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Chen et al.

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(54) **METHOD FOR CONTENT-BASED
NON-LINEAR CONTROL OF MULTIMEDIA
PLAYBACK**

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H04N 7/173 (2011.01)

(52) **U.S. Cl.**
USPC **725/86; 725/39; 725/40; 725/44;**
725/88

(58) **Field of Classification Search**
USPC **725/39-41, 52-53, 86-88, 91, 102-104;**
715/723-725, 835, 838
See application file for complete search history.

(56) **References Cited**

U.S. PATENT DOCUMENTS

5,132,992	A *	7/1992	Yurt et al.	375/240
5,410,326	A	4/1995	Goldstein	
5,539,479	A	7/1996	Bertram	
5,572,260	A *	11/1996	Onishi et al.	348/460
5,606,359	A *	2/1997	Youden et al.	725/88
5,610,653	A *	3/1997	Abecassis	348/170
5,619,249	A *	4/1997	Billock et al.	725/5
5,818,439	A *	10/1998	Nagasaka et al.	725/87
5,835,667	A *	11/1998	Wactlar et al.	386/241
5,844,620	A	12/1998	Coleman	
5,854,894	A *	12/1998	Lancaster et al.	709/219
5,864,682	A *	1/1999	Porter et al.	709/247
5,877,755	A	3/1999	Helhake	
5,884,056	A *	3/1999	Steele	715/738
5,900,868	A *	5/1999	Duhault et al.	725/42
5,917,488	A *	6/1999	Anderson et al.	715/838
5,966,122	A *	10/1999	Itoh	715/838
5,995,155	A	11/1999	Schindler	
6,061,056	A *	5/2000	Menard et al.	715/704
6,098,082	A	8/2000	Gibbon	

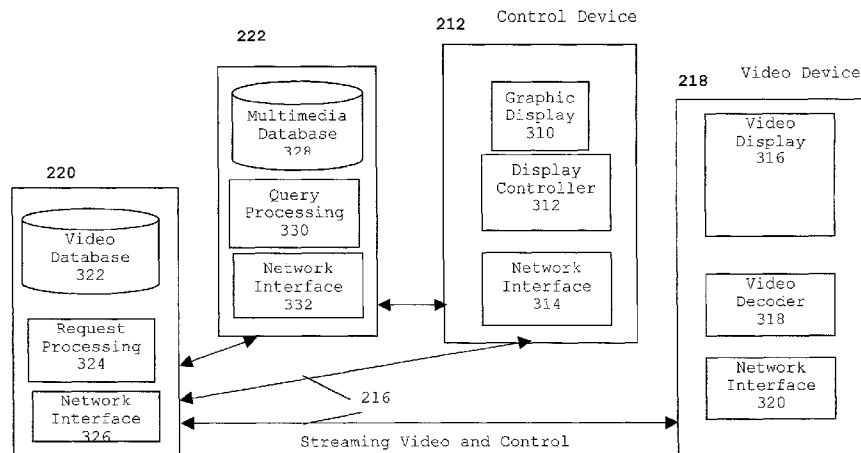
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(57) **ABSTRACT**

A system and method are provided for content-based non-linear control of video data playback. A multimedia database having multimedia data including multimedia content data is searched based on a user query to determine a first set of multimedia data. The multimedia data includes indexes to and condensed representations of corresponding video data stored in a video database. A portion of the first set of multimedia data is displayed at a control device in response to the user query. A user of the control device selects an element of the first set of multimedia data for video playback and video data corresponding to the element delivered to a video device for playback. A user of the control device selects an element of the first set of multimedia data for additional information and a second set of multimedia data corresponding to the element delivered to the control device.

21 Claims, 5 Drawing Sheets



U.S. PATENT DOCUMENTS

6,104,334	A *	8/2000	Allport	341/175	6,789,106	B2 *	9/2004	Eyer et al.	709/205
6,118,450	A *	9/2000	Proehl et al.	715/810	6,829,781	B1 *	12/2004	Bhagavath et al.	725/94
6,119,154	A *	9/2000	Weaver et al.	709/219	6,870,573	B2 *	3/2005	Yeo et al.	348/569
6,139,197	A *	10/2000	Banks	709/217	6,877,134	B1 *	4/2005	Fuller et al.	715/500.1
6,144,375	A *	11/2000	Jain et al.	715/500.1	6,880,171	B1 *	4/2005	Ahmad et al.	725/134
6,154,600	A *	11/2000	Newman et al.	386/4	6,882,793	B1 *	4/2005	Fu et al.	386/95
6,154,771	A *	11/2000	Rangan et al.	709/217	6,918,132	B2 *	7/2005	Gargi	725/45
6,173,317	B1 *	1/2001	Chaddha et al.	709/219	6,938,208	B2 *	8/2005	Reichardt	715/719
6,185,573	B1	2/2001	Angelucci et al.		6,956,573	B1 *	10/2005	Bergen et al.	345/473
6,188,398	B1 *	2/2001	Collins-Rector et al.	725/37	6,961,954	B1 *	11/2005	Maybury et al.	725/53
6,236,395	B1 *	5/2001	Sezan et al.	715/723	6,965,724	B1 *	11/2005	Boccon-Gibod et al.	386/68
6,271,892	B1 *	8/2001	Gibbon et al.	348/700	7,065,250	B1 *	6/2006	Lennon	382/224
6,342,904	B1 *	1/2002	Vasudevan et al.	715/723	7,073,127	B2 *	7/2006	Zhao et al.	715/719
6,349,410	B1 *	2/2002	Lortz	725/110	7,107,532	B1 *	9/2006	Billmaier et al.	715/720
6,405,371	B1 *	6/2002	Oosterhout et al.	725/39	7,174,512	B2 *	2/2007	Martin et al.	715/719
6,414,725	B1 *	7/2002	Clarín et al.	348/714	7,178,107	B2 *	2/2007	Sezan et al.	715/719
6,415,326	B1 *	7/2002	Gupta et al.	709/231	7,200,857	B1 *	4/2007	Rodriguez et al.	725/87
6,421,706	B1 *	7/2002	McNeill et al.	709/204	7,237,254	B1 *	6/2007	Omoigui	725/94
6,449,608	B1 *	9/2002	Morita et al.	707/3	7,293,280	B1 *	11/2007	Gupta et al.	725/139
6,470,378	B1 *	10/2002	Tracton et al.	709/203	7,301,944	B1 *	11/2007	Redmond	370/390
6,473,778	B1 *	10/2002	Gibbon	715/201	7,313,808	B1 *	12/2007	Gupta et al.	725/89
6,509,908	B1 *	1/2003	Croy et al.	715/716	7,325,199	B1 *	1/2008	Reid	715/723
6,535,639	B1 *	3/2003	Uchihachi et al.	382/225	7,401,351	B2 *	7/2008	Boreczky et al.	725/88
6,567,980	B1 *	5/2003	Jain et al.	725/61	8,091,112	B1 *	1/2012	Elliott et al.	725/135
6,580,437	B1 *	6/2003	Liou et al.	715/719	2001/0049826	A1 *	12/2001	Wilf	725/120
6,584,463	B2 *	6/2003	Morita et al.	707/3	2002/0056098	A1 *	5/2002	White	725/39
6,601,103	B1 *	7/2003	Goldschmidt Iki et al.	709/231	2002/0078176	A1 *	6/2002	Nomura et al.	709/219
6,615,252	B1 *	9/2003	Oka et al.	709/219	2002/0170068	A1 *	11/2002	Rafey et al.	725/112
6,631,523	B1 *	10/2003	Matthews et al.	725/53	2002/0194151	A1 *	12/2002	Fenton et al.	707/1
6,668,377	B1 *	12/2003	Dunn	725/92	2003/0066085	A1 *	4/2003	Boyer et al.	725/104
6,710,822	B1 *	3/2004	Walker et al.	348/722	2004/0117831	A1 *	6/2004	Ellis et al.	725/53
6,711,741	B2 *	3/2004	Yeo	725/87	2005/0028194	A1 *	2/2005	Elenbaas et al.	725/32
6,757,907	B1 *	6/2004	Schumacher et al.	725/87	2005/0028208	A1 *	2/2005	Ellis et al.	725/58
6,760,916	B2 *	7/2004	Holtz et al.	725/34	2005/0229213	A1 *	10/2005	Ellis et al.	725/58
6,788,882	B1	9/2004	Geer et al.		2005/0240961	A1 *	10/2005	Jerding et al.	725/37

* cited by examiner

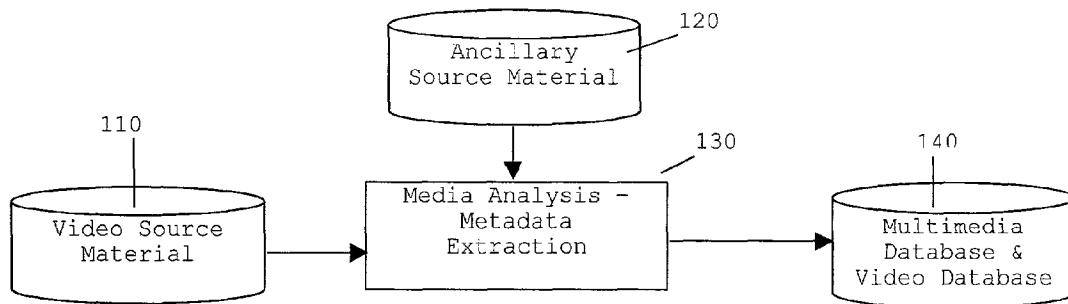


Figure 1

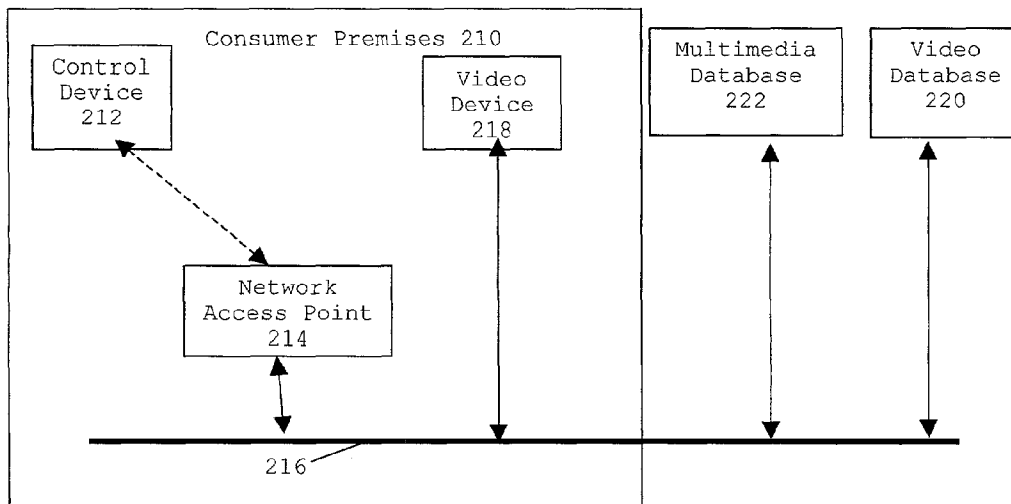


Figure 2

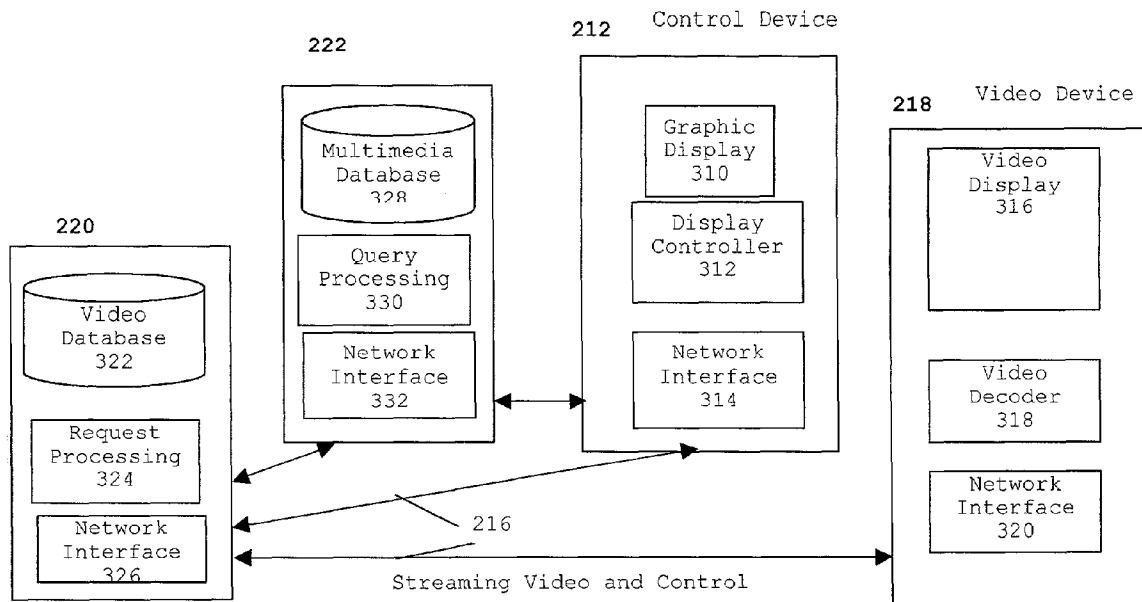


Figure 3

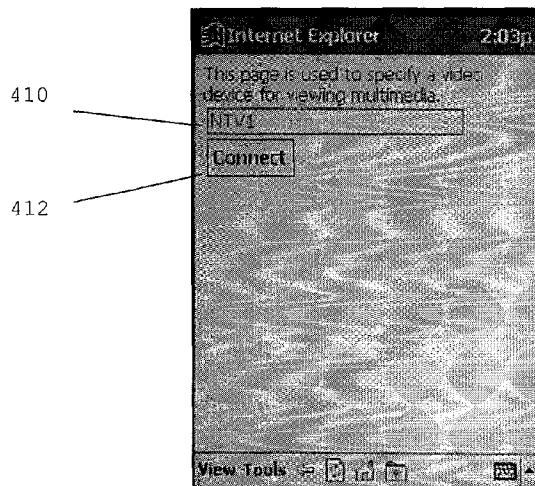


Figure 4

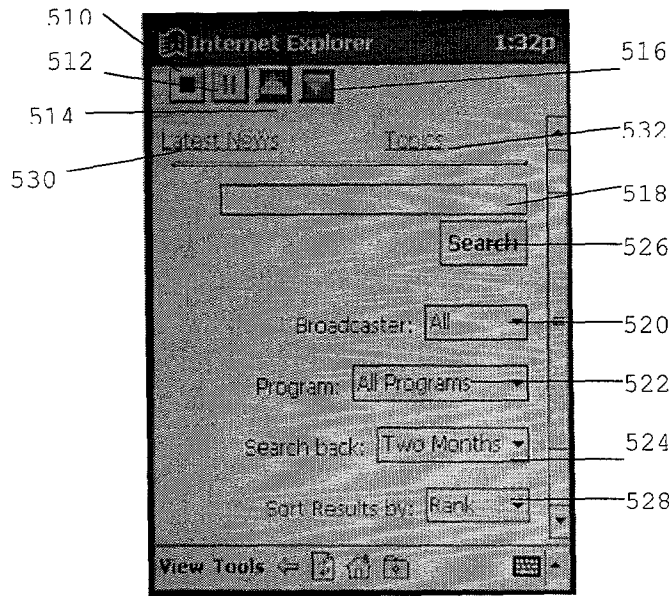


Figure 5

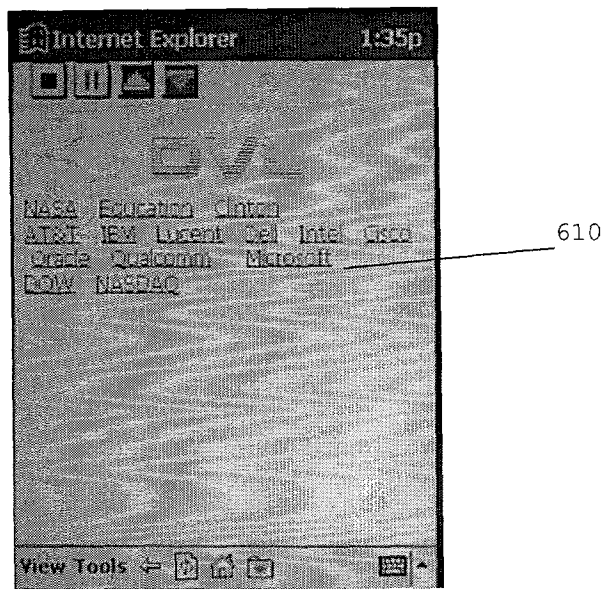


Figure 6

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