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**Davis**

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(54) **REUSABLE DATA MARKUP LANGUAGE**

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#### Related U.S. Application Data

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(51) **Int. Cl.**  
**G06F 15/00** (2006.01)  
**G06F 17/00** (2006.01)

(52) **U.S. Cl.** ..... **715/234**; 715/205; 705/1; 705/14; 717/106

(58) **Field of Classification Search** ..... 715/517, 715/501.1, 513, 205, 234; 717/108, 106; 707/5-6; 705/1, 14  
See application file for complete search history.

#### (56) References Cited

##### U.S. PATENT DOCUMENTS

4,674,043	A	6/1987	Hernandez et al.
5,276,776	A	1/1994	Grady et al.
5,339,392	A	8/1994	Risberg et al.
5,423,032	A	6/1995	Byrd et al.
5,603,021	A	2/1997	Spencer et al.
5,737,592	A	4/1998	Nguyen et al.
5,754,939	A	5/1998	Herz et al.
5,822,587	A *	10/1998	McDonald et al. .... 717/108

5,838,906	A *	11/1998	Doyle et al. .... 709/202
5,838,965	A	11/1998	Kavanagh et al.
5,894,311	A	4/1999	Jackson
5,913,214	A	6/1999	Madnick et al.
5,917,485	A	6/1999	Spellman et al.
5,920,828	A	7/1999	Norris et al.
5,948,113	A	9/1999	Johnson et al.
5,950,196	A *	9/1999	Pyreddy et al. .... 707/5
5,956,737	A *	9/1999	King et al. .... 715/517
5,974,413	A *	10/1999	Beauregard et al. .... 707/6
5,999,944	A	12/1999	Lipkin
6,014,661	A	1/2000	Ahlberg et al. .... 707/3

(Continued)

#### OTHER PUBLICATIONS

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.\*

(Continued)

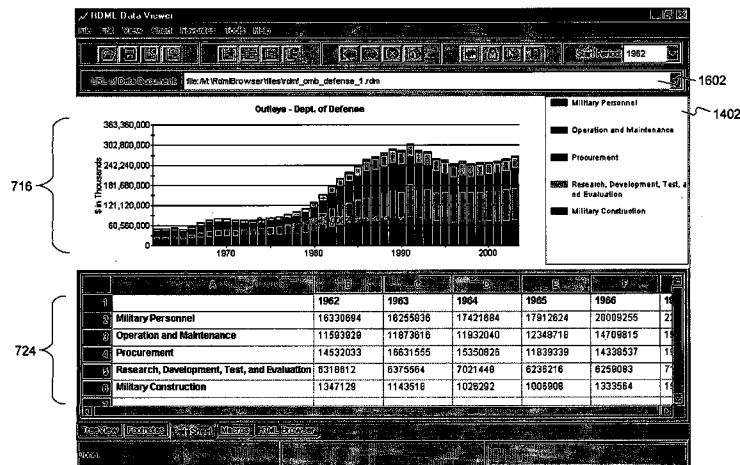
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#### (57) ABSTRACT

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.

**4 Claims, 40 Drawing Sheets**



## U.S. PATENT DOCUMENTS

6,026,388	A	2/2000	Liddy et al.	
6,026,397	A	2/2000	Sheppard	
6,034,676	A	3/2000	Egan et al.	
6,058,385	A	5/2000	Koza et al.	
6,065,026	A	5/2000	Cornelia et al.	
6,092,036	A	7/2000	Hamann	
6,097,888	A	8/2000	Simonyi	
6,108,662	A	8/2000	Hoskins et al.	
6,121,924	A	9/2000	Meek et al.	
6,134,563	A	10/2000	Clancey et al.	
6,160,549	A	12/2000	Touma et al.	
6,167,409	A	12/2000	DeRose et al.	
6,173,284	B1	1/2001	Brown	
6,195,676	B1	2/2001	Spix et al.	
6,199,046	B1 *	3/2001	Heinzle et al.	705/1
6,199,080	B1	3/2001	Nielsen	
6,223,189	B1	4/2001	Steffens et al.	
6,240,407	B1	5/2001	Chang et al.	
6,243,698	B1	6/2001	Powers et al.	
6,256,030	B1	7/2001	Berry et al.	
6,314,562	B1	11/2001	Biggerstaff	
6,317,750	B1	11/2001	Tortolani et al.	
6,349,307	B1	2/2002	Chen	
6,351,755	B1	2/2002	Najork et al.	
6,356,920	B1	3/2002	Vandersluis	
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.	
6,418,433	B1	7/2002	Chakrabarti et al.	
6,421,656	B1	7/2002	Cheng et al.	
6,421,822	B1	7/2002	Pavela	
6,446,048	B1 *	9/2002	Wells et al.	705/35
6,460,059	B1	10/2002	Wisniewski	
6,470,349	B1	10/2002	Heninger et al.	
6,493,717	B1	12/2002	Junkin	
6,505,246	B1	1/2003	Land et al.	
6,507,856	B1	1/2003	Chen et al.	
6,581,068	B1	6/2003	Bensousan et al.	
6,591,272	B1	7/2003	Williams	
6,594,653	B2	7/2003	Colby et al.	
6,615,258	B1	9/2003	Barry et al.	
6,629,094	B1	9/2003	Colby et al.	
6,635,089	B1	10/2003	Burkett et al.	
6,667,747	B1	12/2003	Spellman et al.	
6,721,736	B1	4/2004	Krug et al.	
6,745,384	B1	6/2004	Biggerstaff	
6,886,005	B2	4/2005	Davis	
6,912,293	B1	6/2005	Korobkin	
6,920,608	B1	7/2005	Davis	
2001/0018687	A1	8/2001	Gonzalez et al.	
2001/0020237	A1	9/2001	Yarnall et al.	
2001/0049687	A1	12/2001	Russell	
2002/0023141	A1	2/2002	Yen et al.	
2002/0052954	A1	5/2002	Polizzi et al.	
2002/0091696	A1	7/2002	Craft et al.	
2002/0198985	A1	12/2002	Fraenkel et al.	
2003/0041077	A1	2/2003	Davis	
2003/0078883	A1 *	4/2003	Stewart et al.	705/39
2003/0167213	A1	9/2003	Jammes et al.	
2005/0086126	A1	4/2005	Davis	

2005/0182709 A1 8/2005 Belcsak et al.  
 2005/0198042 A1 9/2005 Davis

## OTHER PUBLICATIONS

Information on Exchange Rates of Africa, Asia, and Australasia, web site: <<http://eh.net/hmit/exchangerates/infoafr.htm>>, pp. 1-3, 2002 by EH.NET, downloaded Oct. 19, 2006.\*  
 Order of magnitude (online Wikipedia article), <[http://en.wikipedia.org/wiki/Orders\\_of\\_magnitude](http://en.wikipedia.org/wiki/Orders_of_magnitude)>, 2006 Wikimedia Foundation, Inc., pp. 1-4, downloaded Oct. 19, 2006.\*  
 Bruce Halberg, "Special Edition, Using Microsoft® Excel 97, Bestseller Edition," Que® Corporation (1997).  
 Elliott Rusty Harold, "XML™ Bible," IDG Books Worldwide, Inc., An International Data Group Company (1999).  
 David Megginson, "Structuring XML Documents," Prentice Hall PTR, Upper Saddle River, NJ (1998).  
 Bruce Halberg et al., "Special Edition, Using Microsoft® Excell 97, Bestseller Edition," Que® Corporation (1997).  
 Elliott Rusty Harold, "XML™ Bible," IDG Books Worldwide, Inc., An International Data Group Company (1999).  
 David Megginson, "Structuring XML Documents," Prentice Hall PTR, Upper Saddle River, NJ (1998).  
 Extensible Business Reporting Language (XBRL) 2.0 Specification, (Dec. 14, 2001), Editors: Luther Hampton, e-Numerate; David vun Kannon, KPMG LLP; pp. 1-42.  
 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).  
 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. 2001, Charles Hoffman, CPA; Carolyn Strand, PhD, CPA, (AICPA), pp. 1-17.  
 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).  
 Gilster, Paul, *Finding It On The Internet: The Internet Navigator's Guide to Search Tools & Techniques*, 2<sup>nd</sup> edition (1996) (3 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).  
 Jon Rienstra, "Using Excel® in Chemistry," [http://www.asa3.org/chemistry/computers\\_in\\_chemistry/excel\\_tips.html](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).

\* cited by examiner

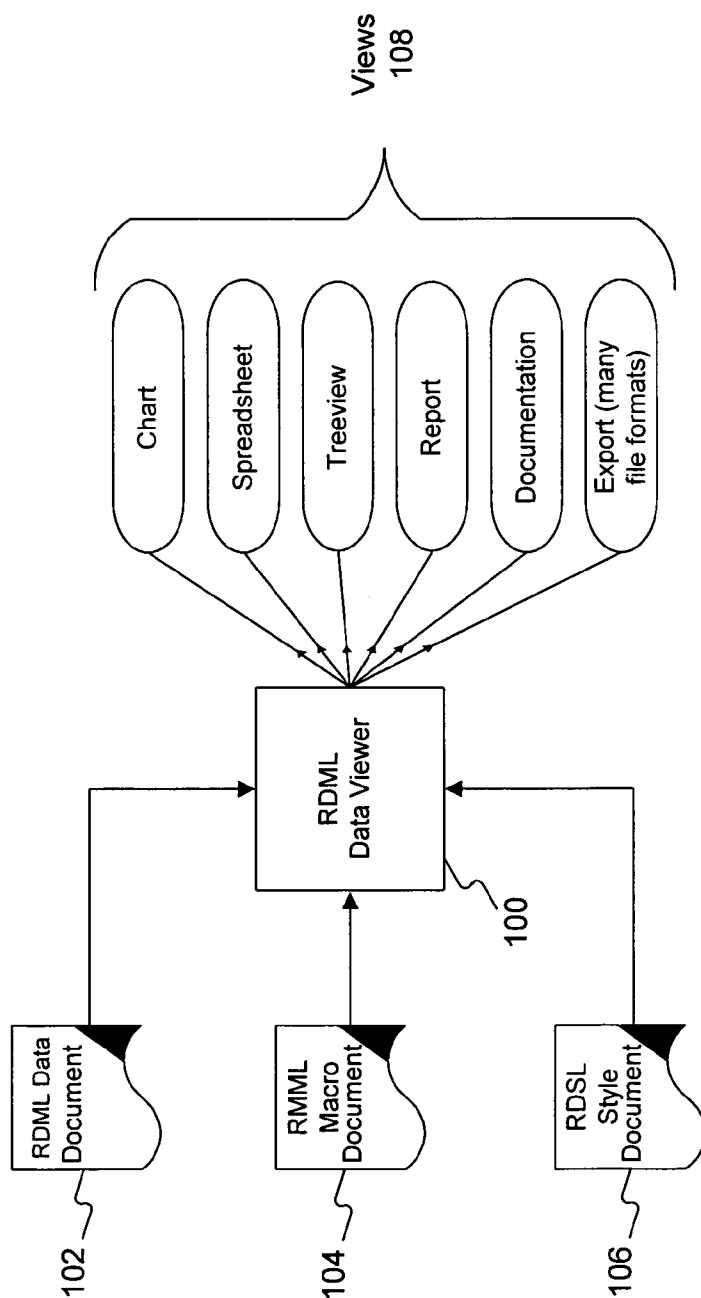


FIG. 1

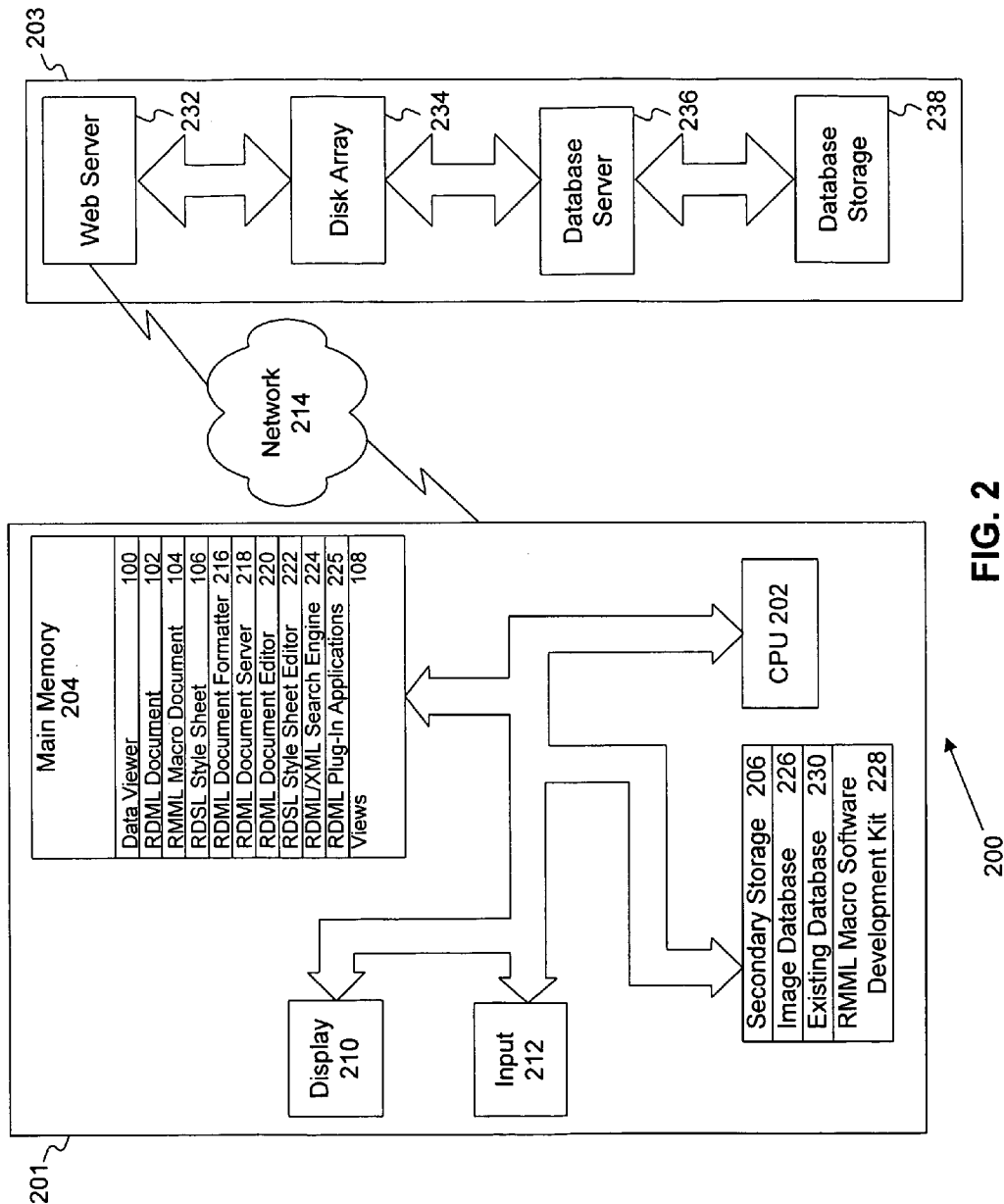


FIG. 2

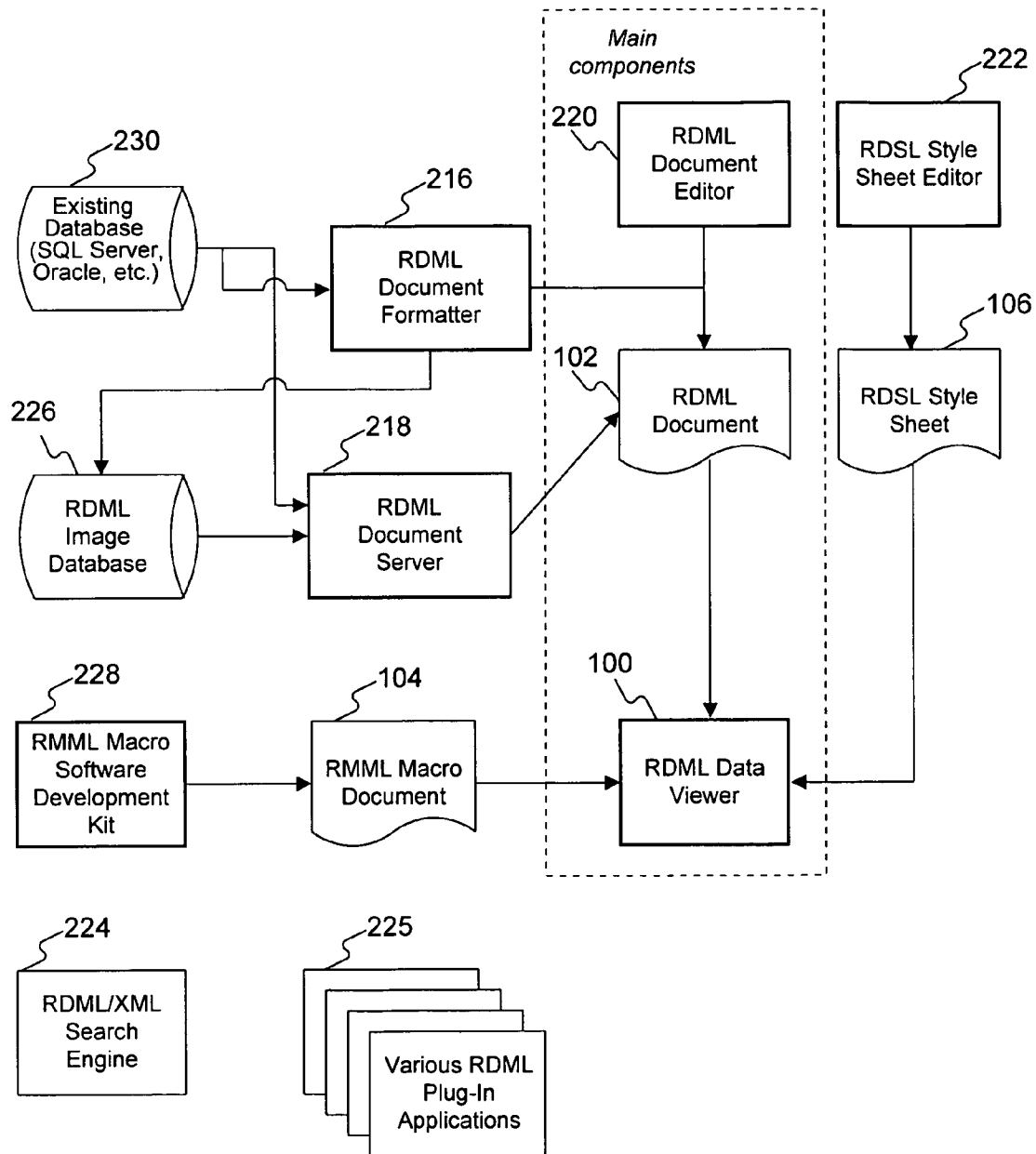


FIG. 3

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