	9/1999	Pyreddy et al.	6,626,957	B1 *	9/2003	Lippert et al. 715/234
5,953,724	A	9/1999	Lowry	6,629,094	B1	9/2003	Colby et al.
5,956,737	A	9/1999	King et al.	6,631,402	B1	10/2003	Devine et al.
5,974,413	A	10/1999	Beauregard et al.	6,635,089	B1	10/2003	Burkett et al.
5,983,247	A	11/1999	Yamanaka et al.	6,643,633	B2 *	11/2003	Chau et al. 1/1
5,987,469	A	11/1999	Lewis et al.	6,667,747	B1	12/2003	Spellman et al.
5,999,944	A	12/1999	Lipkin	6,714,201	B1	3/2004	Grinstein et al.
6,006,242	A *	12/1999	Poole et al. 715/209	6,718,516	B1 *	4/2004	Claussen et al. 715/234
6,009,436	A *	12/1999	Motoyama et al. 1/1	6,721,736	B1	4/2004	Krug et al.
6,014,643	A	1/2000	Minton	6,745,384	B1	6/2004	Biggerstaff
6,014,661	A	1/2000	Ahlberg et al.	6,886,005	B2	4/2005	Davis
6,026,388	A	2/2000	Liddy et al.	6,910,017	B1	6/2005	Woo et al.
6,026,397	A	2/2000	Sheppard	6,912,293	B1	6/2005	Korobkin
6,034,676	A	3/2000	Egan et al.	6,920,608	B1	7/2005	Davis
6,052,710	A	4/2000	Saliba et al.	7,249,328	B1	7/2007	Davis
6,058,385	A	5/2000	Koza et al.	7,340,534	B2 *	3/2008	Cameron et al. 709/246
6,065,026	A	5/2000	Cornelia et al.	7,401,076	B2	7/2008	Davis
6,075,530	A	6/2000	Lucas et al.	7,421,648	B1	9/2008	Davis
6,092,036	A	7/2000	Hamann	7,512,875	B2	3/2009	Davis
6,097,888	A	8/2000	Simonyi	7,650,355	B1	1/2010	Davis
6,108,662	A	8/2000	Hoskins et al.	2001/0018687	A1	8/2001	Gonzalez et al.
6,112,242	A *	8/2000	Jois et al. 709/225	2001/0018694	A1	8/2001	Iwamoto et al.
6,121,924	A	9/2000	Meek et al.	2001/0020237	A1	9/2001	Yarnall et al.
6,134,563	A	10/2000	Clancey et al.	2001/0049687	A1	12/2001	Russell
6,148,330	A *	11/2000	Puri et al. 709/217	2002/0023141	A1	2/2002	Yen et al.
6,160,549	A	12/2000	Touma et al.	2002/0052954	A1	5/2002	Polizzi et al.
6,167,409	A	12/2000	DeRose et al.	2002/0091696	A1	7/2002	Craft et al.
6,173,272	B1	1/2001	Thomas et al.	2002/0198985	A1	12/2002	Fraenkel et al.
6,173,284	B1	1/2001	Brown	2003/0041077	A1	2/2003	Davis
6,173,316	B1 *	1/2001	De Boor et al. 709/218	2003/0078883	A1	4/2003	Stewart et al.
6,185,573	B1	2/2001	Angelucci et al.	2003/0140045	A1	7/2003	Heninger et al.
6,192,362	B1	2/2001	Schneck et al.	2003/0167213	A1	9/2003	Jammes et al.
6,195,676	B1	2/2001	Spix et al.	2005/0086216	A1	4/2005	Davis
6,199,046	B1	3/2001	Heinzle et al.	2005/0182709	A1	8/2005	Belcsak et al.
6,199,080	B1	3/2001	Nielsen	2005/0198042	A1	9/2005	Davis
6,212,494	B1 *	4/2001	Boguraev 704/9	2008/0028340	A1	1/2008	Davis
6,223,189	B1	4/2001	Steffens et al.	2008/0282139	A1	11/2008	Davis
6,240,407	B1	5/2001	Chang et al.	2009/0083613	A1	3/2009	Davis
6,243,698	B1	6/2001	Powers et al.	2009/0083619	A1	3/2009	Davis
6,249,291	B1	6/2001	Popp et al.				
6,256,030	B1	7/2001	Berry et al.				
6,295,530	B1 *	9/2001	Ritchie et al. 1/1				
6,314,424	B1 *	11/2001	Kaczmarek et al. 1/1				
6,314,562	B1	11/2001	Biggerstaff				
6,317,750	B1	11/2001	Tortolani et al.				
6,317,783	B1	11/2001	Freishtat et al.				
6,339,767	B1	1/2002	Rivette et al.				
6,345,292	B1 *	2/2002	Daugherty et al. 709/214				
6,349,307	B1	2/2002	Chen				
6,351,755	B1	2/2002	Najork et al.				
6,356,920	B1	3/2002	Vandersluis				
6,356,961	B1 *	3/2002	Oprescu-Surcobe 710/20				
6,366,915	B1	4/2002	Rubert et al.				
6,370,537	B1	4/2002	Gilbert et al.				
6,370,549	B1	4/2002	Saxton				
6,373,504	B1	4/2002	Nielsen				
6,374,274	B1	4/2002	Myers et al.				
6,408,430	B2	6/2002	Gunter et al.				
6,418,433	B1	7/2002	Chakrabarti et al.				
6,421,656	B1	7/2002	Cheng et al.				
6,421,822	B1	7/2002	Pavela				
6,424,980	B1	7/2002	Iizuka et al.				
6,446,048	B1	9/2002	Wells et al.				
6,460,059	B1	10/2002	Wisniewski				

OTHER PUBLICATIONS

Copending U.S. Appl. No. 11/819,125 entitled "Tree View for Reusable Data Markup Language", filed Jun. 25, 2007.

Copending U.S. Appl. No. 11/819,126 entitled "Tree View for Reusable Date Markup Language", filed Jun. 25, 2007.

Extensible Business Reporting Language (XBRL) 2.0 Specification, (Dec. 14, 2001), Editors: Luther Hampton, e-Numerate; David von Kannon, KPMG LLP; pp. 1-42.

Information on Exchange Rates of Africa, Asia, and Australia, web site: <http://eh.net/hmit/exchangerates/infoafr.htm>, pp. 1-3, 2002 by EH.NET, downloaded Oct. 19, 2006.

Microsoft Press Computer Dictionary, Third Edition, Microsoft Press, p. 511 (1997) (3 pages).

Online Ohio CPA Newsletter, A Monthly Electronic Publication of the Ohio Society of Certified Public Accountants; Aug. 2000, vol. 1, No. 14 (7 pages).

Order of Magnitude (online Wikipedia article), http://en.wikipedia.org/wiki/Orders_of_magnitude, 2006 Wikimedia Foundation, Inc. pp. 1-4, downloaded Oct. 19, 2006.

Tools [online], extensible Business Reporting Language, [retrieved on Aug. 13, 2002]. Retrieved from the Internet <URL: <http://www.xbrl.org/Tools.htm>> (5 pages).

XBRL Essentials, (A nontechnical introduction to the extensible Business Reporting Language, the digital language of business), Jan.

XBRL Home Page [online], extensible Business Reporting Language, [retrieved on Aug. 13, 2002]. Retrieved from the Internet <URL: <http://www.xbrl.org>> (3 pages).

XBRL Technical Specification [online], extensible Business Reporting Language, [retrieved on Aug. 13, 2002]. Retrieved from the Internet <URL: <http://www.xbrl.org/TR/2001/default.htm>> (1 page).

The XML Cover Pages, Extensible Business Reporting Language (XBRL), (1994-2002), Robin Cover, pp. 1-18.

Berkley et al., The Road to Better Business Information Making a Case for XBRL, Winter 2000, Microsoft, pp. 1-13.

Blattner, Special Edition Using Microsoft Excel (R), May 3, 1999 (C) Que Corporation "Adding a Secondary Axis to the Chart" (3 pages).

Elliotte Rusty Harold, "XML™ Bible," IDG Books Worldwide, Inc., An International Data Group Company (1999) (2 pages).

Bruce Hallberg et al., "Special Edition, Using Microsoft® Excell 97, Bestseller Edition," Que® Corporation (1997) (2 pages).

Hamscher et al., Extensible Business Reporting language (XBRL) Specification, Jul. 31, 2000, XBRL Organization, pp. 1-27.

Charles Hoffman and Carolyn Strand, "XBRL Essentials, A Non-technical Introduction to eXtensible Business Reporting Language (XBRL), the Digital Language of Business Reporting," pp. 1-148 (2001).

Gilster, Paul, *Finding It on the Internet: The Internet Navigator's Guide to Search Tools & Techniques*, 2nd edition (1996) (3 pages).

David Megginson, "Structuring XML Documents," Prentice Hall PTR, Upper Saddle River, NJ (1998) (2 pages).

Jon Rienstra, "Using Excel® in Chemistry," http://www.asa3.org/chemistry/computers_in_chemistry/excel_tips.html (1995) (4 pages).

Simon St. Laurent, "Why XML?," <http://www.simonstl.com/articles/whyxml.htm> (1998) (5 pages).

Suzuki et al., "Managing the Software Design Documents With XML," ACM Proceedings of the 16th Annual International Conference on Computer Documentation, Sep. 1998, pp. 127-136.

* cited by examiner

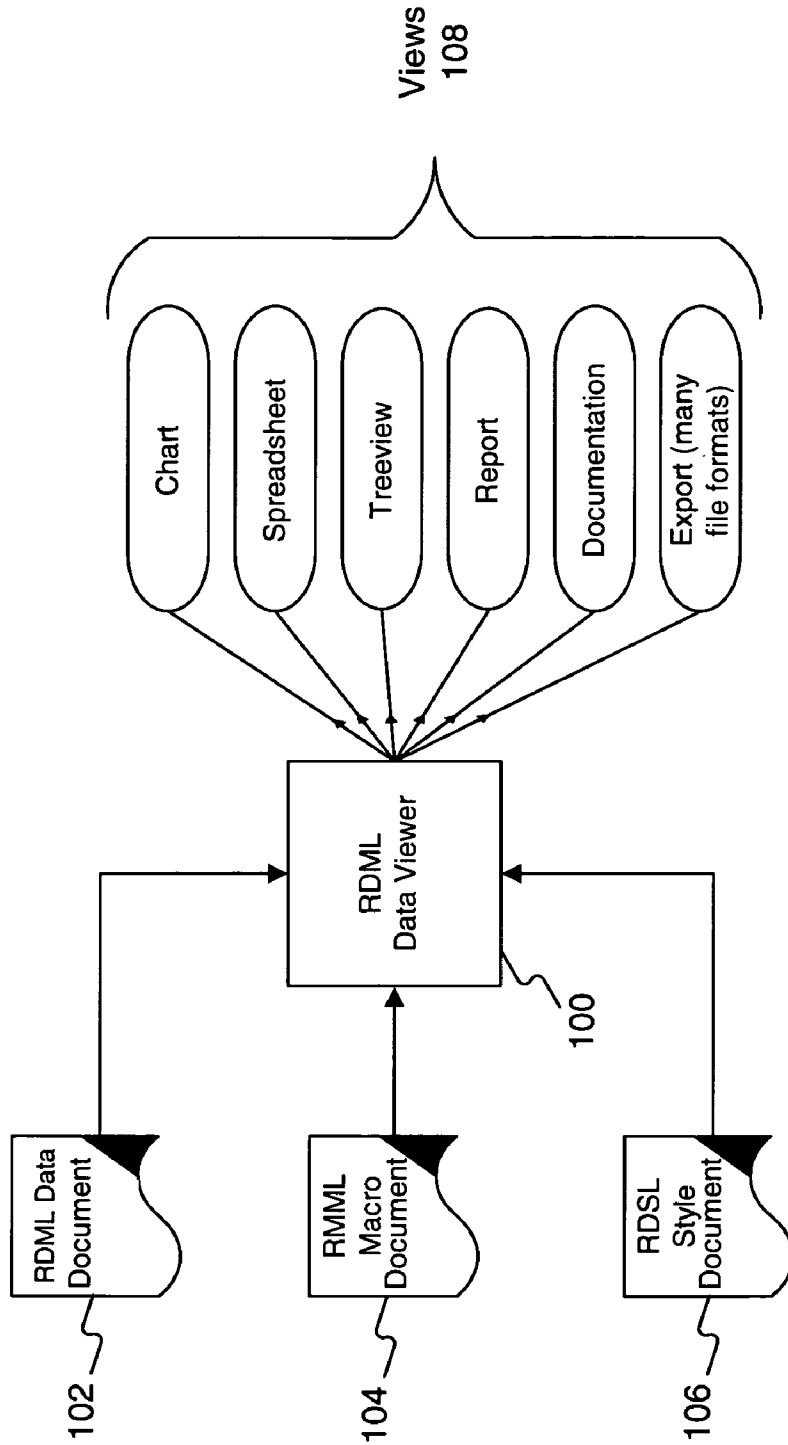


FIG. 1

Explore Litigation Insights

Docket Alarm provides insights to develop a more informed litigation strategy and the peace of mind of knowing you're on top of things.

Real-Time Litigation Alerts



Keep your litigation team up-to-date with **real-time alerts** and advanced team management tools built for the enterprise, all while greatly reducing PACER spend.

Our comprehensive service means we can handle Federal, State, and Administrative courts across the country.

Advanced Docket Research



With over 230 million records, Docket Alarm's cloud-native docket research platform finds what other services can't. Coverage includes Federal, State, plus PTAB, TTAB, ITC and NLRB decisions, all in one place.

Identify arguments that have been successful in the past with full text, pinpoint searching. Link to case law cited within any court document via Fastcase.

Analytics At Your Fingertips



Learn what happened the last time a particular judge, opposing counsel or company faced cases similar to yours.

Advanced out-of-the-box PTAB and TTAB analytics are always at your fingertips.

API

Docket Alarm offers a powerful API (application programming interface) to developers that want to integrate case filings into their apps.

LAW FIRMS

Build custom dashboards for your attorneys and clients with live data direct from the court.

Automate many repetitive legal tasks like conflict checks, document management, and marketing.

FINANCIAL INSTITUTIONS

Litigation and bankruptcy checks for companies and debtors.

E-DISCOVERY AND LEGAL VENDORS

Sync your system to PACER to automate legal marketing.