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**Harrington**

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(54) **ENHANCED VIDEO PROGRAMMING SYSTEM AND METHOD UTILIZING A WEB PAGE STAGING AREA**

5,014,125 A 5/1991 Pocock et al.  
5,114,155 A 5/1992 Tillery et al.  
5,128,752 A 7/1992 Von Kohorn

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(Continued)

FOREIGN PATENT DOCUMENTS

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(Continued)

OTHER PUBLICATIONS

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Mannos, T.J.; "Re: Web page prefetching?"; DEJA News, (Online), Dec. 1, 1997; XP002095977 Retrieved from the Internet: <URL:http://dejanews.com> (retrieved on Oct. 4, 2002).

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**G06F 15/00** (2006.01)  
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(52) **U.S. Cl.** ..... **715/530**; 715/513; 715/501.1; 715/500.1; 725/110

(57) **ABSTRACT**

(58) **Field of Classification Search** ..... 715/500.1, 715/501.1, 513, 523, 530; 725/110  
See application file for complete search history.

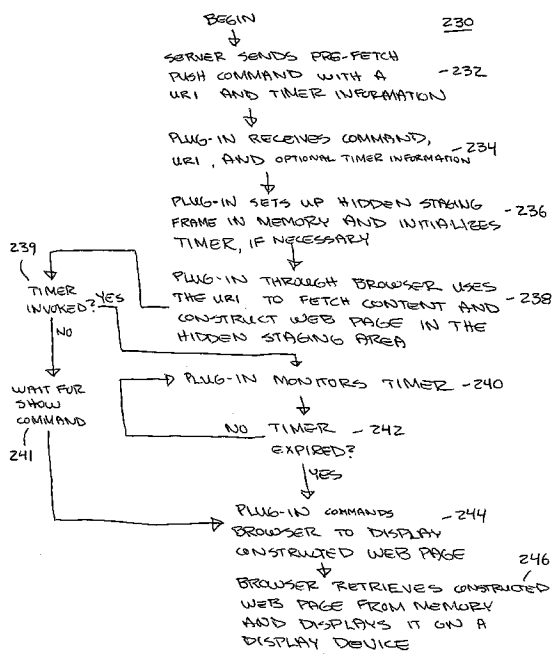
A web page staging area for construction of web pages hidden from view of the user. Once the web page is constructed, it is displayed to the user based upon timer event information or receipt of a particular command instructing that it be displayed. Use of the staging area provides the user with a more television-like experience in viewing content from the Internet or other source in that the user need not view a web page being constructed on a display device. Use of timer event information for displaying the constructed web page permits synchronization of the web page with associated programming.

(56) **References Cited**

U.S. PATENT DOCUMENTS

4,572,509 A 2/1986 Sitrick  
4,592,546 A 6/1986 Fascenda et al.  
4,734,764 A 3/1988 Pocock et al.  
4,877,408 A 10/1989 Hartsfield  
4,894,789 A 1/1990 Yee  
4,905,094 A 2/1990 Pocock et al.  
4,931,865 A 6/1990 Scarnpi  
4,941,040 A 7/1990 Pocock et al.

**29 Claims, 9 Drawing Sheets**



U.S. PATENT DOCUMENTS							
5,140,419	A	8/1992	Galumbeck et al.	5,761,602	A	6/1998	Wagner et al.
5,191,410	A	3/1993	McCalley et al.	5,761,606	A	6/1998	Wolzien
5,208,659	A	5/1993	Rhodes	5,771,307	A	6/1998	Lu et al.
5,243,528	A	9/1993	Lefebvre	5,771,381	A	6/1998	Jones et al.
5,262,860	A	11/1993	Fitzpatrick et al.	5,774,664	A	* 6/1998	Hidary et al. .... 725/110
5,264,933	A	11/1993	Rosser et al.	5,778,181	A	7/1998	Hidary et al.
5,282,028	A	1/1994	Johnson et al.	5,779,549	A	7/1998	Walker et al.
5,285,278	A	2/1994	Holman	5,782,692	A	7/1998	Stelovsky
5,291,486	A	3/1994	Koyanagi	5,793,365	A	8/1998	Tang et al.
5,353,283	A	10/1994	Tsuchiya	5,796,393	A	8/1998	MacNaughton et al.
5,359,510	A	10/1994	Sabaliauskas	5,796,952	A	8/1998	Davis et al.
5,365,346	A	11/1994	Abumi	5,801,750	A	9/1998	Kurihara
5,438,355	A	8/1995	Palmer	5,813,006	A	9/1998	Polnerow et al.
5,453,794	A	9/1995	Ezaki	5,818,441	A	10/1998	Throckmorton et al.
5,462,275	A	10/1995	Lowe et al.	5,819,261	A	10/1998	Takahashi et al.
5,479,268	A	12/1995	Young et al.	5,823,879	A	10/1998	Goldberg et al.
5,481,542	A	1/1996	Logston et al.	5,832,496	A	11/1998	Anand et al.
5,498,000	A	3/1996	Cuneo	5,846,132	A	12/1998	Junkin
5,526,035	A	6/1996	Lappington et al.	5,848,373	A	12/1998	DeLorme et al.
5,534,913	A	7/1996	Majeti et al.	5,848,396	A	12/1998	Gerace
5,537,141	A	7/1996	Harper	5,848,397	A	12/1998	Marsh et al.
5,539,471	A	7/1996	Myhrvold et al.	5,855,516	A	1/1999	Eiba
5,543,849	A	8/1996	Long	5,861,881	A	1/1999	Freeman et al.
5,553,221	A	9/1996	Reimer et al.	5,867,208	A	2/1999	McLaren ..... 348/13
5,557,316	A	9/1996	Hoarty et al.	5,870,558	A	2/1999	Branton, Jr. et al.
5,564,073	A	10/1996	Takahisa	5,878,222	A	3/1999	Harrison
5,570,295	A	10/1996	Isenberg et al.	5,878,223	A	3/1999	Becker et al.
5,572,442	A	11/1996	Schulhof et al.	5,880,720	A	3/1999	Iwafune et al.
5,579,055	A	11/1996	Hamilton et al.	5,889,950	A	3/1999	Kuzma
5,585,858	A	12/1996	Harper et al.	5,889,951	A	3/1999	Lombardi
5,586,257	A	12/1996	Perlman	5,890,906	A	4/1999	Macri et al.
5,586,937	A	12/1996	Menashe	5,890,963	A	4/1999	Yen
5,589,892	A	12/1996	Knee et al.	5,892,909	A	4/1999	Grasso et al.
5,593,349	A	1/1997	Miguel et al.	5,894,556	A	4/1999	Grimm et al.
5,603,078	A	2/1997	Henderson et al.	5,905,865	A	5/1999	Palmer et al.
5,604,542	A	2/1997	Dedrick	5,907,322	A	5/1999	Kelly et al.
5,610,653	A	3/1997	Abecassis	5,907,680	A	5/1999	Nielsen
5,612,730	A	3/1997	Lewis	5,912,700	A	6/1999	Honey et al.
RE35,498	E	4/1997	Barnard	5,913,040	A	6/1999	Rakavy et al.
5,627,978	A	5/1997	Altom et al.	5,917,725	A	6/1999	Thacher et al.
5,633,810	A	* 5/1997	Mandal et al. .... 370/431	5,918,009	A	6/1999	Gehani et al.
5,633,918	A	5/1997	Mankovitz	5,918,014	A	6/1999	Robinson
5,637,844	A	6/1997	Eiba	5,926,179	A	7/1999	Matsuda et al.
5,640,193	A	6/1997	Wellner	5,929,849	A	7/1999	Kikinis ..... 345/327
5,643,088	A	7/1997	Vaughn et al.	5,929,850	A	7/1999	Broadwin et al.
5,649,284	A	7/1997	Yoshinobu	5,933,822	A	8/1999	Braden-Harder et al.
5,659,366	A	8/1997	Kerman	5,940,082	A	8/1999	Brinegar et al.
5,667,708	A	9/1997	Glass et al.	5,940,595	A	8/1999	Reber et al. .... 709/227
5,668,592	A	9/1997	Spaulding, II	5,941,774	A	8/1999	Takemoto et al.
5,677,708	A	10/1997	Matthews, III et al.	5,947,747	A	9/1999	Walker et al.
5,679,075	A	10/1997	Forrest et al.	5,948,040	A	9/1999	DeLorme et al.
5,686,954	A	11/1997	Yoshinobu et al.	5,951,636	A	9/1999	Zerber
5,691,986	A	11/1997	Pearlstein	5,954,798	A	9/1999	Shelton et al.
5,694,163	A	12/1997	Harrison	5,956,038	A	9/1999	Rekimoto
5,695,400	A	12/1997	Fennell, Jr. et al.	5,961,603	A	10/1999	Kunkel et al.
5,696,905	A	12/1997	Reimer et al.	5,973,685	A	* 10/1999	Schaffa et al. .... 345/722
5,697,844	A	12/1997	Von Kohorn	5,978,833	A	11/1999	Pashley et al.
5,710,884	A	1/1998	Dedrick	5,987,454	A	11/1999	Hobbs
5,724,091	A	3/1998	Freeman et al.	5,987,523	A	11/1999	Hind et al.
5,724,103	A	3/1998	Batchelor	5,999,664	A	12/1999	Mahoney et al.
5,724,521	A	3/1998	Dedrick	5,999,929	A	12/1999	Goodman
5,724,567	A	3/1998	Rose et al.	6,002,394	A	12/1999	Schein et al.
5,729,252	A	3/1998	Fraser	6,005,561	A	12/1999	Hawkins et al.
5,730,654	A	3/1998	Brown	6,006,252	A	12/1999	Wolfe
5,734,413	A	3/1998	Lappington et al.	6,009,458	A	12/1999	Hawkins et al.
5,734,437	A	3/1998	Back	6,012,083	A	1/2000	Savitzy et al.
5,748,186	A	5/1998	Raman	6,018,768	A	1/2000	Ullman et al.
5,748,731	A	5/1998	Shepherd	6,023,729	A	2/2000	Samuel et al.
5,757,916	A	5/1998	MacDoran et al.	6,026,375	A	2/2000	Hall et al.
				6,029,045	A	2/2000	Picco et al.
				6,029,172	A	2/2000	Jorna et al.

6,047,235 A	4/2000	Hiyokawa et al.	6,466,969 B1	10/2002	Bunney et al.
6,049,821 A	4/2000	Theriault et al.	6,480,885 B1	11/2002	Olivier
6,055,569 A *	4/2000	O'Brien et al. .... 709/223	6,486,892 B1	11/2002	Stern
6,057,856 A	5/2000	Miyashita et al.	RE37,957 E	1/2003	Garfield
6,058,430 A	5/2000	Kaplan	6,513,069 B1	1/2003	Abato et al.
6,061,738 A	5/2000	Osaku et al.	6,526,041 B1	2/2003	Shaffer et al.
6,064,438 A	5/2000	Miller	6,571,234 B1	5/2003	Knight et al.
6,065,059 A	5/2000	Shieh et al.	6,577,716 B1	6/2003	Minter et al.
6,075,527 A	6/2000	Ichihashi et al.	6,578,025 B1	6/2003	Pollack et al.
6,080,063 A	6/2000	Khosla	6,606,657 B1	8/2003	Zilberstein et al.
6,081,830 A	6/2000	Schindler	6,611,872 B1	8/2003	McCanne
6,082,887 A	7/2000	Feuer et al.	6,615,408 B1	9/2003	Kaiser et al.
6,094,677 A	7/2000	Capek et al.	6,625,624 B1	9/2003	Chen et al.
6,098,085 A	8/2000	Blonder et al.	6,625,647 B1 *	9/2003	Barrick et al. .... 709/224
6,101,180 A	8/2000	Donahue et al.	6,643,691 B1	11/2003	Austin
6,102,797 A	8/2000	Kail	6,661,372 B1	12/2003	Girerd et al.
6,102,969 A	8/2000	Christianson et al.	6,698,020 B1	2/2004	Zigmond et al.
6,108,703 A	8/2000	Leighton et al.	6,725,159 B1	4/2004	Krasner
6,112,181 A	8/2000	Shear et al.	2001/0000537 A1	4/2001	Inala et al.
6,112,212 A	8/2000	Heitler	2001/0003823 A1 *	6/2001	Mighdoll et al. .... 709/200
6,119,165 A	9/2000	Li et al.	2001/0013123 A1	8/2001	Freeman et al.
6,122,647 A	9/2000	Horowitz et al.	2002/0056129 A1	5/2002	Blackketter et al.
6,122,658 A	9/2000	Chaddha	2002/0112002 A1	8/2002	Abato
6,126,547 A	10/2000	Ishimoto et al.	2002/0156909 A1	10/2002	Harrington
6,128,482 A	10/2000	Nixon et al.	2002/0188943 A1	12/2002	Freeman et al.
6,131,120 A	10/2000	Reid	2002/0194589 A1	12/2002	Sheehan et al.
6,134,584 A	10/2000	Chang et al.			
6,138,144 A	10/2000	DeSimone et al.			
6,141,010 A	10/2000	Hoyle			
6,144,848 A	11/2000	Walsh et al.	DE	44 27 046	2/1996
6,144,991 A	11/2000	England	DE	44 31 438	3/1996
6,151,626 A	11/2000	Tims et al.	DE	19545882	6/1997
6,163,803 A *	12/2000	Watanabe ..... 709/217	EP	0 163 577	12/1985
6,177,931 B1	1/2001	Alexander et al.	EP	0 314 572	5/1989
6,182,072 B1	1/2001	Leak et al.	EP	0424648 A2	5/1991
6,182,116 B1	1/2001	Namma et al.	EP	0 562 221	9/1993
6,192,340 B1	2/2001	Abecassis	EP	0 673 164	3/1995
6,193,610 B1	2/2001	Junkin	EP	757485	2/1997
6,199,045 B1	3/2001	Giniger et al.	EP	0 805 598	11/1997
6,204,842 B1 *	3/2001	Fujii ..... 345/717	EP	0 837 609	4/1998
6,205,582 B1	3/2001	Hoarty	EP	0852443 A	7/1998
6,239,797 B1 *	5/2001	Hills et al. .... 715/784	EP	0 879 536	11/1998
6,253,228 B1	6/2001	Ferris et al.	EP	0901284 A	3/1999
6,260,192 B1	7/2001	Rosin et al.	EP	0952539 A2	10/1999
6,266,649 B1	7/2001	Linden et al.	EP	0 982 943	5/2000
6,275,705 B1	8/2001	Drane et al.	EP	1089201 A1	4/2001
6,278,942 B1	8/2001	McDonough	EP	1111914 A	6/2001
6,279,007 B1	8/2001	Uppala	GB	2 132 856	7/1984
6,288,753 B1	9/2001	DeNicola et al.	GB	2325537 A	11/1998
6,289,362 B1	9/2001	Van Der Meer	GB	2327837 A *	2/1999
6,292,780 B1	9/2001	Doerderlein et al.	GB	2327837 A	2/1999
6,297,748 B1	10/2001	Lappenbusch et al.	GB	2 347 055	8/2000
6,298,330 B1	10/2001	Gardenswartz et al.	GB	2350213 A	11/2000
6,317,722 B1	11/2001	Jacobi et al.	GB	2356319 A	5/2001
6,317,780 B1	11/2001	Cohn et al.	GB	2 359 708	8/2001
6,317,791 B1	11/2001	Cohn et al.	GB	2 359 958	9/2001
6,326,982 B1 *	12/2001	Wu et al. .... 345/718	JP	4-127688	4/1992
6,327,574 B1	12/2001	Kramer et al.	JP	5176306	7/1993
6,330,592 B1	12/2001	Makuch et al.	JP	7-288606	10/1995
6,353,933 B1	3/2002	Love	JP	7-307813	11/1995
6,366,914 B1	4/2002	Stern	JP	8-8860	1/1996
6,389,458 B1 *	5/2002	Shuster ..... 709/213	JP	10-222541	8/1998
6,397,220 B1	5/2002	Deisinger et al.	WO	WO 93/06675	4/1993
6,412,011 B1	6/2002	Agraharam et al.	WO	WO 93/07713	4/1993
6,424,979 B1	7/2002	Livingston et al.	WO	WO 93/11617	6/1993
6,425,012 B1	7/2002	Trovato et al.	WO	WO 93/22877	11/1993
6,442,590 B1	8/2002	Inala et al.	WO	94/13107	6/1994
6,442,598 B1	8/2002	Wright et al.	WO	96/07270	3/1996
6,442,687 B1	8/2002	Savage	WO	WO 96/08923	3/1996
6,457,010 B1	9/2002	Eldering et al.	WO	96/13124	5/1996
6,460,180 B1	10/2002	Park et al.	WO	WO 97/02689	1/1997

FOREIGN PATENT DOCUMENTS

WO	97/27546	7/1997
WO	WO 97/29591	8/1997
WO	WO 97/33434 A1	9/1997
WO	WO-98-23080 A2	5/1998
WO	WO-98-29956 A2	7/1998
WO	WO-99-44159 A1	9/1999
WO	WO 99/45726	9/1999
WO	WO 99/50778	10/1999
WO	WO-99-55066 A1	10/1999
WO	WO 00/14987	3/2000
WO	WO 00/36836	6/2000
WO	WO 00/36886	6/2000
WO	WO 00/43892	7/2000
WO	WO 00/43899	7/2000
WO	WO-00-045599 A	8/2000
WO	WO 00/77664	12/2000
WO	WO-01-015357 A	3/2001
WO	WO 02/065252	8/2002
WO	WO 02/065318	8/2002

OTHER PUBLICATIONS

"RealSystem G2 Production Guide," 1998-2000, pp. 75-79.

Eitz, "Combiners for Videotext Signals" Broadcast Technology Reports, translation of vol. 28, No. 6, Nov. 1984, pp. 273-289, XP002182048, Norderstedt, Germany.

"Advanced Television Enhancement Forum Specification (ATVEF)", Comment Draft Version 1.0r1, Feb. 25, 1999, XP002142688.

Dale Cripps, "Web TV over Digital Cable," May 4, 1998; <http://web-star.com/hdtvnews/webtvoverdigitalcable.html>; pp. 1-4.

Dale Cripps, "Internet TV Advertising," May 8, 1998; <http://web-star.com/hdtvnews/internettadvertising.html>; pp. 1-3.

Dale Cripps, "Gates, TV, Interactivity," May 5, 1998; pp. 1-4; <http://web-star.com/hdtvnews/gatestvinteractivity.html>.

"ICTV" Brochure; copyright 1988 by ICTV; 27 pages.

"TV Navigator" brochure; copyright 1997 by Network Computer, Inc.; 6 pages.

"Worldgate" brochure; copyright 1998 by Worldgate Communications; 12 pages.

Per Einar Dybvik and Hakon W. Lie, "Combining WWW/Mosaic with Realtime Multimedia Conferencing in Distance Education," The Second International WWW Conference '94, Mosaic and the Web, Advance Proceedings, vol. 1, Oct. 17-20, 1994 at 423.

Tak K. Woo et al., "A Synchronous Collaboration Tool for the World-Wide Web," the Second International WWW Conference '94, Mosaic and the Web, Advance Proceedings, vol. 1, Oct. 17-20, 1994, at 315.

Intercast Industry Group, Press Release, "Leaders in PC, Broadcast and Cable Industries Announce Formation of Industry Group to Promote New Digital Medium for the Home PC," Business Wire, Oct. 23, 1995.

The Intercast Industry Group, "Frequently Asked Questions," Fall 1996, pp. 1-7.

Vinay Kumar et al., "A Shared Web to Support Design Teams", Third Workshop on Enabling Technologies: Infrastructure for Collaborative Enterprises, Morgantown, West Virginia, Apr. 17-19, 1994 at 178.

Newsbytes, "Different takes on Wedding TV to Web" NEWSBYTES, 'Online! Mar. 1, 1999, XP002257234 Retrieved from the Internet: <URL:www.exn.ca/Stories/1999/03/01/04.asp>' retrieved on Oct. 9, 2003!\* page 1, last paragraph.\*

Kieron Murphy, "HyperTV fuses Java with television" JAVA WORLD, 'Online! May 1996, XP00257236 Retrieved from the Internet: <URL:www.javaworld.com/javaworld/jw-05-1996/jw-05-hypertv.html> 'retrieved on Oct. 9, 2003!

Yu et al., "Design And Analysis Of Look Ahead Scheduling Scheme To Support Pause-Resume For Video-On-Demand Applications", Multimedia Systems, vol. 4, No. 4, Jan. 1995, pp. 137-149, XP000576898.

Sandra Beudin, "The Web is not TV, or is it?" DZINE, 'Online! Dec. 31, 1996, XP002257234, Retrieved from the Internet: URL:www.exn.ca/stories/1999/03/01/04.asp> retrieved on Oct. 9, 2003.

Wittig et al., "Intelligent Media Agents in Interactive Television Systems", Proceedings of the International Conference on Multimedia Computing and Systems, Los Alamitos, CA, May 15, 1995, pp. 182-189, XP000603484.

"Funkschau Fachzeitschrift für elektronische Kommunikation", vol. 6/96 of Mar. 1, 1996, pp. 70-75. and English Translation of extract from Funkschau Fachzeitschrift Für elektronische Kommunikation.

Nikkei BP Corp., "Intercast Using Gap Television Signal", Nikkei Electronics, Japan, Dec. 18, 1995, No. 651, p. 106.

Television Society, "Interactive Television Broadcast Using Character Broadcast System, Video Information and Broadcast Technology", Nov. 20, 1995, vol. 11, p. 1482-1487.

Cline et al., "DirectShow RTP Support for Adaptivity in Networked Multimedia Applications", Multimedia Computing and Systems, 1998, Proceedings, IEEE International Conference Jun. 28-Jul. 1, 1998, pp. 13-22.

Philippe Le Hegaret, "Document Object Module (DOM)", Architecture Domain, located at [www.w3.org/DOM/](http://www.w3.org/DOM/) retrieved on Jun. 22, 2001, 2 pages.

S. Gillich et al., "ATVEF Integration with DVB Using IP/MPE," Dec. 20, 1999, retrieved from [www.atvef.com/library/atvef-dub-bindingR8.html](http://www.atvef.com/library/atvef-dub-bindingR8.html) on Jun. 8, 2001, 5 pages.

J. Steinhorn et al., "Embedded Systems Programming-Enhancing TV with ATVEF," retrieved from [www.embedded.com/1999/9910/9910ial.htm](http://www.embedded.com/1999/9910/9910ial.htm) on Mar. 28, 2000, 10 pages.

"Enhanced Content Specification.", ATVEF, 1998, retrieved from [www.atvef.com/library/spec1-la.html](http://www.atvef.com/library/spec1-la.html). on Mar. 28, 2000, 38 pages.

"Overview," located at [www.claria.com/companyinfo/visited](http://www.claria.com/companyinfo/visited) on Mar. 1, 2005.

\* cited by examiner

FIG. 1

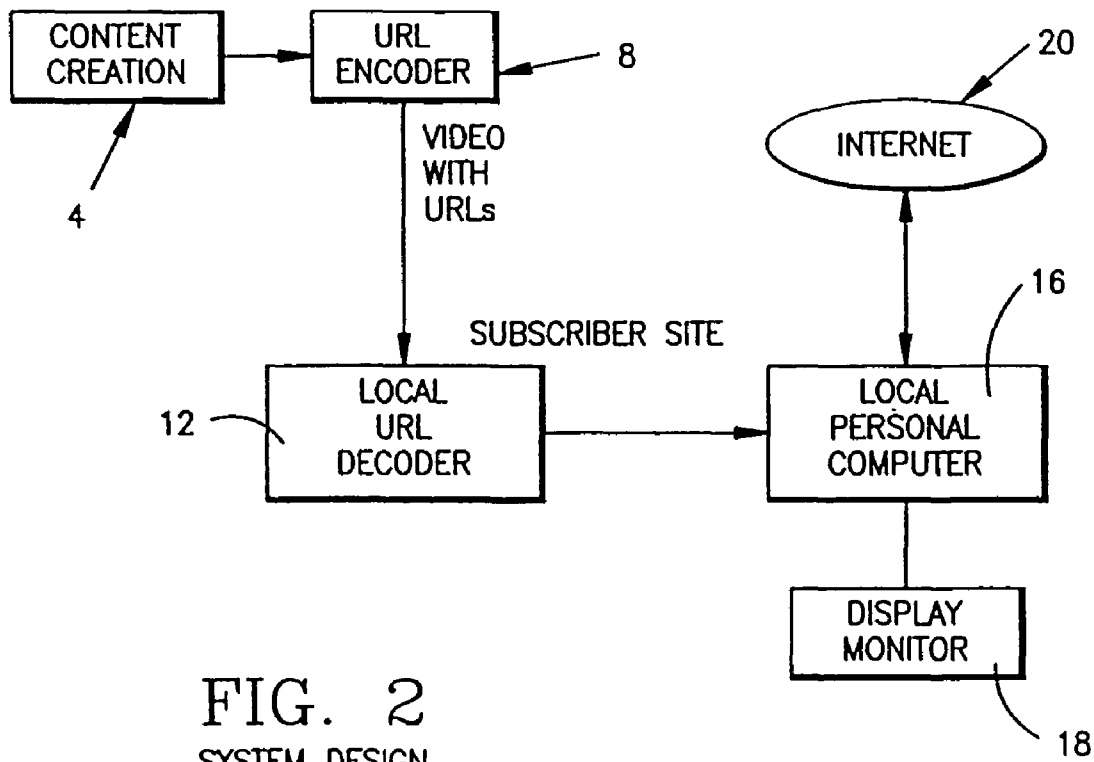
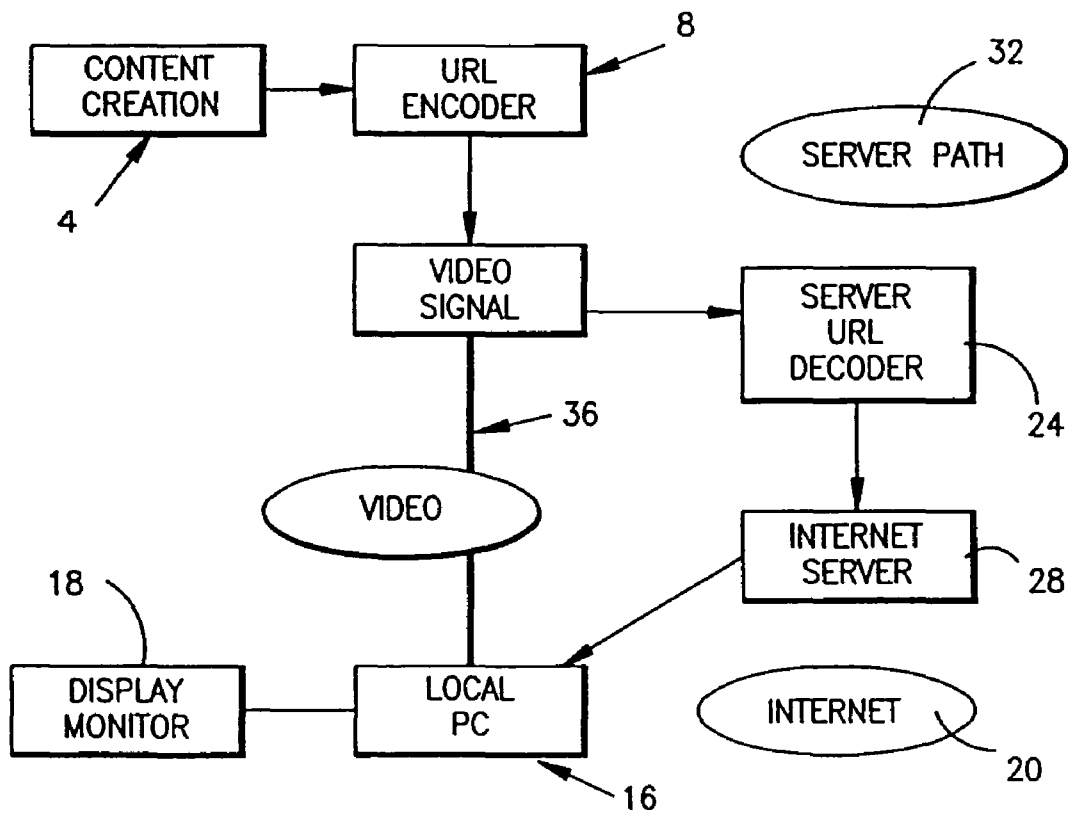


FIG. 2  
SYSTEM DESIGN



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