

FILE HISTORY

US 6,018,768

PATENT: 6,018,768

INVENTORS: Ullman, Craig  
Hidary, Jack D.  
Spivack, Nova T.

TITLE: Enhanced video programming system and  
method for incorporating and displaying  
retrieved integrated internet information  
segments

APPLICATION NO: US1998109945A

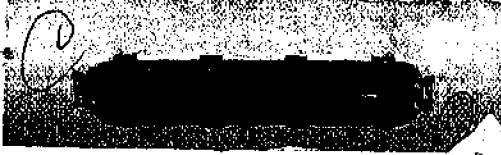
FILED: 06 JUL 1998

ISSUED: 25 JAN 2000

COMPILED: 12 FEB 2013

3c398 U.S. PTO  
09/109945  
07/06/98

709	218	Class	Subclass	ISSUE CLASSIFICATION
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PATENT NUMBER  
**6018768**  
6018768

**U.S. UTILITY PATENT APPLICATION**

③ *Om* O.I.P.E. PATENT DATE **JAN 25 2000**  
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SECTOR	CLASS <b>709</b>	SUBCLASS <b>218</b>	ART UNIT	EXAMINER
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**PREPARED AND APPROVED FOR ISSUE**

ISSUING CLASSIFICATION			
ORIGINAL		CROSS REFERENCE(S)	
CLASS	SUBCLASS	CLASS	SUBCLASS (ONE SUBCLASS PER BLOCK)
709	218	348	12
INTERNATIONAL CLASSIFICATION			
G06F	13/00		
H04N	5/50		

Continued on Issue Slip inside File Jacket

<input checked="" type="checkbox"/> <b>TERMINAL DISCLAIMER</b> 09/109945	DRAWINGS			CLAIMS ALLOWED	
	Sheets Drwg. <b>7</b>	Figs. Drwg. <b>9</b>	Print Fig. <b>1</b>	Total Claims <b>20</b>	Print Claim for O.G. <b>1</b>
<input type="checkbox"/> a) The term of this patent subsequent to _____ (date) has been disclaimed.	_____ (Assistant Examiner) _____ (Date)			<b>NOTICE OF ALLOWANCE MAILED</b> <b>4-23-99</b>	
<input checked="" type="checkbox"/> b) The term of this patent shall not extend beyond the expiration date of U.S. Patent No. <b>5,774,664</b> <b>5,775,181</b>	<b>Viet D. Vu</b> <b>Patent Examiner</b> _____ (Primary Examiner) _____ (Date)			<b>ISSUE FEE</b> Amount Due <b>\$1210.00</b> Date Paid <b>7-25-99</b>	
<input type="checkbox"/> c) The terminal _____ months of this patent have been disclaimed.	_____ (Legal Instruments Examiner) _____ (Date)			<b>ISSUE BATCH NUMBER</b> <b>S15</b>	

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 (Rev. 10/97)

Formal Drawings (\_\_\_\_ sheets) set \_\_\_\_\_

**ISSUE FEE IN FILE**

(LABEL AREA)

**K. RODGERS  
 QUERY**

(FACE)

6,018,768

**ENHANCED VIDEO PROGRAMMING SYSTEM AND METHOD FOR  
INCORPORATING AND DISPLAYING RETRIEVED INTEGRATED INTERNET  
INFORMATION SEGMENTS**

**Transaction History**

Date	Transaction Description
7/10/1998	Initial Exam Team nn
7/21/1998	IFW Scan & PACR Auto Security Review
7/27/1998	Notice Mailed--Application Incomplete--Filing Date Assigned
9/25/1998	Application Is Now Complete
9/28/1998	Application Dispatched from OIPE
11/2/1998	Case Docketed to Examiner in GAU
1/6/1999	Non-Final Rejection
1/19/1999	Mail Non-Final Rejection
4/9/1999	Terminal Disclaimer Filed
4/9/1999	Response after Non-Final Action
4/9/1999	Information Disclosure Statement (IDS) Filed
4/9/1999	Information Disclosure Statement (IDS) Filed
4/20/1999	Terminal Disclaimer Approved in TC
4/20/1999	Date Forwarded to Examiner
4/23/1999	Mail Notice of Allowance
4/23/1999	Notice of Allowance Data Verification Completed
7/20/1999	Issue Fee Payment Verified
7/20/1999	Workflow - Drawings Finished
7/20/1999	Workflow - Drawings Matched with File at Contractor
7/20/1999	Workflow - Drawings Received at Contractor
7/20/1999	Workflow - Drawings Sent to Contractor
8/6/1999	Terminal Disclaimer Filed
8/6/1999	Petition Entered
8/6/1999	Examiner Interview Summary Record (PTOL - 413)
8/10/1999	Mail-Petition Decision - Granted
8/26/1999	Mail Miscellaneous Communication to Applicant
8/26/1999	Miscellaneous Communication to Applicant - No Action Count
8/26/1999	Terminal Disclaimer Approved in TC
9/21/1999	Workflow - File Sent to Contractor
12/29/1999	Workflow - Complete WF Records for Drawings
1/4/2000	Application Is Considered Ready for Issue
1/13/2000	Issue Notification Mailed

1/26/2000	Recordation of Patent Grant Mailed
4/8/2003	File Marked Found
4/8/2003	File Marked Lost
10/15/2003	Correspondence Address Change
5/2/2004	Correspondence Address Change
5/18/2004	Correspondence Address Change
1/19/2006	Correspondence Address Change
1/24/2007	Correspondence Address Change
1/24/2007	Change in Power of Attorney (May Include Associate POA)
1/25/2008	Change in Power of Attorney (May Include Associate POA)
1/25/2008	Correspondence Address Change

PATENT APPLICATION



09109945

1c398 U.S. PTO

09/109945



07/06/98

UL Int. 08/29

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3. <u>Rec. Search</u>	<u>9/15/98</u>	44.
4. <u>Det. 3MIS</u>	<u>1-19-99</u>	45.
5. <u>I. D. S. or Det. Fee</u>	<u>4-9-99</u>	46.
6. <u>Response</u>	<u>04-9-99</u>	47.
7. <u>Terminal Disclaimers</u>	<u>4-9-99</u>	48.
8. <u>Notice of Allowance</u>	<u>4-23-99</u>	49.
9. <u>Ex. Inter. Div. Summary</u>	<u>8-16-99 M.L.</u>	50.
10. <u>Pat. in London 1.3122</u>	<u>08/16/99</u>	51.
11. <u>Terminal Disclaimers</u>	<u>8/16/99</u>	52.
12. <u>Pat. in London (Accepted)</u>	<u>8-26-99</u>	53.
13. <u>Suppl. Notice of Allowance</u>	<u>8-26-99</u>	54.
14. <u>Suppl. Exam. Report #</u>	<u>10-22-99</u>	55.
15. <u>Formal Drawings: 7 sheets</u>	<u>7-20-99</u>	56.
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**SEARCHED**

**SEARCH NOTES**  
(INCLUDING SEARCH STRATEGY)

Class	Sub.	Date	Exmr.		Date	Exmr.
<del>709</del> <del>348</del>	217 <del>201.47</del> 218 <del>201.48</del> <del>201.49</del> 227 <del>201.57</del> <del>201.58</del>	12-31-98	VV.		12-31-98	VV.
348	7, 8 10, 12 13, 461 564 906					
455	3.1 5.1 6.1					
Updated	all above	4-27-99	VV.			

INTERFERENCE SEARCHED			
Class	Sub.	Date	Exmr.
709	218	4-26-99	VV.
348	12	-	-

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ISSUE SLIP STAPLE AREA (for additional cross references)

POSITION <i>COM</i>	INITIALS <i>malb</i>	ID NO. <i>875</i>	DATE <i>9-23-98</i>
FEE DETERMINATION	<i>AL</i>	<i>336</i>	<i>7/15/98</i>
O.I.P.E. CLASSIFIER		<i>21</i>	<i>7/16/98</i>
FORMALITY REVIEW		<i>7/4/98</i>	<i>7/23/98</i>

INDEX OF CLAIMS

✓ ..... Rejected                      N ..... Non-elected  
 = ..... Allowed                        I ..... Interference  
 - (Through numeral) Canceled        A ..... Appeal  
 + ..... Restricted                      O ..... Objected

Claim	Final	Original	Date
1	✓		<i>1/2/98</i>
2	✓		
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PATENT NUMBER		ORIGINAL CLASSIFICATION	
		CLASS	SUBCLASS
		709	218
APPLICATION SERIAL NUMBER		CROSS REFERENCE(S)	
09/109,945		CLASS	SUBCLASS (ONE SUBCLASS PER BLOCK)
APPLICANT'S NAME (PLEASE PRINT)		348	12
Ullman et al			
IF REISSUE, ORIGINAL PATENT NUMBER			
INTERNATIONAL CLASSIFICATION			
G 0 6 F	13/00	GROUP	ASSISTANT EXAMINER (PLEASE STAMP OR PRINT FULL NAME)
H 0 4 N	5/50	ART UNIT	
		2758	PRIMARY EXAMINER (PLEASE STAMP OR PRINT FULL NAME)
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(REV. 5-91)

ISSUE CLASSIFICATION SLIP

U.S. DEPARTMENT OF COMMERCE  
PATENT AND TRADEMARK OFFICE





US006018768A

United States Patent [19]

[11] Patent Number: 6,018,768

Ullman et al.

[45] Date of Patent: \*Jan. 25, 2000

- [54] ENHANCED VIDEO PROGRAMMING SYSTEM AND METHOD FOR INCORPORATING AND DISPLAYING RETRIEVED INTEGRATED INTERNET INFORMATION SEGMENTS
- [75] Inventors: Craig Ullman, Brooklyn; Jack D. Hdkary; Nava T. Spivack, both of New York, all of N.Y.
- [73] Assignee: ACTV, Inc., New York, N.Y.
- [\*] Notice: This patent is subject to a terminal disclaimer.
- [21] Appl. No.: 09/109,945
- [22] Filed: Jul. 6, 1998

Related U.S. Application Data

- [62] Continuation-in-part of application No. 08/615,143, Mar. 14, 1996, Pat. No. 5,778,181, which is a continuation-in-part of application No. 08/513,144, Mar. 8, 1996, abandoned.
- [51] Int. Cl.<sup>7</sup> G06F 13/00; H04N 5/50
- [52] U.S. Cl. 709/218; 348/12
- [58] Field of Search 709/217, 218, 709/219, 227, 228; 348/7, 8, 10, 12, 13, 461, 564, 906; 455/3.1, 5.1, 6.1

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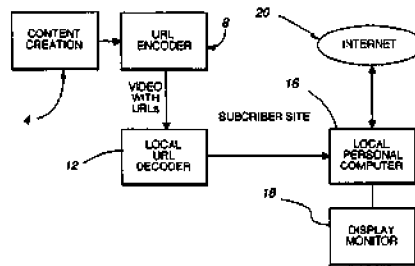
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Primary Examiner—Viel D. Vu  
Attorney, Agent, or Firm—Dorsey & Whitney LLP

[57] ABSTRACT

A system for integrating video programming with the vast information resources of the Internet. A computer-based system receives a video program with embedded uniform resource locators (URLs). The URLs, the effective addresses of locations or Web sites on the Internet, are interpreted by the system and direct the system to the Web site locations to retrieve related Web pages. Upon receipt of the Web pages by the system, the Web pages are synchronized to the video content for display. The video program signal can be displayed on a video window on a conventional personal computer screen. The actual retrieved Web pages are time stamped to also be displayed, on another portion of the display screen, when predetermined related video content is displayed in the video window. As an alternative, the computer-based system receives the URLs directly through an Internet connection, at times specified by TV broadcasters in advance. The system interprets the URLs and retrieves the appropriate Web pages. The Web pages are synchronized to the video content for display in conjunction with a television program being broadcast to the user at that time. This alternative system allows the URLs to be entered for live transmission to the user.

20 Claims, 7 Drawing Sheets



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5,774,664	6/1998	Hiday et al.	709/218
5,778,181	7/1998	Hiday et al.	709/218

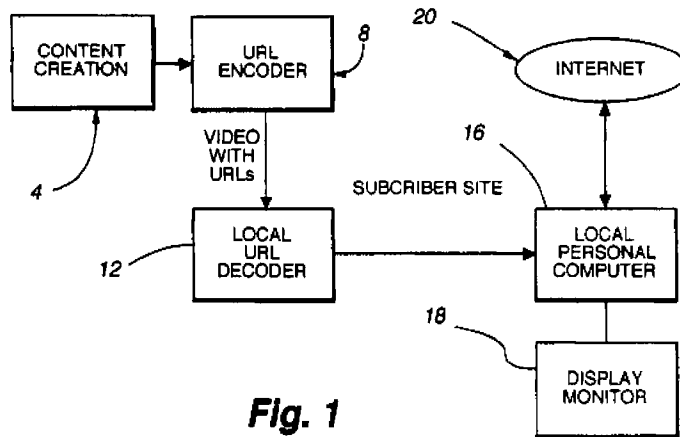


Fig. 1

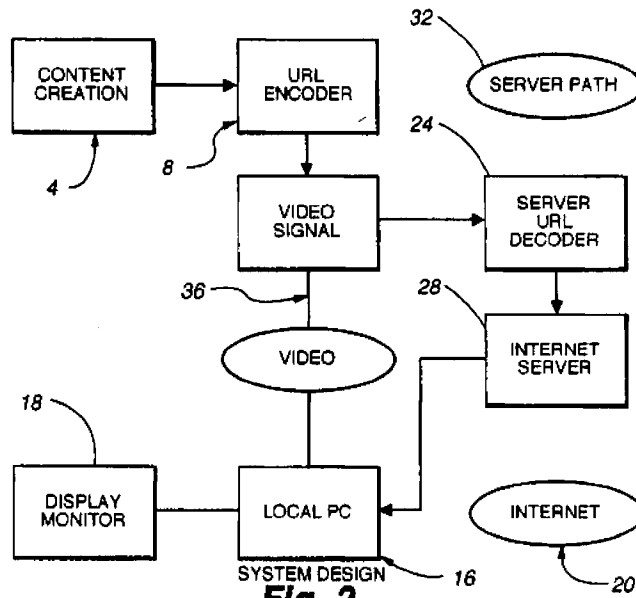
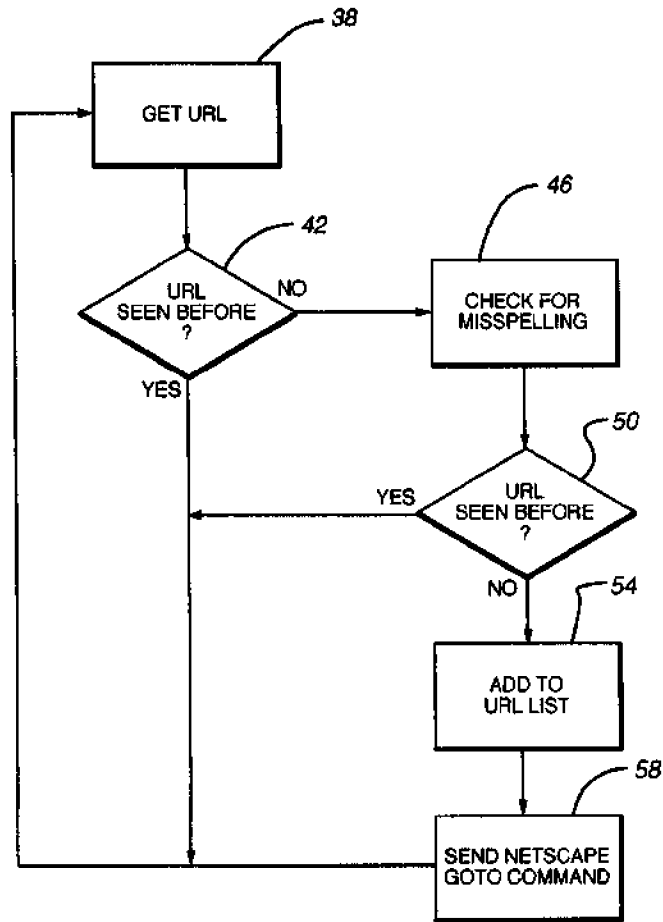
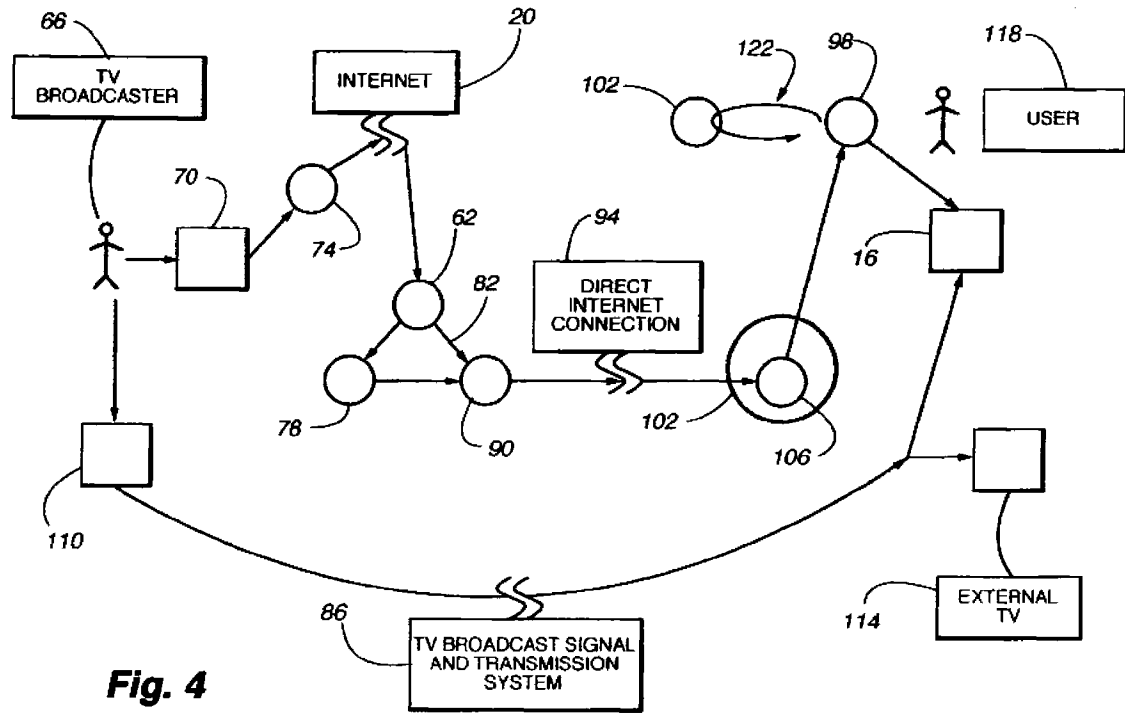


Fig. 2



SOFTWARE DESIGN

**Fig. 3**



**Fig. 4**

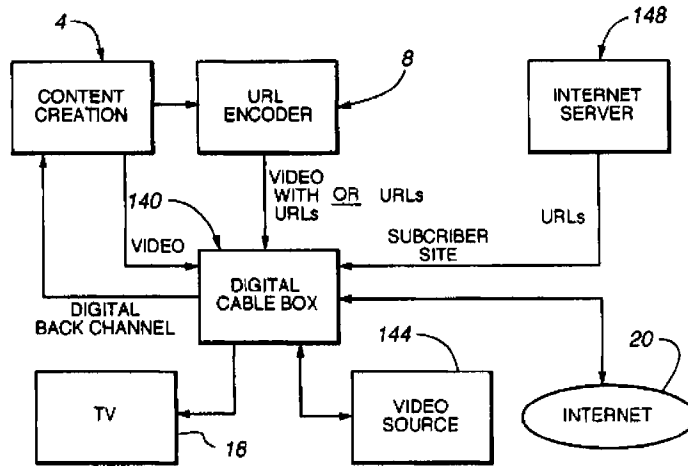


Fig. 5

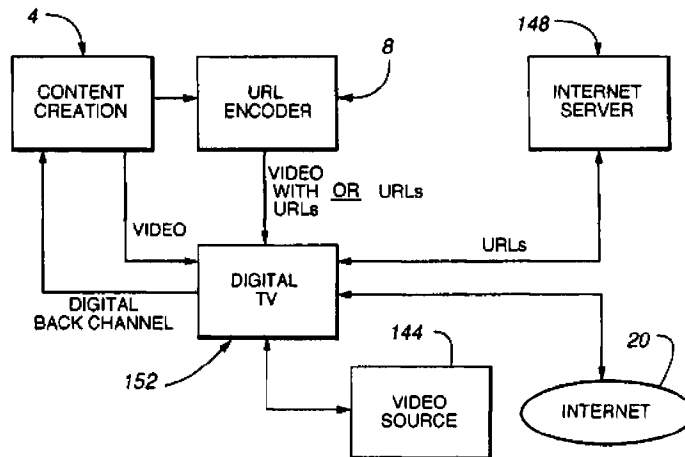


Fig. 6

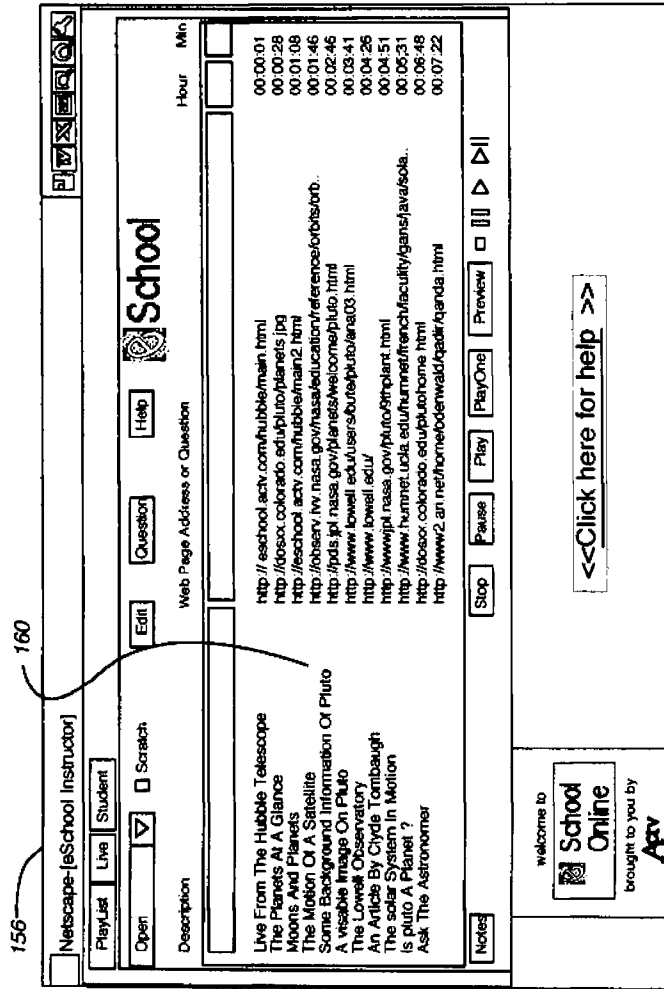
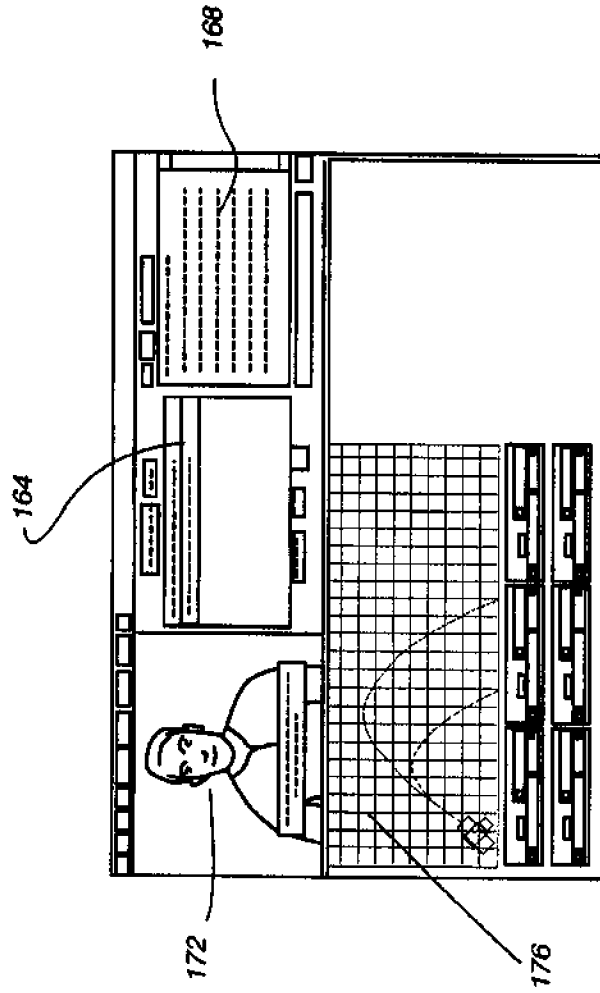
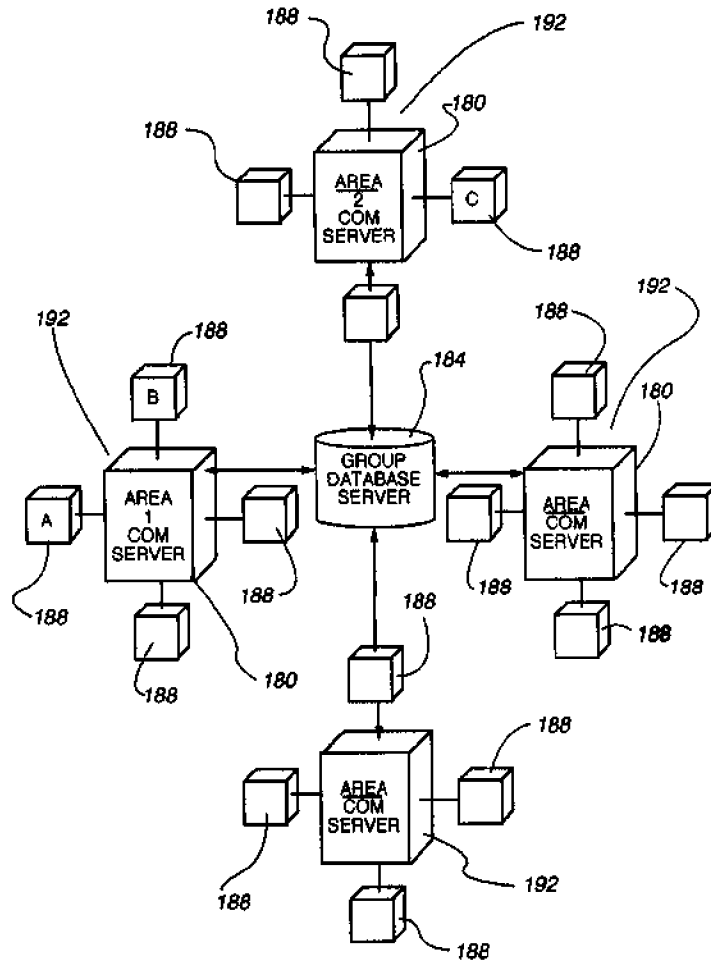


Fig. 7



**Fig. 8**





**Fig. 9**

**1**

**ENHANCED VIDEO PROGRAMMING  
SYSTEM AND METHOD FOR  
INCORPORATING AND DISPLAYING  
RETRIEVED INTEGRATED INTERNET  
INFORMATION SEGMENTS**

This application is a continuation-in-part of U.S. application Ser. No. 08/615,143, filed Mar. 14, 1996, entitled "ENHANCED VIDEO PROGRAMMING SYSTEM AND METHOD FOR INCORPORATING AND DISPLAYING RETRIEVED INTEGRATED INTERNET INFORMATION SEGMENTS," now U.S. Pat. No. 5,778,181, which is a continuation-in-part of U.S. application Ser. No. 06/613,144, filed Mar. 8, 1996, entitled "INTEGRATED INTERACTIVE VIDEO AND INTERNET SYSTEM", now abandoned, and is related to U.S. application Ser. No. 08/622,474 filed Mar. 25, 1996, now U.S. Pat. No. 5,774,664, which is herein incorporated by reference.

**BACKGROUND OF THE INVENTION**

Today, the capabilities of computers to provide massive amounts of educational and entertainment information has exploded with the Internet. The Internet has the power to transform society through unprecedented levels of information flow between members. Currently, on-line systems offer a variety of different services to users, including news feeds, electronic databases (either searchable by the user directly on the on-line system, or downloadable to the user's own computer), private message services, electronic newsletters, real time games for play by several users at the same time, and job placement services, to name a few. However, today, most on-line communications occur merely through text. This currently stands in great contrast to the audio/visual presentation of the alternative electronic medium, television. However, it is expected that as multi-media's incessant growth continues, audio/visual programs will proliferate and text will become less and less dominant in the on-line environment. Even though these programs will be introduced, the Internet, will remain essentially user unfriendly due to its very massiveness, organization, and randomness. Simply stated, there is no order or direction in the Internet. Specific pieces of information are many times hard to find, and harder yet, is the ability to put that piece of information into a meaningful context.

Television, on the other hand, has been criticized for being a passive medium—"chewing gum for the eyes," as Fred Allen once observed. Television has always been something you watched, not something you do. Many social critics believe that the passivity television depends on has seeped into our entire culture, turning a nation of citizens into a nation of viewers. While interactive television systems have increased the level of user interaction, and thus, provided greater learning and entertainment opportunities, vast information resources such as databases are inaccessible from such a medium.

What is needed is a means to close the gap between video programming and the information superhighway of the Internet. What is needed is a wider, richer experience integrating audio/visual and textual database elements into an organized unique interactive, educational, entertainment experience. Currently, the Internet is a repository of information on virtually any subject. However, what is needed is a mechanism for combining the user-friendly visual experience of television with the vast information resources of the Internet.

**SUMMARY OF THE INVENTION**

The system of the present invention combines broadcast television programming and/or video programming which

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appears on a VHS or Beta tape, CD-ROM, DVD or other medium, or video programming at a video server (hereinafter "video programming") with the massive Internet, creating a new and powerful educational and entertainment medium. The system allows consumers to receive more information in a more efficient manner than either television or the Internet alone. Consumers not only can see a news report on television, but they can also read pertinent information about the report, as well as explore related information about the story. The program becomes the introduction to a particular subject, rather than the entire subject itself. The act of viewing a program has now become a more engaging, enriching experience.

The system can also create a more intimate relationship between the viewer and the program. The user might be solving problems or performing virtual experiments on the Internet site that a teacher is discussing in an educational television program. Similarly, the consumer might be solving problems that the fictional characters in a television program must solve. In both cases, the consumer is an active participant in the process, rather than a passive observer.

Instead of an undirected and unfocused exploration of Internet sites, by synching specific Internet pages to the video signal, the system puts the Internet in context. The television program producers now can decide what additional information to offer their audience. This material can now be seen in the context of the television program.

An additional advantage is that consumers don't have to search through the literally hundreds of millions of pages on the Internet to find appropriate material. The material has already been filtered by the program producers and delivered to the consumer automatically.

Another advantage of the system is that it changes the nature of advertising. Since additional information can be given to consumers automatically, advertising can now be more substantive, allowing customers to make more informed choices. Now, the act of purchasing a product seen on television can be streamlined—the consumer can be given the choice of buying the product instantly using the two-way capabilities of the system.

In addition, users can take advantage of the two-way capabilities of the Internet to respond to polls, to send e-mail or to link to additional sites. For example, a viewer watching a television news program, through the system of the invention, can receive a stream of Web pages which provide additional, specific information relating to the news content—whether background on the Presidential primaries or the latest change in interest rates.

The video programming and corresponding Internet pages can be viewed on personal computers equipped with a television card, but the open software-based approach enables anyone with a television set and JAVA enables PC to experience the system of the invention.

By marrying the appeal of video with the two-way data transfer capabilities of the Internet, the system creates a powerful new medium: Video producers and Internet site creators can enhance their content to extend their brand identity and differentiate their program offerings to the millions of people who are spending more time navigating through the resources of the World Wide Web rather than watching television; advertisers can speak more directly to consumers by directly sending Web pages to the consumer instead of only displaying Web addresses in their commercials; and consumers can gain a new level of interest and interactivity over a video-based medium. In addition to providing significant and immediate benefits to broadcasters

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and advertisers, the system will also present educational programmers with a way to more effectively use Internet resources in the classroom.

Recently, several media companies have joined to create a system for linking the Internet and television on the personal computer, called "Intercast." In this system, content will be provided simultaneously with the TV video signal. This system, however, requires that stripped down Web pages be sent in the vertical blanking interval (VBI) of the video signal, using up to three scan lines limiting effective bandwidth to approximately 28.8 kbps. This approach, however, requires specialized hardware to both insert the Web pages into the VBI and extract these codes at each PC since it takes up to three scan lines of the VBI. Thus, the complexity and cost of the PC is increased. Because the Web pages are transmitted with the video signal, the Intercast system is not a true "two-way" system, but merely a one-way "piggyback" system. In addition, the Intercast is an analog video product, and thus, cannot handle digital video data.

The system of the present invention, on the other hand, is a much more flexible, but less complex, system. The present invention supports either analog or digital television broadcasts without broadcasters or end-users having to alter their existing systems, thus enabling broadcasters to reach a wide audience within a short time.

In a first embodiment, the actual Web pages are not forced into the very limited bandwidth of the vertical blanking interval (VBI). Instead, merely eight fields of line 21 of the VBI are used to deliver the relevant Internet Web page addresses to the PC. These addresses are called "uniform resource locators" (URLs). The system then directs the particular Web browser to retrieve the identified Web pages from the Internet. Upon receipt of the particular Web page(s), the system syncs the Web page(s) to the video signal, and at the appropriate times, presents the Web pages on one portion of the computer screen with the television video signal, shown in a window on another portion of the screen, and thus, provides the synergistic Internet and television experience. One of the advantages of the system of the present invention is that no specialized chip set need be produced and implemented into the standard PC. Thus, complexity is kept to a minimum.

In another preferred embodiment of the present invention, the VBI is not used to transmit the URLs to the user. In this alternative embodiment, member broadcasters enter the Internet through a member account, and will be provided with a graphical user interface for pre-scheduling Internet addresses, or URLs, for transmission to users at particular times of day. This interface could also be used to transmit real time live transmissions of URLs to users at the same time as a broadcast. The URLs are stored in a "Link File" for later transmission over the Internet to the user at the broadcaster's entered time, which corresponds to the broadcast time of an associated program. The timing of URL's could be determined in advance or can be sent out live. This embodiment eliminates the need to place the URLs in the VBI, and also allows the broadcaster to store more than one Link File for transmission to users in different time zones, for example. Further, more than one broadcaster could access the same master schedule if desired, and add or delete certain URLs to personalize the program for their local audiences. Also, personalization can be taken to the single user, or small group of users, by having the system send a different stream of URLs to each user, depending on a unique user profile, for example. Thus, the personalization feature of the present invention allows each user to receive

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information uniquely relevant to their interests, demographics, history, etc. This embodiment makes the transmission of URLs to the user even less complex than the first embodiment disclosed herein.

Thus, it is an object of the present invention to provide order and direction to the Internet by using television signals to place, orient and control such information in a meaningful context.

It is an object of the present invention to create a more intimate relationship between the viewer and the program by enriching the learning experience through the provision of more in-depth information.

#### DESCRIPTION OF THE DRAWINGS

FIG. 1 is a diagram of the system design, showing the receipt and decoding of video signals at the subscriber location using the method of the present invention.

FIG. 2 is a diagram showing an alternative system embodiment to achieve the integration of the Internet information with the video content by decoding the uniform resource locators at a server site and then transmitting the URLs to the subscriber stations via the Internet.

FIG. 3 is a flow diagram of the basic software design of the present invention.

FIG. 4 is a diagram showing another preferred system embodiment to achieve the direct transmission of URLs over the Internet to the user at a broadcaster's entered time without encoding the URLs into the VBI.

FIG. 5 is a diagram of another preferred embodiment including a digital cable box.

FIG. 6 is a diagram of another preferred embodiment including a digital T.V.

FIGS. 7 and 8 are a sample display provided to a student of a lesson.

FIG. 9 is a diagram of the distributed Com Server embodiment.

#### PREFERRED EMBODIMENT

The system of the present invention combines the rich visual capabilities of video with the vast resources of the Internet. As shown in FIG. 1, a preferred embodiment of the invention is a computer based system for receiving a video program along with embedded uniform resource locators (URLs)—which direct the user's computer 16 to address locations, or Web sites, on the Internet 20 to retrieve related Web pages. These Web pages correspond to the video presentation. The particular video programming can be delivered in analog, digital or digitally compressed formats (e.g., MPEG2) via any transmission means, including satellite, cable, wire, television broadcast or sent via the Web.

The video programming is preferably created at a centralized location, i.e., content creation 4 as shown in FIG. 1, for distribution to subscribers in their homes, for example. Program creation is accomplished according to any conventional means known in the art. After a video program is created, uniform resource locators are embedded, in one preferred embodiment, into the vertical blank interval of the video programming by the URL encoder 8, shown in FIG. 1. In this embodiment, the URLs are encoded onto eight fields of line 21 of the VBI. Line 21 is the line associated with close captioning, among other things. However, the URLs could also be embedded in other fields of the VBI, in the horizontal portion of the video, as part of the audio

channel, in any subcarrier to the video, or if digital, in one of the data fields.

Although FIG. 1 shows the video with URLs over the same transmission line, the URLs can be sent down independently of the video program on a data channel. In this embodiment, the URLs can be forwarded to the remote sites either prior to initiation or during the program. Preferably, the URLs have associated time stamps which indicate to the subscriber stations when, during the video program, to display the particular Web pages addressed by the URLs. Alternatively, the user can select when to call the particular Web pages for display with the video program.

The particular information in line 21 is not part of the visual part of the program, and thus, is not perceptible to the human eye, thereby making it ideal to send data information to the users. While the bandwidth capacity of line 21 is limited, because the system of the present invention transmits only the uniform resource locators (URLs), and not full Web pages, there is more than enough capacity. Furthermore, no additional hardware is necessary at the PC 16 to implement the elements of the present invention. Thus, the present invention has the additional advantages of being very efficient and takes advantage of conventional hardware.

Once the video program is created, it can be transmitted to user sites over any transmission means, including broadcast, cable, satellite, or Internet, and may reside on video servers. Furthermore, the video program, with or without embedded URLs, can be encoded on a VHS or Beta tape, DVD or other medium.

Preferably, each receiver station comprises any Intel x86 machine (preferably a 486 processor, pentium processor, etc.), an Apple Computer, UNIX or any other type of standard computer workstation. The local PC 16 is preferably connected to either a cable and/or broadcast television connection or to a local VCR or other video source. At each subscriber site, the local personal computer 16 preferably receives the cable transmission by cable connection on the back of the personal computer 16. The video/audio program can then be processed for display on the computer screen using any conventional PC card capable of displaying NTSC signals on a computer monitor, such as a WinTV card. In addition to the cable connection, however, in the present invention there is also an Internet 20 connection created concurrently with the cable connection.

The Internet 20 connection can be via high-speed line, RF, conventional modem or by way of two-way cable carrying the video programming. The local PC 16 has Internet access via any of the current ASCII software mechanisms. In a preferred embodiment, at each subscriber home, an associated local URL decoder 12 receives the cable video television program, as shown in FIG. 1. The local URL decoder 12 extracts the URLs, preferably embedded in the vertical blanking interval, with the use of any conventional VBI decoder device. The URL decoder 12 may be either a stand-alone unit or a card which is implemented into the personal computer 16.

In another preferred embodiment shown in FIG. 2, the uniform resource locators (URLs) are encoded into the video in the same manner as described above. Again, the URLs are preferably encoded onto eight fields of line 21 of the VBI, but may also be sent independently of the video. In this embodiment, the URL decoder 24 is located at the server site, as opposed to the subscriber location. When the decoder 24 receives the video program signal, it strips out the URL codes on line 21 of the VBI and delivers these codes independently to an Internet server 28. The URL code is then

subsequently delivered over the Internet 20 to the user PC 16. Simultaneously, the video is broadcast over conventional broadcast or cable transmission means 36 to the user's personal computer 16.

Another preferred embodiment of the system, shown in FIG. 4, does not depend on, or even use, the VBI. In this preferred embodiment, the system will run an online service over the Internet 20. This service will be in the form of an Internet Web site 62 that provides a user-interface to a database 78 and to one or more associated data servers 90. The service will provide member-accounts to TV broadcasters 66 who sign up to use the system of the invention in conjunction with their broadcasts. Each member broadcaster will enter the service at their computer 70 through Web browser software 74 using their member account by entering various identification and password information. Once within their account, the member will be provided with a graphical user interface for pre-scheduling URLs for transmission to users 118 over a direct Internet connection 94 at particular times of day. The same user interface, or a variation on it, can be used by broadcasters for live transmission 82 of URLs to users at the same time as a broadcast 86.

For example, one example of this interface might be a scheduling calendar (daily, weekly, monthly, yearly) in which the broadcaster 66 may allocate time periods which coincide with their broadcasts 86, and during which they will send out URLs to their users to link to Web pages. For each time period (for example, a particular hour long period during the day) determined by the broadcaster 66 to be a broadcast period (a period during which they want to transmit URLs that correspond to a television show being broadcast from their TV broadcast facility 110 to the external TV 114 of the user 118 at that time), the broadcaster 66 may then enter a series of URLs into an associated file ("Link File") for transmission over the Internet 20 at that time. This Link File might have a user interface such as a spreadsheet, table, or list, or it could be simply a tab-delimited or paragraph-delimited text-file. As an example, each of the records in the Link File consists of a data structure which could contain information such as:

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(<timecode>,<URL>,<label or title>,<additional information>,<additional information>,...)
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The above data structure is just one example. The records in the Link File preferably specify the time, Internet address (i.e. URL), label (such as an associated name), and some optional additional information, for each Web page the broadcaster 66 desires to launch during a show.

When a broadcaster 66 modifies their calendar and/or the Link File associated with any given time period(s) in their calendar, this information is saved into the database 78 that is attached to the site 62. Each broadcaster 66 may maintain multiple calendars in the database 78 if they broadcast in different time zones, for example.

The database 78 provides the Link File records for upcoming time periods to a server 90, which may be one server or a distributed network of server programs on multiple computers across the network, to be utilized for scaling to large national or global audiences. The server 90 provides the Link File records, including the URLs, to the user's personal computer 16, which is connected via a network. Examples of possible networks include the public Internet 94, a direct private network, or even a wireless network.

One feature of the above embodiment is that one or more broadcasters 66 may utilize the same schedule in the data-

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base 78 for their own broadcasts 86 or during the same broadcast. For example, a network broadcaster may develop a master schedule and various affiliate broadcasters may subscribe to that schedule or copy it (in the database) and add or delete specific URLs in the schedule for their local audiences or unique programming. This scheme enables affiliates to insert URLs for local advertisers or local subjects into a sequence of more general URLs provided by their network broadcaster 66. In other words, the affiliate can add links that ride on the network feed and then redistribute it to their local audiences.

The above embodiment can also enable personalization in the form of unique series of URLs specific to each user's unique profile, which is directly sent over the Internet 20 to each user's specific client software 106. This can be achieved from the broadcaster 66 to each individual user 118, or to particular collections of users. To accomplish personalization, the service may send a different stream of URLs to each user's client software program 106. The stream of URLs sent would depend on a user profile stored in the database 78 or the client software program 106, a user profile which is built on demand or over time for each user 118 based on criteria such as the location of the user, choices the user makes while using a client software program 106, or choices the broadcaster 66 makes during a broadcast 86, or automatic choices made by an algorithm (such as a filter) residing on the service 62. Personalization enables each user to receive URLs which are uniquely relevant to their interests, demographics, history, or behavior in the system.

#### System Operation

Once the URLs have reached the personal computer 16, system operation is similar for all of the embodiments diagrammed in FIGS. 1, 2, and 4.

In a preferred embodiment, a JAVA enabled browser 98 as well as specialized software 106 for performing part of the method of the present invention are installed on the computer 16. The JAVA enabled browser 98 allows the computer 16 to retrieve the Web pages 102 and is preferred software, since it is platform independent, and thus, enables efficient and flexible transfer of programs, images, etc., over the Internet 20. The specialized interface software 106 (hereinafter, "client software"), attached as Appendix A, acts as an interface between the video programming and the Internet functions of the present invention. The client software 106 retrieves URLs from the video program (embodiment of FIG. 1) or directly from the Internet connection (embodiments of FIGS. 2 and 4), interprets these URLs and directs the JAVA enabled browser 98 to retrieve the particular relevant Web pages 102, and synchronizes the retrieved Web pages to the video content for display on the user's computer 16, as shown in FIGS. 3 and 4 and explained in more detail below.

In a preferred method, the URLs are encoded and embedded into the video signal by inserting them into the vertical blanking interval (VBI), as mentioned above.

In another preferred embodiment, the URLs are entered by member TV broadcasters 66 along with specified times for transmitting the URLs to the user. At the appropriate times, the URLs are sent directly over the Internet to the user's PC 16 via the client software 106 over a direct point-to-point or multicasting connection.

One method of the present invention has the capability to detect identical URLs sent directly after one another which causes the browser not to fetch URLs in these particular cases. As shown in FIG. 3, once the URL code is received at the computer, the client software 106 first interprets the

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URL and determines in step 42 whether the particular URL has been received previously. If it has already been received, the next received URL is interpreted for determination of prior receipt. If the particular URL has not been detected before, the software checks for misspelling in step 46 and any other errors, and if errors exist, corrects these particular errors. Once again, it is determined whether the URL has been previously detected. If it has, the next URL is accessed in step 38. If the URL has not been detected, the specific URL is added to the URL list in step 54. The specific URL is then sent to the Web browser, preferably a JAVA enabled browser 98. Upon receipt of the URL, the browser 98, in step 58, will access the Web site address 122 (FIG. 4) indicated by the URL and retrieve the cited Web page(s) 102 via the Internet.

Viewers can view the integrated presentation in the following manner. As mentioned above, the video signal is processed and displayed on a video window on the PC screen using a WinTV card, for example. The corresponding audio is forwarded to the audio card and sent to the PC speakers.

The actual retrieved Web pages 102, referenced by the URL, are optionally time stamped to be displayed on the computer screen when predetermined related video content is displayed in the video window, thus, enlightening and enhancing the video presentation by providing in-depth information related to the video content thereto. Another section on the screen is also preferably used to represent an operational control panel. This control panel provides a list of the URLs that have been broadcast and correspondingly received by the computer 16. This control panel is updated to add a URL code each time a new URL code is received by the PC 16. This list gives the subscriber the flexibility to go back and retrieve particularly informative or interesting Web pages that have already been displayed earlier in the program, or alternatively, to print them out for future reference. Furthermore, the list could include URLs referring to Web pages not displayed with the broadcast program, but that provide further information on a certain topic of interest to the viewer.

The present invention can best be understood with reference to an example. A viewer can begin watching a musical video featuring a new band, for example. As the video is received by the PC 16, URLs are either being received with the video signal or are being received directly via the Internet 20 or another data channel, and are being interpreted by the client software 106. Upon direction and command, the JAVA enabled browser 98 retrieves particular Web pages 102 from Internet 20 Web sites identified in the URLs. These Web pages 102 will then be displayed on the video screen at particular times. Thus, for example, while the viewer is watching the music video, biographical information on the band can also be displayed adjacently to the video window. Web pages 102 could also include an upcoming concert schedule, or even audio clips of the band's music may be downloaded from the Internet 20. As another example, a user could be watching a program relating to financial news. While the narrator is shown discussing high tech stocks, Web pages corresponding to detailed financial performance information on high tech stocks, environment and characteristics can be displayed with the video on the computer screen. If the personalization features are included, Web pages associated with a particular user's stock can be fetched and displayed on the computer screen with the video program. When the program narrator switches to a discussion on the weekly performance of the Dow Jones, Web pages presenting related financial performance information

can be simultaneously displayed. Thus, it is evident that the present invention profoundly enriches the viewing and learning experience.

It is understood that there can exist alternative embodiments for use with the present invention. For example, the user can view the interactive program using a television set 114 or other display monitor in conjunction with the display screen of the personal computer 16. In this embodiment, the relevant Web pages are shown on the personal computer 16 while the video program is displayed on the television monitor 114. In this alternative embodiment, a cable set top box receives the television program from the multichannel cable. The personal computer 16 also receives the video program from the multi-channel cable and extracts the URLs, embedded in the vertical blanking interval of the video signal or directly transmitted 94 over the Internet 20. The client software 106 extracts the URLs and retrieves the particular Web pages as described above. The Web pages are then synchronized with the particular video frames and presented to the user. It is understood that a hyperlink may exist on the Web site that will allow the user to automatically load the client software and call up the specific television channel referenced in the Web site. For example, someone browsing the Internet 20 may come upon a major television network's Web site. They scroll to an interesting story then click on a hyperlink to turn on the software which tunes the TV window to the network to enhance the information residing at the Web site.

Furthermore, instead of receiving the video program from a transmission means, the video program can be addressed directly from the user site if the video program, with or without embedded URLs, is stored on a VHS, Beta, DVD or other medium. In this embodiment, the user PC 16 and/or television 114 are connected to a VCR, DVD player or other appropriate device.

FIGS. 5 and 6 show two alternative embodiments for use with the present invention. For example, the user can view the interactive program using a television set 18 or other display monitor in conjunction with a digital cable box 140, as shown in FIG. 5. In this embodiment, the digital cable box 140 performs the functions of the personal computer 16 shown in FIGS. 1, 2 and 4. In the embodiment shown in FIG. 5, the client software is stored in memory in the digital cable box 140. In the preferred embodiment, the digital cable box 140 includes two tuners, thus allowing both the Web Page and the Video program to be simultaneously viewed on the same screen. If Video and Webstream, however, are carried on one channel, then only one tuner is necessary.

The client software retrieves URLs from the received video program, directly from the Internet connection 20 or via a separate data channel, interprets these URLs and directs the Web enabled browser to retrieve the particular relevant Web pages, and synchronizes the retrieved Web pages to the video content for display on the television 18, as shown in FIG. 5. In this embodiment, the relevant Web pages are shown in one frame of the television 18 while the video program is displayed in another frame.

In this alternative embodiment, the digital cable set top box 140 receives the television program from the multichannel cable. The URLs can be encoded into the digital program channel using MPEG 1, MPEG2, MPEG4, MPEG7 or any other compression video scheme. Alternatively, the URLs can be transmitted to the digital cable boxes 140 from an Internet server 148. The digital cable box 140 decodes the URLs from the digital video signal or directly transmitted over the Internet 20. The client software decodes the URLs

and retrieves the particular Web pages as described above. The Web pages are then preferably synchronized with the particular video frames and presented to the user.

As with all the embodiments described above, instead of receiving the video program from a transmission means, the video program can be addressed directly from a local video source 144 if the video program, with or without embedded URLs, is stored on a VHS, Beta, DVD or other medium. In this embodiment, the digital cable box 140 is connected to a VCR, DVD player or other appropriate device.

FIG. 6 discloses an embodiment where a digital TV 152 is the remote reception unit. In this embodiment, the digital TV 152 performs the functions of the personal computer, shown in FIGS. 1, 2 and 4, and the digital cable box 140 shown in FIG. 5. In the embodiment shown in FIG. 6, a processor means and memory are incorporated into the digital TV 152. Further, the client software and Web browser software are implemented into memory in the digital TV 152. All of the functions described above with reference to the other embodiments are performed in a similar manner by the digital TV 152 embodiment.

Although the digital cable box/TV 140, 18 and digital TV 152, shown in FIGS. 5 and 6, are incorporated into the embodiment of FIG. 1, in substitution for the PC 16, they also could be substituted for the PC 16 shown in FIGS. 2 and 4.

The user can view the video and web content on one screen (in two windows), or with the video on one display screen and the Web content on a separate display monitor. Alternatively, the user can access the video or web content separately. Thus, the user can branch from video to web content and vice versa.

The present invention is well-suited to the education environment. In this embodiment, students and teachers access one or more Web servers. The software components include instructor and student user software, authoring software and database assessment software. In one such embodiment, an instructor uses content creation software on a personal computer to easily integrate into their curriculum current information published on the Web, through an easy to use interface 156 such as that shown in FIG. 7. The instructor creates a playlist (i.e. linkfile) 160, the playlist 160 comprising a listing of Web pages, text notes and questions. The Web sites and questions are set forth in a predetermined order and can be assigned times. Preferably, the URLs identifying the Web site and time stamps are sent automatically to the desktop of each student in the virtual community, either during playback of a pre-recorded program or during a live event.

At each of the student workstations, the program is directed by the playlist 160. In other words, the playlist 160 provides the structure for the program. At predetermined times as dictated by the playlist 160, the browser will go fetch and display a Web page in a frame on the computer screen. Because program events can be set up in this manner at predetermined times, the entire program and playlist can be prerecorded and stored in a Web database for later access by students.

A significant advantage of the present invention for educational applications is that the students and the instructor can be located anywhere, as long as they are all connected to the Web. Because a server is essentially controlling the program, the instructor output comes from the server and the student workstations get automatically updated by the Web server.

This educational embodiment integrates Web content and other media with collaborative groupware functionality to

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create an interactive environment for students and teachers. In this embodiment, the student can receive a traditional video lesson through a frame in his or her Web browser, or from a television. Simultaneously, the present invention provides separate frames, an example of which is shown in FIG. 8, in the browser displaying: (1) Web pages 176 automatically delivered to each student's desktop with information or exercises that complement the video presentation; (2) a chat dialogue frame 168 for conversing with the instructor and/or other students online; and (3), an interactive playlist 164 of Web pages and questions comprising the lesson.

In the student interface of FIG. 8, each student can perform a virtual experiment during a physics lesson to learn about gravity, for example. Further, the students are conversing with one another and the instructor in the chat dialogue frame 168. They may also send Web pages to one another and provide answers to questions from the teacher via the chat dialogue frame 168 of the student interface 176. With the chat feature, students may break into subgroups for collaborative learning. Whenever a student in the group sends a message, the message is sent to the Internet server 20 and every other student in the subgroup receives and views the message in their Chat dialogue frame 168.

The instructor, however, may retain control over the chat feature. For example, the instructor can terminate the chat feature or web pushing to terminate unuly on-line conversations or the sending of Web pages by students.

Unlike conventional distance learning systems, the present invention is more powerful by allowing the instructor to freely and conveniently exercise almost any time of testing strategy. The instructor can test students using a combination of the Chat dialogue feature and Web pages. For example, multiple choice questions and short answer questions can appear in the Chat window 168. Essay questions, requiring longer answers, become Web pages. As mentioned above, students can perform virtual experiments on-line. Once the instructor's personal computer receives student answers, student scoring can be presented to the instructor in any format including tables, charts, diagrams, bar graphs, etc. The instructor, thus, can analyze the results and has the capability of providing real-time feedback to the students.

Students can also receive individualized feedback via branched interactive audio, video and/or graphics responses. For example, the workstation may branch to a particular audio response, preferably prerecorded in the instructor's own voice, based on the student response to a multiple choice question. In this embodiment, a plurality of potential audio responses are made available at the student's workstation according to any one of the methodologies set forth in U.S. Pat. No. 5,337,141, entitled DISTANCE LEARNING SYSTEM, herein incorporated by reference. Alternatively, personalized video, audio and graphics segments can be delivered and displayed to the student based on a student answer or personal profile in the manner set forth in U.S. Pat. No. 5,724,091, entitled COMPRESSED DIGITAL DATA INTERACTIVE PROGRAM SYSTEM, herein incorporated by reference.

Responses to student answers can be more substantive based on the memory feature of the present invention. The memory feature is an algorithm that selects an interactive response to the user based not only on the student's current answer selection, but also his or her previous responses, as discussed in the aforementioned applications. The algorithm, preferably stored in memory at each student's workstation and under processor control, merely selects an

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output interactive response based on student responses. As another example, if a student gets three answers in sequence right, he or she receives a more difficult question. If, however, the student misses one or more of the three questions, he or she receives an easier question.

In another embodiment of the present invention, a system is described capable of handling the education requirements of several schools in an efficiently designed network. The system shown in FIG. 9 solves the problems inherent in attempting to service large numbers of users, the most obvious obstacles being the issues of load and performance. In this embodiment shown in FIG. 9, communications servers 180 distribute and route messages across a LAN, WAN and the Internet. Referring to FIG. 9, in the center of the diagram is the Group Database server. Surrounding the database server are several Com Servers 180, each serving an area 192. Surrounding each Com Server 180 are squares representing user stations 188. The Communication Servers 180 are organized in node relationships with one another.

Each node is responsible for serving an Area 192. An Area 192 is defined as a Virtual location serviced by a single Communications Server 180 (or "Com Server"). An Area 192 may be a single school, an office, or may consist of several actual physical locations. The defining characteristic of an Area 192 is that messages sent from one member of an Area 192 to another need not be routed outside of the servicing Com Server 180.

An Area member is analogous to the frequently used term "user." For example, a "user" may be a student in the educational embodiment described above with reference to FIGS. 7 and 8.

The Distributed Communication System of FIG. 9 shall permit the dynamic addition of Communication Servers 180 within a group with little or no administrative tasks as well as the addition of groups within an overall communications network. A Communication Server group consists of several defined Virtual Areas 192 (preferably, consisting of no more than 250 members each), each area 192 serviced by a single Com Server 180. This system shall allow members of one Area 192, or group to easily communicate with members of another Area 192 or group without any configuration changes.

Generally, service of very large numbers of users has required large expensive servers and networks. As the user base increases, performance suffers and hardware must be upgraded to service the demand.

The Distributed Communication System of the present invention allows the same, relatively inexpensive machines to serve an ever-increasing user base. The technique by which this will be accomplished will be through the routing of messages from one server to another when necessary.

The method essentially follows the same core pattern as IP routing and DNS lookups. If a message is for a member not belonging to the current Area 192 or group, the message shall be routed through the Distributed Communication System until its destination, or someone who knows the destination and can deliver the message, is found.

The destination will be cached so subsequent messages for that member or group may be more efficiently delivered.

Referring again to FIG. 9, if a message is posted by member "A" and is intended only for the members of group 1 the message shall never leave Area 1 Com Server. However, if the message is intended for members of Area 1 and the members of Area 2, the Area 1 Com server forwards the message to the group database server 184. The message shall be broadcast to the members of Area 1 and tagged in

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the database 184 as belonging to Area 2. The message is then routed to Area 2 and broadcast to Area 2 members. With this technique any member can potentially send a message to any other member. If the Area Com server 180 does not recognize the destination, the message is forwarded up the line. Each Com server 180 does not need to know about any other server 180. Messages are routed until they delivered. If undeliverable, the original sender is notified.

New Areas 192 can be added on the fly. When a new Com server 188 is added to the network, it registers itself with the database application. Henceforth, any message destined for the new Area 192 can be routed properly without altering the other Area Servers 180.

This method and system works for global messages or for user to user messages. Furthermore, new Groups may also be dynamically added. Once added, each new Group Database Server 184 registers itself with the existing database servers 184. This distribution of load permits nearly unlimited expansion with existing software and hardware. Each server manages a finite number of members, cumulatively serving a growing community.

Users need not be informed as to the particular Com Server 180 they should connect to. Members are directed to a single URL. The selection of the server for user connection is determined by load balancing software. In this manner, the network may appear to be a global network of Servers or simply a local classroom.

The unique aspects of this architecture, using database servers as routing gateways, using techniques resembling WP routing and DNS lookup, enables this system to serve with minimum administration and configuration and with lower end, cost-effective hardware.

Using the foregoing embodiments, methods and processes, the system of the present invention creates a synergistic experience combining the vast resources of the Internet with the presentation capabilities of television.

We claim:

1. A system for presenting integrated video programming and corresponding related Internet information segments obtained from Web sites on the Internet, the system comprising:

a means for receiving programming, wherein the programming contains a video and audio signals and one or more uniform resource locators, wherein the uniform resource locators specify one or more Internet addresses of the information segments which relate specifically to the content of the video and audio signals of the programming;

a means for decoding, connected to the receiving means, the uniform resource locators to determine the specified Internet addresses;

a controller means, connected to the decoding means, for interpreting the uniform resource locators;

a web browser, connected to the decoding means and the controller means, for sending message requests to specific Internet sites located at the Internet addresses corresponding to the uniform resource locators and consequently receiving the one or more requested Internet information segments residing at the determined Internet addresses, the browser retrieves the requested Internet information segments under the direction and control of the controller means; and

a display means, connected to the controller and receiving means, for presenting the video and audio signals concurrently with or independently from the Internet information segments.

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2. The system of claim 1, wherein the uniform resource locators are embedded in the received video signal.

3. The system of claim 1, wherein the uniform resource locators are received independently from the video signal.

4. A system for presenting integrated video programming and corresponding related Internet information segments obtained from Web sites on the Internet, the system comprising:

a digital cable box, comprising:

a receiver, for receiving a video signal and one or more uniform resource locators, wherein the uniform resource locators specify one or more Internet addresses of the information segments which relate specifically to the content of the video and audio signals of the programming;

a means for decoding, connected to the receiver, the uniform resource locators to determine the specified Internet addresses;

a controller means, connected to the decoding means, for interpreting the uniform resource locators; and

a web browser, connected to the decoding means and the controller means, for sending message requests to specific Internet sites located at the Internet addresses corresponding to the uniform resource locators and consequently receiving the one or more requested Internet information segments residing at the determined Internet addresses, the browser retrieves the requested Internet information segments under the direction and control of the controller means.

5. The system of claim 4 further comprising a display means, connected to the controller and receiver, for presenting the video concurrently with or independently from the Internet information segments.

6. The system of claim 4, wherein the uniform resource locators are embedded in the received video signal.

7. The system of claim 4, wherein the uniform resource locators are received independently from the video signal.

8. The system of claim 7, wherein the uniform resource locators are received directly from an Internet connection.

9. The system of claim 7, wherein the uniform resource locators are received via a separate data channel.

10. The system of claim 5, wherein the Internet information segments are synchronized to the video signal for display.

11. The system of claim 4, wherein the receiver receives the video signal from a multichannel cable.

12. A system for presenting integrated video programming and corresponding related Internet information segments obtained from Web sites on the Internet, the system comprising:

a digital television, comprising:

a receiver, for receiving a video signal and one or more uniform resource locators, wherein the uniform resource locators specify one or more Internet addresses of the information segments which relate specifically to the content of the video and audio signals of the programming;

a means for decoding, connected to the receiving means, the uniform resource locators to determine the specified Internet addresses;

a controller means, connected to the decoding means, for interpreting the uniform resource locators; and

a web browser, connected to the decoding means and the controller means, for sending message requests to specific Internet sites located at the Internet addresses corresponding to the uniform resource



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locators and consequently receiving the one or more requested Internet information segments residing at the determined Internet addresses, the browser retrieves the requested Internet information segments under the direction and control of the controller means; and

a display means, connected to the controller and receiver, for presenting the video concurrently with or independently from the Internet information segments.

13. The system of claim 12, wherein the uniform resource locators are embedded in the received video signal.

14. The system of claim 12, wherein the uniform resource locators are received independently from the video signal.

15. The system of claim 14, wherein the uniform resource locators are received directly from an Internet connection.

16. The system of claim 14, wherein the uniform resource locators are received via a separate data channel.

17. The system of claim 12, wherein the Internet information segments are synchronized to the video signal for display.

18. The system of claim 12, wherein the receiver receives the video signal from a multichannel cable.

19. A system for presenting integrated video programming and corresponding related Internet information segments obtained from Web sites on the Internet, the system comprising:

a production computer, comprising:  
means for creating a playlist, the playlist containing a list of events including one or more uniform resource locators;

a server, in communications with the production computer, for storing the playlist;

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one or more user workstations, comprising:

a receiver, for receiving a video signal and the playlist, wherein the uniform resource locators in the playlist specify one or more Internet addresses of the information segments which relate specifically to the content of the video signal;

a means for decoding, connected to the receiver, the uniform resource locators to determine the specified Internet addresses;

a controller means, connected to the decoding means, for interpreting the uniform resource locators; and

a web browser, connected to the decoding means and the controller means, for sending message requests to specific Internet sites located at the Internet addresses corresponding to the uniform resource locators and consequently receiving the one or more requested Internet information segments residing at the determined Internet addresses, the browser retrieves the requested Internet information segments under the direction and control of the controller means; and

a display means, connected to the controller and receiver, for presenting the video concurrently with or independently from the Internet information segments.

20. The system of claim 19, wherein the user workstations comprise a chat dialogue frame interface, the chat dialogue frame interface allowing the user to send and receive messages from other users at other user workstations.

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<b>**CONTINUING DOMESTIC DATA*****</b> VERIFIED THIS APPLN IS A CIP OF 08/615,143 03/14/96 PAT 5,778,181 WHICH IS A CIP OF 08/613,144 03/08/96 ABN <i>Yes, v.</i>				
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<b>FILING FEE RECEIVED</b>  \$1,002	<b>FEES: Authority has been given in Paper</b> No. _____ to charge/credit DEPOSIT ACCOUNT NO. _____ for the following:		<input type="checkbox"/> All Fees <input type="checkbox"/> 1.16 Fees (Filing) <input type="checkbox"/> 1.17 Fees (Processing Ext. of time) <input type="checkbox"/> 1.18 Fees (Issue) <input type="checkbox"/> Other _____ <input type="checkbox"/> Credit	

ABSTRACT

A system for integrating video programming with the vast information resources of the Internet. A computer-based system receives a video program with embedded uniform resource locators (URLs). The URLs, the effective addresses of locations or Web sites on the Internet, are interpreted by the system and direct the system to the Web site locations to retrieve related Web pages. Upon receipt of the Web pages by the system, the Web pages are synchronized to the video content for display. The video program signal can be displayed on a video window on a conventional personal computer screen. The actual retrieved Web pages are time stamped to also be displayed, on another portion of the display screen, when predetermined related video content is displayed in the video window. As an alternative, the computer-based system receives the URLs directly through an Internet connection, at times specified by TV broadcasters in advance. The system interprets the URLs and retrieves the appropriate Web pages. The Web pages are synchronized to the video content for display in conjunction with a television program being broadcast to the user at that time. This alternative system allows the URLs to be entered for live transmission to the user.

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**SPECIFICATION**

TO ALL WHOM IT MAY CONCERN:

BE IT KNOWN, that we, Craig Ullman, Jack Hidary, and Nova Spivack, citizens of the United States and residents of the State of New York, have invented certain new and useful improvements in:

**ENHANCED VIDEO PROGRAMMING SYSTEM AND METHOD FOR  
INCORPORATING AND DISPLAYING RETRIEVED INTEGRATED INTERNET  
INFORMATION SEGMENTS**

of which the following is a specification.

**ENHANCED VIDEO PROGRAMMING SYSTEM AND METHOD FOR  
INCORPORATING AND DISPLAYING RETRIEVED INTEGRATED  
INTERNET INFORMATION SEGMENTS**

This application is a continuation-in-part of U.S. application Serial No.

5 08/615,143, filed March 14, 1996, entitled "ENHANCED VIDEO PROGRAMMING  
SYSTEM AND METHOD FOR INCORPORATING AND DISPLAYING RETRIEVED  
INTEGRATED INTERNET INFORMATION SEGMENTS,"<sup>now U.S. Pat No. 5,778,181</sup> which is a continuation-in-  
part of U.S. Application Serial No. 08/613,144, filed March 8, 1996, entitled  
"INTEGRATED INTERACTIVE VIDEO AND INTERNET SYSTEM",<sup>now abandoned</sup> and is related to  
10 U.S. application Serial No. 08/622,474 filed March 25, 1996, now U.S. Pat. No.  
5,774,664, which is herein incorporated by reference.

**BACKGROUND OF THE INVENTION**

Today, the capabilities of computers to provide massive amounts of educational  
and entertainment information has exploded with the Internet. The Internet has the power  
15 to transform society through unprecedented levels of information flow between members.  
Currently, on-line systems offer a variety of different services to users, including news  
feeds, electronic databases (either searchable by the user directly on the on-line system, or  
downloadable to the user's own computer), private message services, electronic  
newsletters, real time games for play by several users at the same time, and job placement  
20 services, to name a few. However, today, most on-line communications occur merely  
through text. This currently stands in great contrast to the audio/visual presentation of the  
alternative electronic medium, television. However, it is expected that as multi-media's  
incessant growth continues, audio/visual programs will proliferate and text will become  
less and less dominant in the on-line environment. Even though these programs will be

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introduced, the Internet, will remain essentially user unfriendly due to its very massiveness, organization, and randomness. Simply stated, there is no order or direction in the Internet. Specific pieces of information are many times hard to find, and harder yet, is the ability to put that piece of information into a meaningful context.

5           Television, on the other hand, has been criticized for being a passive medium - "chewing gum for the eyes," as Fred Allen once observed. Television has always been something you watched, not something you do. Many social critics believe that the passivity television depends on has seeped into our entire culture, turning a nation of citizens into a nation of viewers. While interactive television systems have increased the level of user interaction, and thus, provided greater learning and entertainment 10 opportunities, vast information resources such as databases are inaccessible from such a medium.

          What is needed is a means to close the gap between video programming and the information superhighway of the Internet. What is needed is a wider, richer experience 15 integrating audio/visual and textual database elements into an organized unique interactive, educational, entertainment experience. Currently, the Internet is a repository of information on virtually any subject. However, what is needed is a mechanism for combining the user-friendly visual experience of television with the vast information resources of the Internet.

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**SUMMARY OF THE INVENTION**

The system of the present invention combines broadcast television programming and/or video programming which appears on a VHS or Beta tape, CD-ROM, DVD or other medium, or video programming at a video server (hereinafter "video programming") with the massive Internet, creating a new and powerful educational and entertainment medium. The system allows consumers to receive more information in a more efficient manner than either television or the Internet alone. Consumers not only can see a news report on television, but they can also read pertinent information about the report, as well as explore related information about the story. The program becomes the introduction to a particular subject, rather than the entire subject itself. The act of viewing a program has now become a more engaging, enriching experience.

The system can also create a more intimate relationship between the viewer and the program. The user might be solving problems or performing virtual experiments on the Internet site that a teacher is discussing in an educational television program. Similarly, the consumer might be solving problems that the fictional characters in a television program must solve. In both cases, the consumer is an active participant in the process, rather than a passive observer.

Instead of an undirected and unfocused exploration of Internet sites, by synching specific Internet pages to the video signal, the system puts the Internet in context. The television program producers now can decide what additional information to offer their

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audience. This material can now be seen in the context of the television program.

An additional advantage is that consumers don't have to search through the literally hundreds of millions of pages on the Internet to find appropriate material. The material has already been filtered by the program producers and delivered to the consumer automatically.

Another advantage of the system is that it changes the nature of advertising. Since additional information can be given to consumers automatically, advertising can now be more substantive, allowing customers to make more informed choices. Now, the act of purchasing a product seen on television can be streamlined -- the consumer can be given the choice of buying the product instantly using the two-way capabilities of the system.

In addition, users can take advantage of the two-way capabilities of the Internet to respond to polls, to send e-mail or to link to additional sites. For example, a viewer watching a television news program, through the system of the invention, can receive a stream of Web pages which provide additional, specific information relating to the news content -- whether background on the Presidential primaries or the latest change in interest rates.

The video programming and corresponding Internet pages can be viewed on personal computers equipped with a television card, but the open software-based approach enables anyone with a television set and JAVA enabled PC to experience the system of the invention.

By marrying the appeal of video with the two-way data transfer capabilities of the Internet, the system creates a powerful new medium: Video producers and Internet site

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creators can enhance their content to extend their brand identity and differentiate their program offerings to the millions of people who are spending more time navigating through the resources of the World Wide Web rather than watching television; advertisers can speak more directly to consumers by directly sending Web pages to the consumer instead of only displaying Web addresses in their commercials; and consumers can gain a new level of interest and interactivity over a video-based medium. In addition to providing significant and immediate benefits to broadcasters and advertisers, the system will also present educational programmers with a way to more effectively use Internet resources in the classroom.

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10 Recently, several media companies have joined to create a system for linking the Internet and television on the personal computer, called "InterCast." In this system, content will be provided simultaneously with the TV video signal. This system, however, requires that stripped down Web pages be sent in the vertical blanking interval (VBI) of the video signal, using up to three scan lines limiting effective bandwidth to approximately 28.8 kbps. This approach, however, requires specialized hardware to both insert the Web pages into the VBI and extract these codes at each PC since it takes up to three scan lines of the VBI. Thus, the complexity and cost of the PC is increased. Because the Web pages are transmitted with the video signal, the InterCast system is not a true "two-way" system, but merely a one-way "piggyback" system. In addition, the InterCast is an analog video product, and thus, cannot handle digital video data.

20 The system of the present invention, on the other hand, is a much more flexible, but less complex, system. The present invention supports either analog or digital

television broadcasts without broadcasters or end-users having to alter their existing systems, thus enabling broadcasters to reach a wide audience within a short time.

In a first embodiment, the actual Web pages are not forced into the very limited bandwidth of the vertical blanking interval (VBI). Instead, merely eight fields of line 21 of the VBI are used to deliver the relevant Internet Web page addresses to the PC. These addresses are called "uniform resource locators" (URLs). The system then directs the particular Web browser to retrieve the identified Web pages from the Internet. Upon receipt of the particular Web page(s), the system syncs the Web page(s) to the video signal, and at the appropriate times, presents the Web pages on one portion of the computer screen with the television video signal, shown in a window on another portion of the screen, and thus, provides the synergistic Internet and television experience. One of the advantages of the system of the present invention is that no specialized chip set need be produced and implemented into the standard PC. Thus, complexity is kept to a minimum.

In another preferred embodiment of the present invention, the VBI is not used to transmit the URLs to the user. In this alternative embodiment, member broadcasters enter the Internet through a member account, and will be provided with a graphical user interface for pre-scheduling Internet addresses, or URLs, for transmission to users at particular times of day. This interface could also be used to transmit real time live transmissions of URLs to users at the same time as a broadcast. The URLs are stored in a "Link File" for later transmission over the Internet to the user at the broadcasters entered time, which corresponds to the broadcast time of an associated program. The timing of

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URL's could be determined in advance or can be sent out live. This embodiment eliminates the need to place the URLs in the VBI, and also allows the broadcaster to store more than one Link File for transmission to users in different time zones, for example. Further, more than one broadcaster could access the same master schedule if desired, and add or delete certain URLs to personalize the program for their local audiences. Also, personalization can be taken to the single user, or small group of users, by having the system send a different stream of URLs to each user, depending on a unique user profile, for example. Thus, the personalization feature of the present invention allows each user to receive information uniquely relevant to their interests, demographics, history, etc. This embodiment makes the transmission of URLs to the user even less complex than the first embodiment disclosed herein.

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Thus, it is an object of the present invention to provide order and direction to the Internet by using television signals to place, orient and control such information in a meaningful context.

It is an object of the present invention to create a more intimate relationship between the viewer and the program by enriching the learning experience through the provision of more in-depth information.

**DESCRIPTION OF THE DRAWINGS**

Figure 1 is a diagram of the system design, showing the receipt and decoding of video signals at the subscriber location using the method of the present invention.

Figure 2 is a diagram showing an alternative system embodiment to achieve the

integration of the Internet information with the video content by decoding the uniform resource locators at a server site and then transmitting the URLs to the subscriber stations via the Internet.

Figure 3 is a flow diagram of the basic software design of the present invention.

5 Figure 4 is a diagram showing another preferred system embodiment to achieve the direct transmission of URLs over the Internet to the user at a broadcaster's entered time without encoding the URLs into the VBI.

Figure 5 is a diagram of another preferred embodiment including a digital cable box.

10 Figure 6 is a diagram of another preferred embodiment including a digital T.V.

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Figure 8 is a sample display provided to a student of a lesson.

Figure 9 is a diagram of the distributed Com Server embodiment.

**PREFERRED EMBODIMENT**

The system of the present invention combines the rich visual capabilities of video with the vast resources of the Internet. As shown in Figure 1, a preferred embodiment of the invention is a computer based system for receiving a video program along with embedded uniform resource locators (URLs)--which direct the user's computer 16 to address locations, or Web sites, on the Internet 20 to retrieve related Web pages. These Web pages correspond to the video presentation. The particular video programming can be delivered in analog, digital or digitally compressed formats (e.g., MPEG2) via any transmission means, including satellite, cable, wire, television broadcast or sent via the Web.

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The video programming is preferably created at a centralized location, i.e., content creation 4 as shown in Figure 1, for distribution to subscribers in their homes, for example. Program creation is accomplished according to any conventional means known in the art. After a video program is created, uniform resource locators are embedded, in one preferred embodiment, into the vertical blank interval of the video programming by the URL encoder 8, shown in Figure 1. In this embodiment, the URLs are encoded onto eight fields of line 21 of the VBI. Line 21 is the line associated with close captioning, among other things. However, the URLs could also be embedded in other fields of the VBI, in the horizontal portion of the video, as part of the audio channel, in any subcarrier to the video, or if digital, in one of the data fields.

Although Figure 1 shows the video with URLs over the same transmission line, the URLs can be sent down independently of the video program on a data channel. In this embodiment, the URLs can be forwarded to the remote sites either prior to initiation or during the program. Preferably, the URLs have associated time stamps which indicate to the subscriber stations when, during the video program, to display the particular Web pages addressed by the URLs. Alternatively, the user can select when to call the particular Web pages for display with the video program.

The particular information in line 21 is not part of the visual part of the program, and thus, is not perceptible to the human eye, thereby making it ideal to send data information to the users. While the bandwidth capacity of line 21 is limited, because the system of the present invention transmits only the uniform resource locators (URLs), and not full Web pages, there is more than enough capacity. Furthermore, no additional

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hardware is necessary at the PC 16 to implement the elements of the present invention. Thus, the present invention has the additional advantages of being very efficient and takes advantage of conventional hardware.

Once the video program is created, it can be transmitted to user sites over any transmission means, including broadcast, cable, satellite, or Internet, and may reside on video servers. Furthermore, the video program, with or without embedded URLs, can be encoded on a VHS or Beta tape, DVD or other medium.

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Preferably, each receiver station comprises any Intel x86 machine (preferably a 486 processor, pentium processor, etc.), an Apple Computer, UNIX or any other type of standard computer workstation. The local PC 16 is preferably connected to either a cable and/or broadcast television connection or to a local VCR or other video source. At each subscriber site, the local personal computer 16 preferably receives the cable transmission by cable connection on the back of the personal computer 16. The video/audio program can then be processed for display on the computer screen using any conventional PC card capable of displaying NTSC signals on a computer monitor, such as a WinTV card. In addition to the cable connection, however, in the present invention there is also an Internet 20 connection created concurrently with the cable connection.

The Internet 20 connection can be via high-speed line, RF, conventional modem or by way of two-way cable carrying the video programming. The local PC 16 has Internet access via any of the current ASCII software mechanisms. In a preferred embodiment, at each subscriber home, an associated local URL decoder 12 receives the cable video television program, as shown in Figure 1. The local URL decoder 12 extracts

the URLs, preferably embedded in the vertical blanking interval, with the use of any conventional VBI decoder device. The URL decoder 12 may be either a stand-alone unit or a card which is implemented into the personal computer 16.

In another preferred embodiment shown in Figure 2, the uniform resource locators (URLs) are encoded into the video in the same manner as described above. Again, the URLs are preferably encoded onto eight fields of line 21 of the VBI, but may also be sent independently of the video. In this embodiment, the URL decoder 24 is located at the server site, as opposed to the subscriber location. When the decoder 24 receives the video program signal, it strips out the URL codes on line 21 of the VBI and delivers these codes independently to an Internet server 28. The URL code is then subsequently delivered over the Internet 20 to the user PC 16. Simultaneously, the video is broadcast over conventional broadcast or cable transmission means 36 to the user's personal computer 16.

Another preferred embodiment of the system, shown in Figure 4, does not depend on, or even use, the VBI. In this preferred embodiment, the system will run an online service over the Internet 20. This service will be in the form of an Internet Web site 62 that provides a user-interface to a database 78 and to one or more associated data servers 90. The service will provide member-accounts to TV broadcasters 66 who sign up to use the system of the invention in conjunction with their broadcasts. Each member broadcaster will enter the service at their computer 70 through Web browser software 74 using their member account by entering various identification and password information. Once within their account, the member will be provided with a graphical user interface

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for pre-scheduling URLs for transmission to users 118 over a direct Internet connection 94 at particular times of day. The same user interface, or a variation on it, can be used by broadcasters for live transmission 82 of URLs to users at the same time as a broadcast 86.

For example, one example of this interface might be a scheduling calendar (daily, 5 weekly, monthly, yearly) in which the broadcaster 66 may allocate time periods which coincide with their broadcasts 86, and during which they will send out URLs to their users to link to Web pages. For each time period (for example, a particular hour long period during the day) determined by the broadcaster 66 to be a broadcast period (a 10 period during which they want to transmit URLs that correspond to a television show being broadcast from their TV broadcast facility 110 to the external TV 114 of the user 118 at that time), the broadcaster 66 may then enter a series of URLs into an associated file ("Link File") for transmission over the Internet 20 at that time. This Link File might have a user interface such as a spreadsheet, table, or list, or it could be simply a tab-delimited or paragraph-delimited text-file. As an example, each of the records in the Link 15 File consists of a data structure which could contain information such as:

(<timecode>,<URL>,<label or title>,<additional information>,<additional information>,...)

The above data structure is just one example. The records in the Link File preferably specify the time, Internet address (i.e. URL), label (such as an associated 20 name), and some optional additional information, for each Web page the broadcaster 66 desires to launch during a show.

When a broadcaster 66 modifies their calendar and/or the Link File associated

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with any given time period(s) in their calendar, this information is saved into the database 78 that is attached to the site 62. Each broadcaster 66 may maintain multiple calendars in the database 78 if they broadcast in different time zones, for example.

The database 78 provides the Link File records for upcoming time periods to a server 90, which may be one server or a distributed network of server programs on multiple computers across the network, to be utilized for scaling to large national or global audiences. The server 90 provides the Link File records, including the URLs, to the user's personal computer 16, which is connected via a network. Examples of possible networks include the public Internet 94, a direct private network, or even a wireless network.

One feature of the above embodiment is that one or more broadcasters 66 may utilize the same schedule in the database 78 for their own broadcasts 86 or during the same broadcast. For example, a network broadcaster may develop a master schedule and various affiliate broadcasters may subscribe to that schedule or copy it (in the database) and add or delete specific URLs in the schedule for their local audiences or unique programming. This scheme enables affiliates to insert URLs for local advertisers or local subjects into a sequence of more general URLs provided by their network broadcaster 66. In other words, the affiliate can add links that ride on the network feed and then redistribute it to their local audiences.

The above embodiment can also enable personalization in the form of unique series of URLs specific to each user's unique profile, which is directly sent over the Internet 20 to each user's specific client software 106. This can be achieved from the

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broadcaster 66 to each individual user 118, or to particular collections of users. To accomplish personalization, the service may send a different stream of URLs to each user's client software program 106. The stream of URLs sent would depend on a user profile stored in the database 78 or the client software program 106, a user profile which is built on demand or over time for each user 118 based on criteria such as the location of the user, choices the user makes while using a client software program 106, or choices the broadcaster 66 makes during a broadcast 86, or automatic choices made by an algorithm (such as a filter) residing on the service 62. Personalization enables each user to receive URLs which are uniquely relevant to their interests, demographics, history, or behavior in the system.

System Operation

Once the URLs have reached the personal computer 16, system operation is similar for all of the embodiments diagramed in Figures 1, 2, and 4.

In a preferred embodiment, a JAVA enabled browser 98 as well as specialized software 106 for performing part of the method of the present invention are installed on the computer 16. The JAVA enabled browser 98 allows the computer 16 to retrieve the Web pages 102 and is preferred software, since it is platform independent, and thus, enables efficient and flexible transfer of programs, images, etc., over the Internet 20. The specialized interface software 106 (hereinafter, "client software"), attached as Appendix A, acts as an interface between the video programming and the Internet functions of the present invention. The client software 106 retrieves URLs from the video program (embodiment of Figure 1) or directly from the Internet connection (embodiments of

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Figures 2 and 4), interprets these URLs and directs the JAVA enabled browser 98 to retrieve the particular relevant Web pages 102, and synchronizes the retrieved Web pages to the video content for display on the user's computer 16, as shown in Figures 3 and 4 and explained in more detail below.

5 In a preferred method, the URLs are encoded and embedded into the video signal by inserting them into the vertical blanking interval (VBI), as mentioned above.

In another preferred embodiment, the URLs are entered by member TV broadcasters 66 along with specified times for transmitting the URLs to the user. At the appropriate times, the URLs are sent directly over the Internet to the user's PC 16 via the client software 106 over a direct point-to-point or multicasting connection.

10 One method of the present invention has the capability to detect identical URLs sent directly after one another which causes the browser not to fetch URLs in these particular cases. As shown in Figure 3, once the URL code is received at the computer, the client software 106 first interprets the URL and determines in step 42 whether the particular URL has been received previously. If it has already been received, the next received URL is interpreted for determination of prior receipt. If the particular URL has not been detected before, the software checks for misspelling in step 46 and any other errors, and if errors exist, corrects these particular errors. Once again, it is determined whether the URL has been previously detected. If it has, the next URL is accessed in step 38. If the URL has not been detected, the specific URL is added to the URL list in step 54. The specific URL is then sent to the Web browser, preferably a JAVA enabled browser 98. Upon receipt of the URL, the browser 98, in step 58, will access the Web

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site address 122 (Figure 4) indicated by the URL and retrieve the cited Web page(s) 102 via the Internet.

Viewers can view the integrated presentation in the following manner. As mentioned above, the video signal is processed and displayed on a video window on the PC screen using a WinTV card, for example. The corresponding audio is forwarded to the audio card and sent to the PC speakers.

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The actual retrieved Web pages 102, referenced by the URL, are optionally time stamped to be displayed on the computer screen when predetermined related video content is displayed in the video window, thus, enlightening and enhancing the video presentation by providing in-depth information related to the video content thereto.

Another section on the screen is also preferably used to represent an operational control panel. This control panel provides a list of the URLs that have been broadcast and correspondingly received by the computer 16. This control panel is updated to add a URL code each time a new URL code is received by the PC 16. This list gives the subscriber the flexibility to go back and retrieve particularly informative or interesting Web pages that have already been displayed earlier in the program, or alternatively, to print them out for future reference. Furthermore, the list could include URLs referring to Web pages not displayed with the broadcast program, but that provide further information on a certain topic of interest to the viewer.

The present invention can best be understood with reference to an example. A viewer can begin watching a musical video featuring a new band, for example. As the video is received by the PC 16, URLs are either being received with the video signal or

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are being received directly via the Internet 20 or another data channel, and are being interpreted by the client software 106. Upon direction and command, the JAVA enabled browser 98 retrieves particular Web pages 102 from Internet 20 Web sites identified in the URLs. These Web pages 102 will then be displayed on the video screen at particular

5 times. Thus, for example, while the viewer is watching the music video, biographical information on the band can also be displayed adjacently to the video window. Web pages 102 could also include an upcoming concert schedule, or even audio clips of the band's music may be downloaded from the Internet 20. As another example, a user could be watching a program relating to financial news. While the narrator is shown discussing

10 high tech stocks, Web pages corresponding to detailed financial performance information on high tech stocks, environment and characteristics can be displayed with the video on the computer screen. If the personalization features are included, Web pages associated with a particular user's stock can be fetched and displayed on the computer screen with the video program. When the program narrator switches to a discussion on the weekly

15 performance of the Dow Jones, Web pages presenting related financial performance information can be simultaneously displayed. Thus, it is evident that the present invention profoundly enriches the viewing and learning experience.

It is understood that there can exist alternative embodiments for use with the present invention. For example, the user can view the interactive program using a

20 television set 114 or other display monitor in conjunction with the display screen of the personal computer 16. In this embodiment, the relevant Web pages are shown on the personal computer 16 while the video program is displayed on the television monitor 114.

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In this alternative embodiment, a cable set top box receives the television program from the multichannel cable. The personal computer 16 also receives the video program from the multi-channel cable and extracts the URLs, embedded in the vertical blanking interval of the video signal or directly transmitted 94 over the Internet 20. The client software 106 extracts the URLs and retrieves the particular Web pages as described above. The Web pages are then synchronized with the particular video frames and presented to the user. It is understood that a hyperlink may exist on the Web site that will allow the user to automatically load the client software and call up the specific television channel referenced in the Web site. For example, someone browsing the Internet 20 may come upon a major television network's Web site. They scroll to an interesting story then click on an hyperlink to turn on the software which tunes the TV window to the network to enhance the information residing at the Web site.

Furthermore, instead of receiving the video program from a transmission means, the video program can be addressed directly from the user site if the video program, with or without embedded URLs, is stored on a VHS, Beta, DVD or other medium. In this embodiment, the user PC 16 and/or television 114 are connected to a VCR, DVD player or other appropriate device.

Figures 5 and 6 show two alternative embodiments for use with the present invention. For example, the user can view the interactive program using a television set 18 or other display monitor in conjunction with a digital cable box 140, as shown in Figure 5. In this embodiment, the digital cable box 140 performs the functions of the personal computer 16 shown in Figures 1, 2 and 4. In the embodiment shown in Figure 5,

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the client software is stored in memory in the digital cable box 140. In the preferred embodiment, the digital cable box 140 includes two tuners, thus allowing both the Web Page and the Video program to be simultaneously viewed on the same screen. If Video and Webstream, however, are carried on one channel, then only one timer is necessary.

5 The client software retrieves URLs from the received video program, directly from the Internet connection 20 or via a separate data channel, interprets these URLs and directs the Web enabled browser to retrieve the particular relevant Web pages, and synchronizes the retrieved Web pages to the video content for display on the television 18, as shown in Figure 5. In this embodiment, the relevant Web pages are shown in one frame of the television 18 while the video program is displayed in another frame.

10 In this alternative embodiment, the digital cable set top box 140 receives the television program from the multichannel cable. The URLs can be encoded into the digital program channel using MPEG 1, MPEG2, MPEG4, MPEG7 or any other compression video scheme. Alternatively, the URLs can be transmitted to the digital cable boxes 140 from an Internet server 148. The digital cable box 140 decodes the URLs from the digital video signal or directly transmitted over the Internet 20. The client software decodes the URLs and retrieves the particular Web pages as described above. The Web pages are then preferably synchronized with the particular video frames and presented to the user.

20 As with all the embodiments described above, instead of receiving the video program from a transmission means, the video program can be addressed directly from a local video source 144 if the video program, with or without embedded URLs, is stored

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on a VHS, Beta, DVD or other medium. In this embodiment, the digital cable box 140 is connected to a VCR, DVD player or other appropriate device.

Figure 6 discloses an embodiment where a digital TV 152 is the remote reception unit. In this embodiment, the digital TV 152 performs the functions of the personal computer, shown in Figures 1, 2 and 4, and the digital cable box 140 shown in Figure 5. In the embodiment shown in Figure 6, a processor means and memory are incorporated into the digital TV 152. Further, the client software and Web browser software are implemented into memory in the digital TV 152. All of the functions described above with reference to the other embodiments are performed in a similar manner by the digital TV 152 embodiment.

Although the digital cable box/TV 140, 18 and digital TV 152, shown in Figures 5 and 6, are incorporated into the embodiment of Figure 1, in substitution for the PC 16, they also could be substituted for the PC 16 shown in Figures 2 and 4.

The user can view the video and web content on one screen (in two windows), or with the video on one display screen and the Web content on a separate display monitor. Alternatively, the user can access the video or web content separately. Thus, the user can branch from video to web content and vice versa.

The present invention is well-suited to the education environment. In this embodiment, students and teachers access one or more Web servers. The software components include instructor and student user software, authoring software and database assessment software. In one such embodiment, an instructor uses content creation software on a personal computer to easily integrate into their curriculum current

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information published on the Web, through an easy to use interface 156 such as that shown in Figure 7. The instructor creates a playlist (i.e. linkfile) 160, the playlist 160 comprising a listing of Web pages, text notes and questions. The Web sites and questions are set forth in a predetermined order and can be assigned times. Preferably, the URLs identifying the Web site and time stamps are sent automatically to the desktop of each student in the virtual community, either during playback of a pre-recorded program or during a live event.

At each of the student workstations, the program is directed by the playlist 160. In other words, the playlist 160 provides the structure for the program. At predetermined times as dictated by the playlist 160, the browser will go fetch and display a Web page in a frame on the computer screen. Because program events can be set up in this manner at predetermined times, the entire program and playlist can be prerecorded and stored in a Web database for later access by students.

A significant advantage of the present invention for educational applications is that the students and the instructor can be located anywhere, as long as they are all connected to the Web. Because a server is essentially controlling the program, the instructor output comes from the server and the student workstations get automatically updated by the Web server.

This educational embodiment integrates Web content and other media with collaborative groupware functionality to create an interactive environment for students and teachers. In this embodiment, the student can receive a traditional video lesson through a frame in his or her Web browser, or from a television. Simultaneously, the

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present invention provides separate frames, an example of which is shown in Figure 8, in the browser displaying: (1) Web pages 176 automatically delivered to each student's desktop with information or exercises that complement the video presentation; (2) a chat dialogue frame 168 for conversing with the instructor and/or other students online; and (3), an interactive playlist 164 of Web pages and questions comprising the lesson.

In the student interface of Figure 8, each student can perform a virtual experiment during a physics lesson to learn about gravity, for example. Further, the students are conversing with one another and the instructor in the chat dialogue frame 168. They may also send Web pages to one another and provide answers to questions from the teacher via the chat dialogue frame 168 of the student interface 176. With the chat feature, students may break into subgroups for collaborative learning. Whenever a student in the group sends a message, the message is sent to the Internet server 20 and every other student in the subgroup receives and views the message in their Chat dialogue frame 168.

The instructor, however, may retain control over the chat feature. For example, the instructor can terminate the chat feature or web pushing to terminate unruly on-line conversations or the sending of Web pages by students.

Unlike conventional distance learning systems, the present invention is more powerful by allowing the instructor to freely and conveniently exercise almost any time of testing strategy. The instructor can test students using a combination of the Chat dialogue feature and Web pages. For example, multiple choice questions and short answer questions can appear in the Chat window 168. Essay questions, requiring longer answers, become Web pages. As mentioned above, students can perform virtual

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experiments on-line. Once the instructor's personal computer receives student answers, student scoring can be presented to the instructor in any format including tables, charts, diagrams, bar graphs, etc.. The instructor, thus, can analyze the results and has the capability of providing real-time feedback to the students.

5           Students can also receive individualized feedback via branched interactive audio, video and/or graphics responses. For example, the workstation may branch to a particular audio response, preferably prerecorded in the instructor's own voice, based on the student response to a multiple choice question. In this embodiment, a plurality of potential audio responses are made available at the student's workstation according to any one of the  
10           methodologies set forth in U.S. Patent No. 5,537,141, entitled DISTANCE LEARNING SYSTEM, herein incorporated by reference. Alternatively, personalized video, audio and graphics segments can be delivered and displayed to the student based on a student answer or personal profile in the manner set forth in U.S. Patent No. 5,724,091, entitled COMPRESSED DIGITAL DATA INTERACTIVE PROGRAM SYSTEM, herein  
15           incorporated by reference.

              Responses to student answers can be more substantive based on the memory feature of the present invention. The memory feature is an algorithm that selects an interactive response to the user based not only on the student's current answer selection, but also his or her previous responses, as discussed in the aforementioned applications.  
20           The algorithm, preferably stored in memory at each student's workstation and under processor control, merely selects an output interactive response based on student responses. As another example, if a student gets three answers in sequence right, he or

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she receives a more difficult question. If, however, the student misses one or more of the three questions, he or she receives an easier question.

In another embodiment of the present invention, a system is described capable of handling the education requirements of several schools in an efficiently designed network. The system shown in Figure 9 solves the problems inherent in attempting to service large numbers of users, the most obvious obstacles being the issues of load and performance. In this embodiment shown in Figure 9, communications servers 180 distribute and route messages across a LAN, WAN and the Internet. Referring to Figure 9, in the center of the diagram is the Group Database server. Surrounding the database server are several Com Servers 180, each serving an area 192. Surrounding each Com Server 180 are squares representing user stations 188. The Communication Servers 180 are organized in node relationships with one another.

Each node is responsible for serving an Area 192. An Area 192 is defined as a Virtual location serviced by a single Communications Server 180 (or "Com Server"). An Area 192 may be a single school, an office, or may consist of several actual physical locations. The defining characteristic of an Area 192 is that messages sent from one member of an Area 192 to another need not be routed outside of the servicing Com Server 180.

An Area member is analogous to the frequently used term "user." For example, a "user" may be a student in the educational embodiment described above with reference to Figures 7 and 8.

The Distributed Communication System of Figure 9 shall permit the dynamic

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addition of Communication Servers 180 within a group with little or no administrative tasks as well as the addition of groups within an overall communications network. A Communication Server group consists of several defined Virtual Areas 192 (preferably, consisting of no more the 250 members each), each area 192 serviced by a single Com Server 180. This system shall allow members of one Area 192, or group to easily communicate with members of another Area 192 or group without any configuration changes.

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Generally, service of very large numbers of users has required large expensive servers and networks. As the user base increases, performance suffers and hardware must be upgraded to service the demand.

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The Distributed Communication System of the present invention allows the same, relatively inexpensive machines to serve an ever-increasing user base. The technique by which this will be accomplished will be through the routing of messages from one server to another when necessary.

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The method essentially follows the same core pattern as IP routing and DNS lookups. If a message is for a member not belonging to the current Area 192 or group, the message shall be routed through the Distributed Communication System until its destination, or someone who knows the destination and can deliver the message, is found.

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The destination will be cached so subsequent messages for that member or group may be more efficiently delivered.

Referring again to Figure 9, if a message is posted by member "A" and is intended only for the members of group 1 the message shall never leave Area 1 Com Server.

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However, if the message is intended for members of Area 1 and the members of Area 2, the Area 1 Com server forwards the message to the group database server 184. The message shall be broadcast to the members of Area 1 and tagged in the database 184 as belonging to Area 2. The message is then routed to Area 2 and broadcast to Area 2 members. With this technique any member can potentially send a message to any other member. If the Area Com server 180 does not recognize the destination, the message is forwarded up the line. Each Com server 180 does not need to know about any other server 180. Messages are routed until they delivered. If undeliverable, the original sender is notified.

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New Areas 192 can be added on the fly. When a new Com server 188 is added to the network, it registers itself with the database application. Henceforth, any message destined for the new Area 192 can be routed properly without altering the other Area Servers 180.

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This method and system works for global messages or for user to user messages.

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Furthermore, new Groups may also be dynamically added. Once added, each new Group Database Server 184 registers itself with the existing database servers 184. This distribution of load permits nearly unlimited expansion with existing software and hardware. Each server manages a finite number of members, cumulatively serving a growing community.

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Users need not be informed as to the particular Com Server 180 they should connect to. Members are directed to a single URL. The selection of the server for user connection is determined by load balancing software. In this manner, the network may

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appear to be a global network of Servers or simply a local classroom.

The unique aspects of this architecture, using database servers as routing gateways, using techniques resembling IP routing and DNS lookup, enables this system to serve with minimum administration and configuration and with lower end, cost-effective hardware.

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Using the foregoing embodiments, methods and processes, the system of the present invention creates a synergistic experience combining the vast resources of the Internet with the presentation capabilities of television.

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CLAIMS

1. A system for presenting integrated video programming and corresponding related Internet information segments obtained from Web sites on the Internet, the system comprising:

5 a means for receiving programming, wherein the programming contains a video and audio signals and one or more uniform resource locators, wherein the uniform resource locators specify one or more Internet addresses of the information segments which relate specifically to the content of the video and audio signals of the programming;

10 a means for decoding, connected to the receiving means, the uniform resource locators to determine the specified Internet addresses;

a controller means, connected to the decoding means, for interpreting the uniform resource locators;

15 a web browser, connected to the decoding means and the controller means, for sending message requests to specific Internet sites located at the Internet addresses corresponding to the uniform resource locators and consequently receiving the one or more requested Internet information segments residing at the determined Internet addresses, the browser retrieves the requested Internet information segments under the direction and control of the controller means; and

20 a display means, connected to the controller and receiving means, for presenting the video and audio signals concurrently with or independently from

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the Internet information segments.

2. The system of claim 1, wherein the uniform resource locators are embedded in the received video signal.

3. The system of claim 1, wherein the uniform resource locators are received independently from the video signal.

4. A system for presenting integrated video programming and corresponding related Internet information segments obtained from Web sites on the Internet, the system comprising:

a digital cable box, comprising:

a receiver, for receiving a video signal and one or more uniform resource locators, wherein the uniform resource locators specify one or more Internet addresses of the information segments which relate specifically to the content of the video and audio signals of the programming;

a means for decoding, connected to the receiver, the uniform resource locators to determine the specified Internet addresses;

a controller means, connected to the decoding means, for interpreting the uniform resource locators; and

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a web browser, connected to the decoding means and the controller means, for sending message requests to specific Internet sites located at the Internet addresses corresponding to the uniform resource locators and consequently receiving the one or more requested Internet information segments residing at the determined Internet addresses, the browser retrieves the requested Internet information segments under the direction and control of the controller means.

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5. The system of claim 4 further comprising a display means, connected to the controller and receiver, for presenting the video concurrently with or independently from the Internet information segments.

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6. The system of claim 4, wherein the uniform resource locators are embedded in the received video signal.

7. The system of claim 4, wherein the uniform resource locators are received independently from the video signal.

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8. The system of claim 7, wherein the uniform resource locators are received directly from an Internet connection.

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9. The system of claim 7, wherein the uniform resource locators are received via a separate data channel.

10. The system of claim 5, wherein the Internet information segments are synchronized to the video signal for display.

5 11. The system of claim 4, wherein the receiver receives the video signal from a multichannel cable:

12. A system for presenting integrated video programming and corresponding related Internet information segments obtained from Web sites on the Internet, the system comprising:

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a digital television, comprising:

a receiver, for receiving a video signal and one or more uniform resource locators, wherein the uniform resource locators specify one or more Internet addresses of the information segments which relate specifically to the content of the video and audio signals of the

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programming;

a means for decoding, connected to the receiving means, the uniform resource locators to determine the specified Internet addresses;

a controller means, connected to the decoding means, for

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interpreting the uniform resource locators; and

a web browser, connected to the decoding means and the controller means, for sending message requests to specific Internet sites located at the Internet addresses corresponding to the uniform resource locators and consequently receiving the one or more requested Internet information segments residing at the determined Internet addresses, the browser retrieves the requested Internet information segments under the direction and control of the controller means; and

a display means, connected to the controller and receiver, for presenting the video concurrently with or independently from the Internet information segments.

13. The system of claim 12, wherein the uniform resource locators are embedded in the received video signal.

14. The system of claim 12, wherein the uniform resource locators are received independently from the video signal.

15. The system of claim 14, wherein the uniform resource locators are received directly from an Internet connection.

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16. The system of claim 14, wherein the uniform resource locators are received via a separate data channel.

17. The system of claim 12, wherein the Internet information segments are synchronized to the video signal for display.

5 18. The system of claim 12, wherein the receiver receives the video signal from a multichannel cable.

19. A system for presenting integrated video programming and corresponding related Internet information segments obtained from Web sites on the Internet, the system comprising:

- 10 a production computer, comprising:
  - means for creating a playlist, the playlist containing a list of events including one or more uniform resource locators;
  - a server, in communications with the production computer, for storing the playlist;
- 15 one or more user workstations, comprising:
  - a receiver, for receiving a video signal and the playlist, wherein the uniform resource locators in the playlist specify one or more Internet addresses of the information segments which relate specifically to the

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content of the video signal;

a means for decoding, connected to the receiver, the uniform resource locators to determine the specified Internet addresses;

a controller means, connected to the decoding means, for interpreting the uniform resource locators; and

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a web browser, connected to the decoding means and the controller means, for sending message requests to specific Internet sites located at the Internet addresses corresponding to the uniform resource locators and consequently receiving the one or more requested Internet information segments residing at the determined Internet addresses, the browser retrieves the requested Internet information segments under the direction and control of the controller means; and

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a display means, connected to the controller and receiver, for presenting the video concurrently with or independently from the

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Internet information segments.

20. The system of claim <sup>19</sup>~~20~~ wherein the user workstations comprise a chat dialogue frame interface, the chat dialogue frame interface allowing the user to send and receive messages from other users at other user workstations.

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Docket No.  
4247.02

### Declaration and Power of Attorney For Patent Application English Language Declaration

As a below named inventor, I hereby declare that:

My residence, post office address and citizenship are as stated below next to my name,

I believe I am the original, first and sole inventor (if only one name is listed below) or an original, first and joint inventor (if plural names are listed below) of the subject matter which is claimed and for which a patent is sought on the invention entitled

**ENHANCED VIDEO PROGRAMMING SYSTEM AND METHOD FOR INCORPORATING AND DISPLAYING RETRIEVED INTEGRATED INTERNET INFORMATION SEGMENTS**

the specification of which

(check one)

is attached hereto.

was filed on \_\_\_\_\_ as United States Application No. or PCT International Application Number \_\_\_\_\_ and was amended on \_\_\_\_\_ (if applicable)

I hereby state that I have reviewed and understand the contents of the above identified specification, including the claims, as amended by any amendment referred to above.

I acknowledge the duty to disclose to the United States Patent and Trademark Office all information known to me to be material to patentability as defined in Title 37, Code of Federal Regulations, Section 1.56.

I hereby claim foreign priority benefits under Title 35, United States Code, Section 119(a)-(d) or Section 365(b) of any foreign application(s) for patent or inventor's certificate, or Section 365(a) of any PCT International application which designated at least one country other than the United States, listed below and have also identified below, by checking the box, any foreign application for patent or inventor's certificate or PCT International application having a filing date before that of the application on which priority is claimed.

Prior Foreign Application(s)			Priority Not Claimed
_____ (Number)	_____ (Country)	_____ (Day/Month/Year Filed)	<input type="checkbox"/>
_____ (Number)	_____ (Country)	_____ (Day/Month/Year Filed)	<input type="checkbox"/>
_____ (Number)	_____ (Country)	_____ (Day/Month/Year Filed)	<input type="checkbox"/>

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I hereby claim the benefit under 35 U.S.C. Section 119(e) of any United States provisional application(s) listed below:

_____	_____
(Application Serial No.)	(Filing Date)

_____	_____
(Application Serial No.)	(Filing Date)

_____	_____
(Application Serial No.)	(Filing Date)

I hereby claim the benefit under 35 U. S. C. Section 120 of any United States application(s), or Section 365(c) of any PCT International application designating the United States, listed below and, insofar as the subject matter of each of the claims of this application is not disclosed in the prior United States or PCT International application in the manner provided by the first paragraph of 35 U.S.C. Section 112, I acknowledge the duty to disclose to the United States Patent and Trademark Office all information known to me to be material to patentability as defined in Title 37, C. F. R., Section 1.56 which became available between the filing date of the prior application and the national or PCT International filing date of this application:

08/615,143	03/14/96	pending
_____	_____	_____
(Application Serial No.)	(Filing Date)	(Status)
		(patented, pending, abandoned)

08/613,144	03/08/96	abandoned
_____	_____	_____
(Application Serial No.)	(Filing Date)	(Status)
		(patented, pending, abandoned)

_____	_____	_____
(Application Serial No.)	(Filing Date)	(Status)
		(patented, pending, abandoned)

I hereby declare that all statements made herein of my own knowledge are true and that all statements made on information and belief are believed to be true; and further that these statements were made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment, or both, under Section 1001 of Title 18 of the United States Code and that such willful false statements may jeopardize the validity of the application or any patent issued thereon.

POWER OF ATTORNEY: As a named inventor, I hereby appoint the following attorney(s) and/or agent(s) to prosecute this application and transact all business in the Patent and Trademark Office connected therewith. (list name and registration number)  
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Send Correspondence to: Customer No. 20686

Direct Telephone Calls to: (name and telephone number)  
Scott W. Doyle (303) 628-1504

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Full name of second inventor, if any <b>Jack D. Hildary</b>	Date
Second inventor's signature	
Residence <b>New York, New York</b>	
Citizenship <b>USA</b>	
Post Office Address <b>320 East 46th Street, Apt. 8A</b>	
<b>New York, NY 10017</b>	

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Third inventor's signature	Date
Residence <b>New York</b>	
Citizenship <b>USA</b>	
Post Office Address	

Full name of fourth inventor, if any	
Fourth inventor's signature	Date
Residence	
Citizenship	
Post Office Address	

Full name of fifth inventor, if any	
Fifth inventor's signature	Date
Residence	
Citizenship	
Post Office Address	

Full name of sixth inventor, if any	
Sixth inventor's signature	Date
Residence	
Citizenship	
Post Office Address	

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FIG. 1

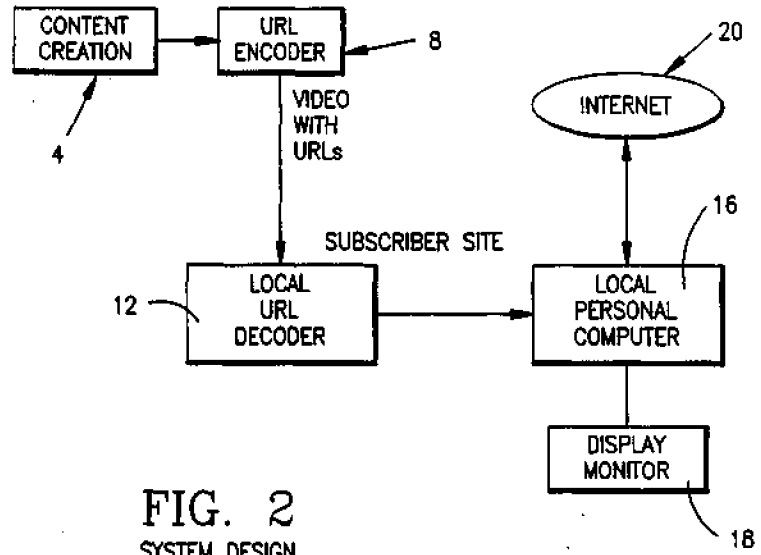
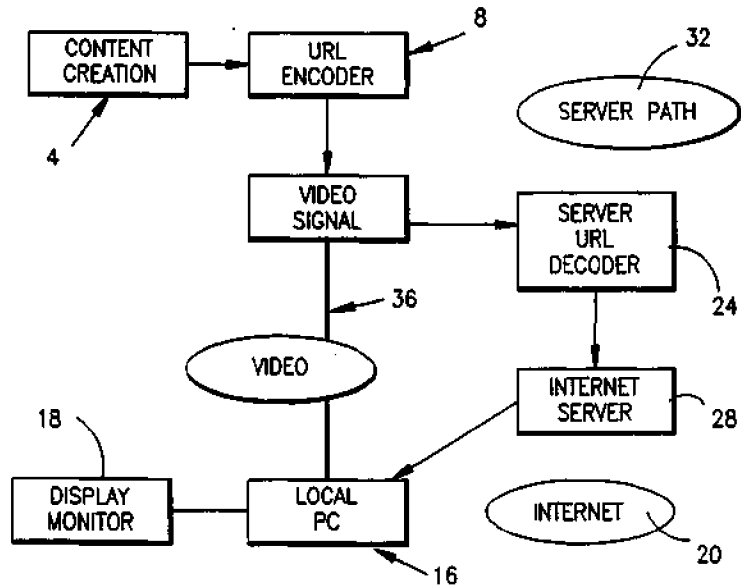
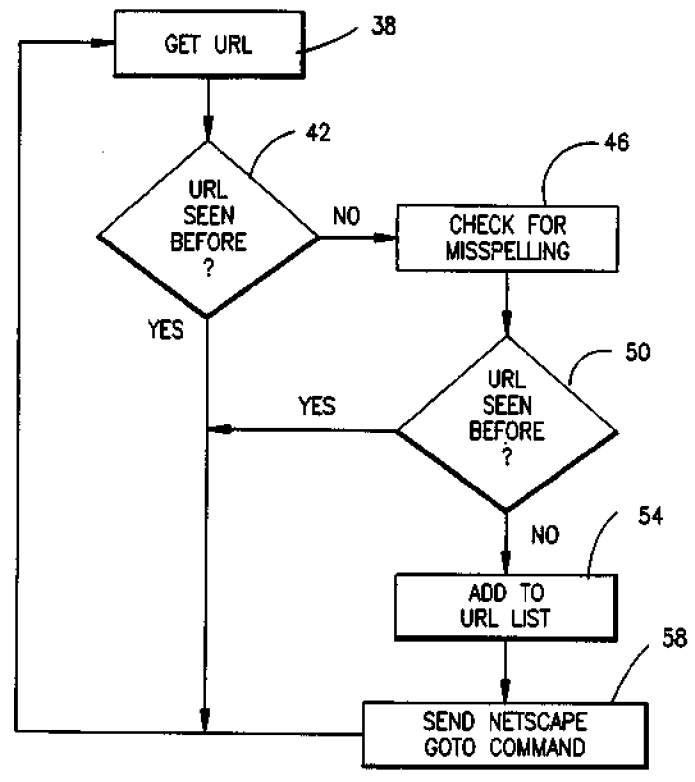


FIG. 2  
SYSTEM DESIGN





SOFTWARE DESIGN

FIG. 3

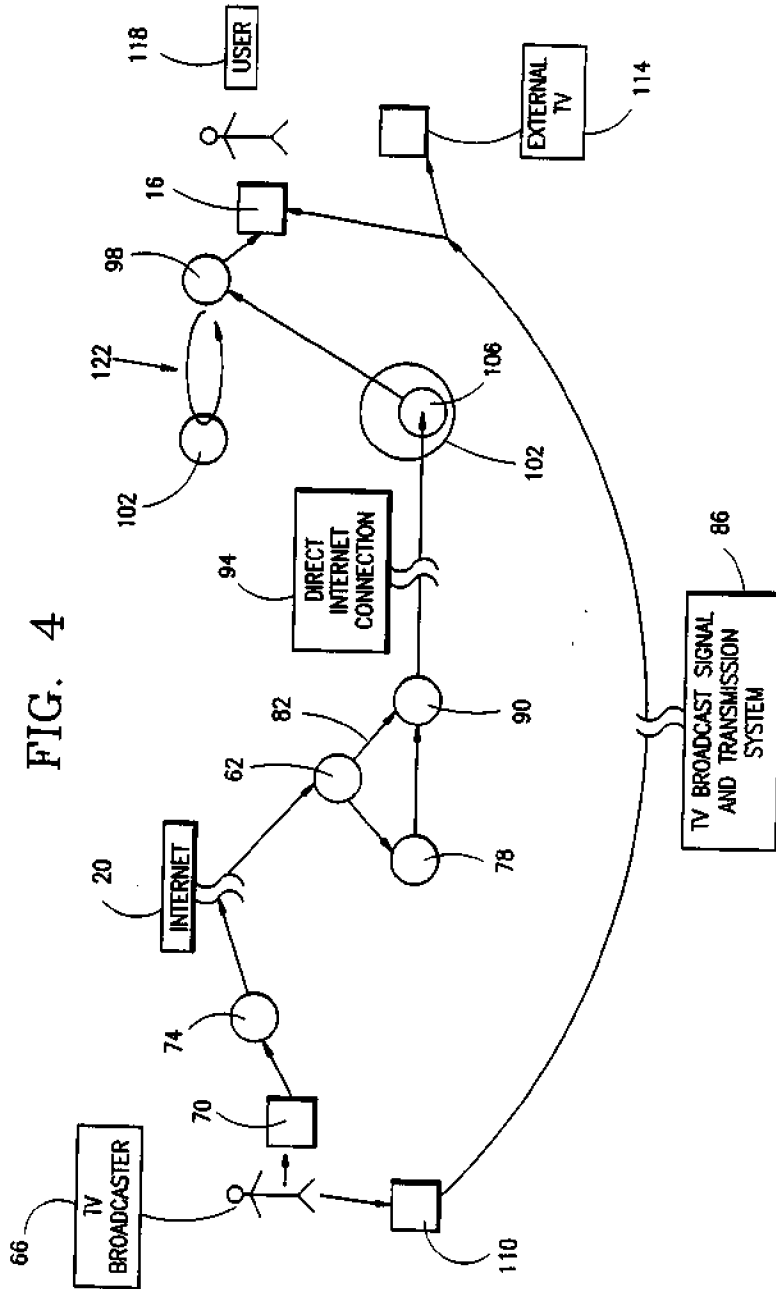


FIG. 4

FIG. 4 OF DRAWINGS ORIGINALLY FILED

TOP DRAWING ORIGINAL

Fig. 5

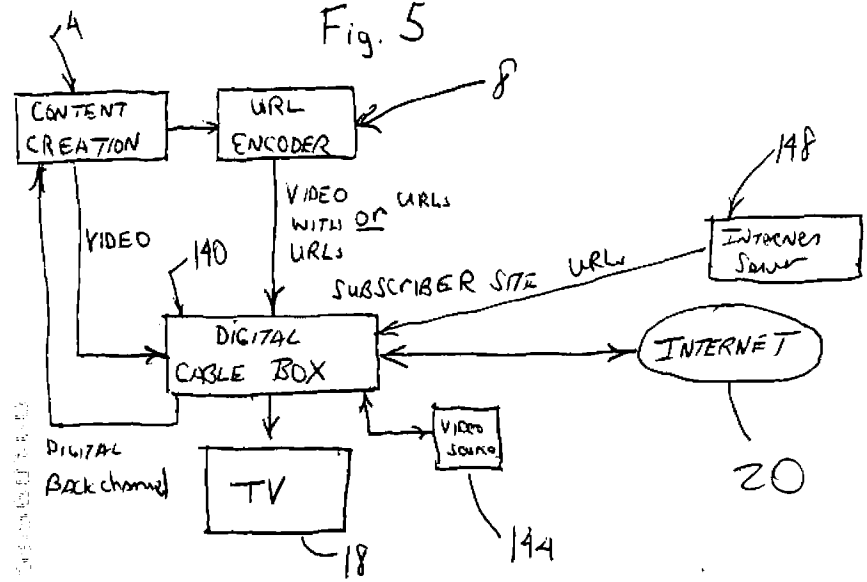
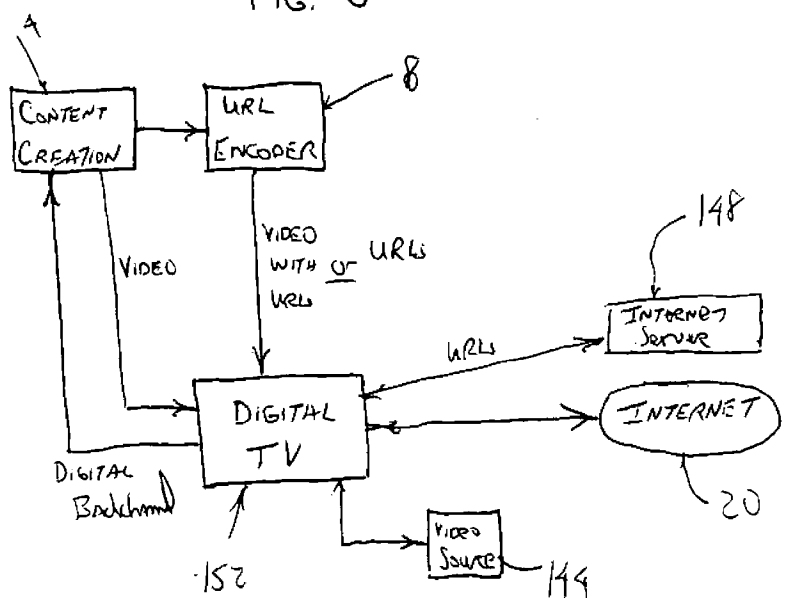
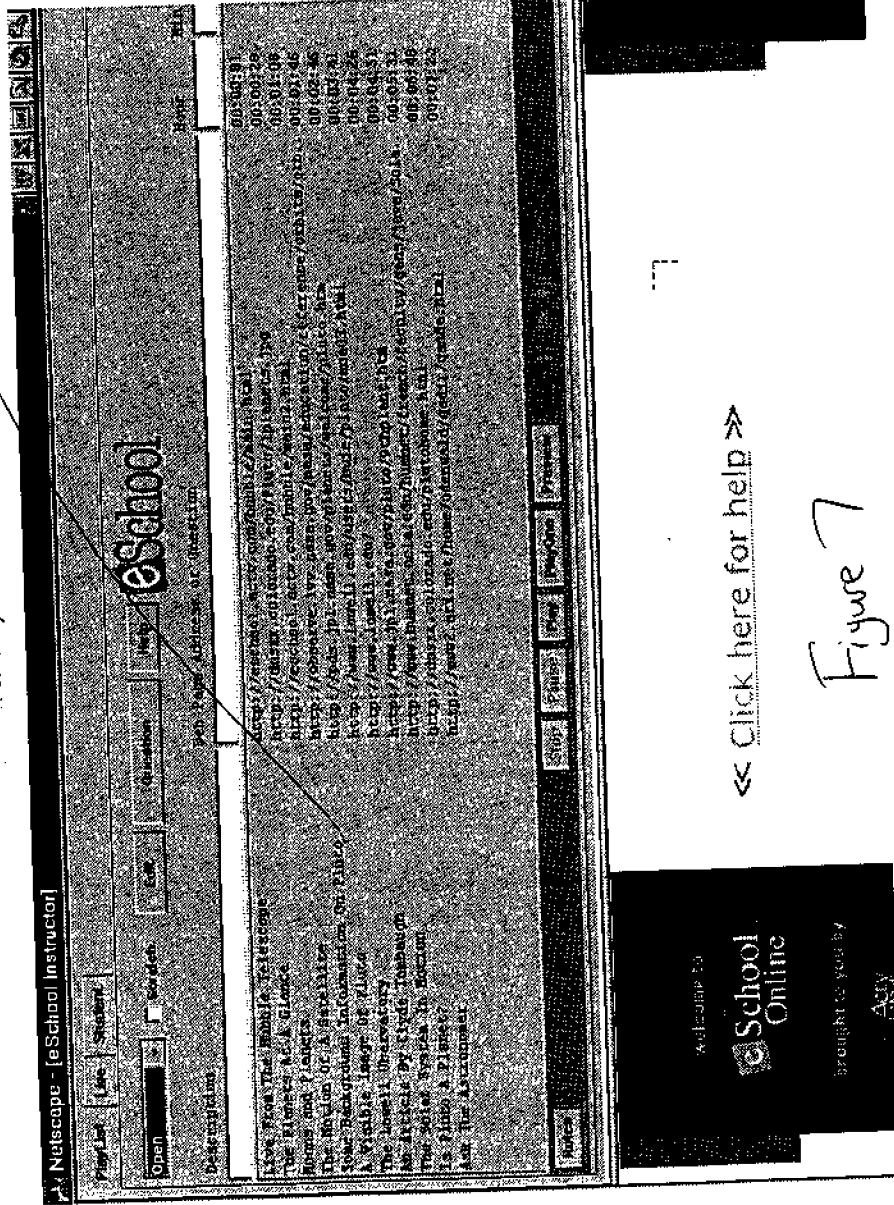


FIG. 6



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C:\WINDOWS\TEMP\eschool.jpg (local)



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Figure 7

file: C:\WINDOWS\TEMP\eschool.jpg



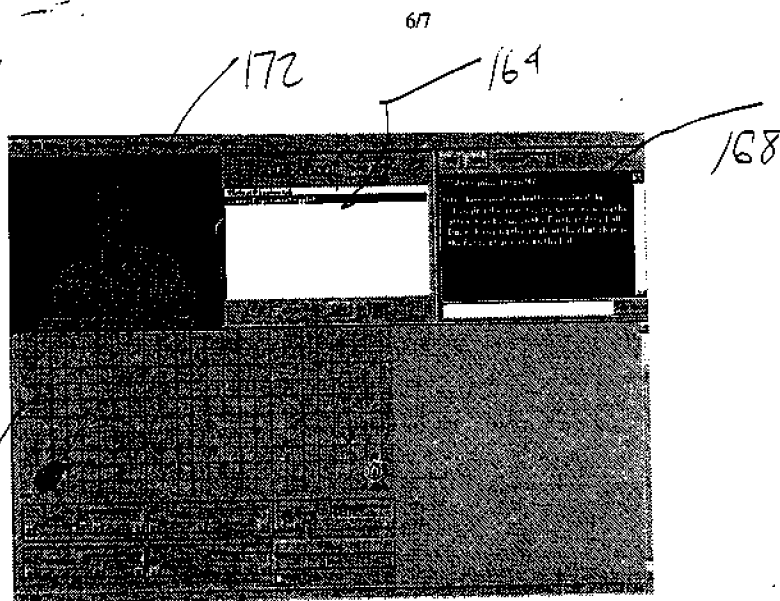


Figure 8

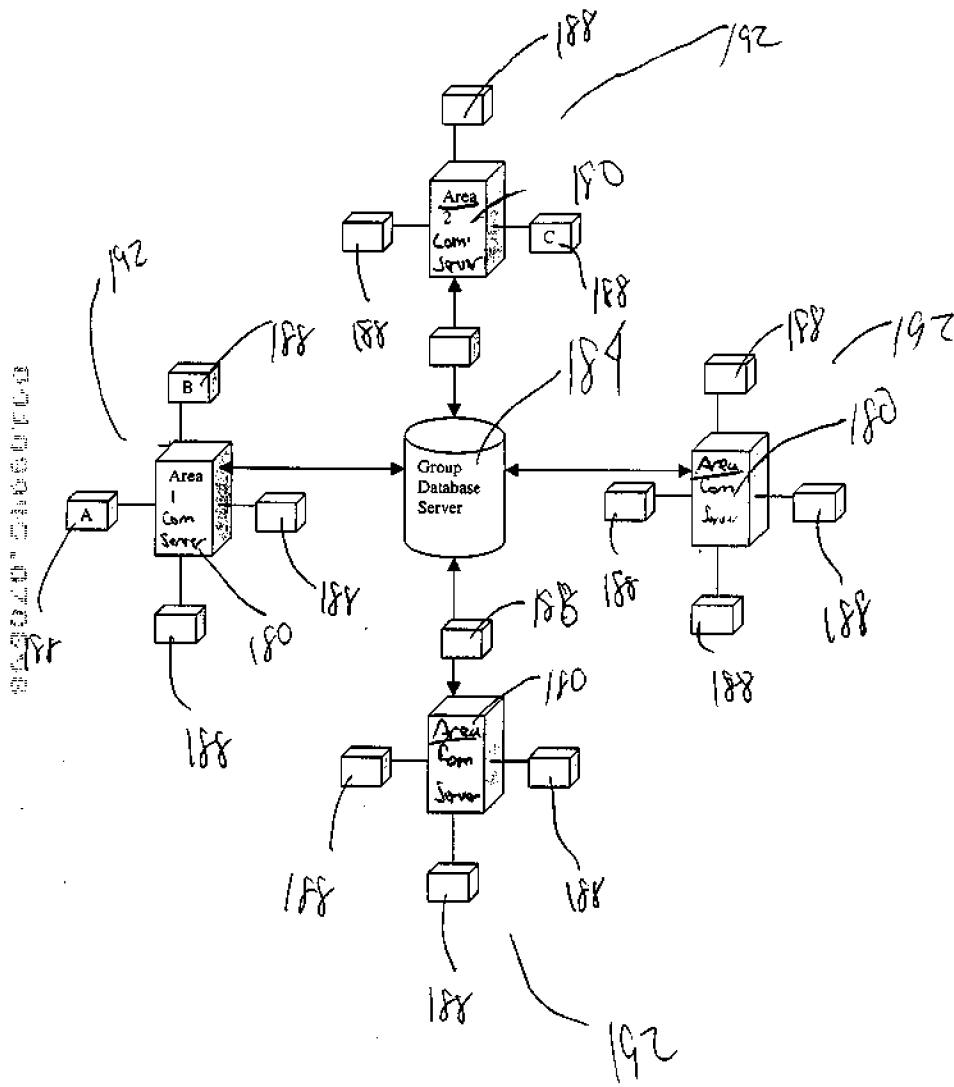


Figure 9

FIG. 1

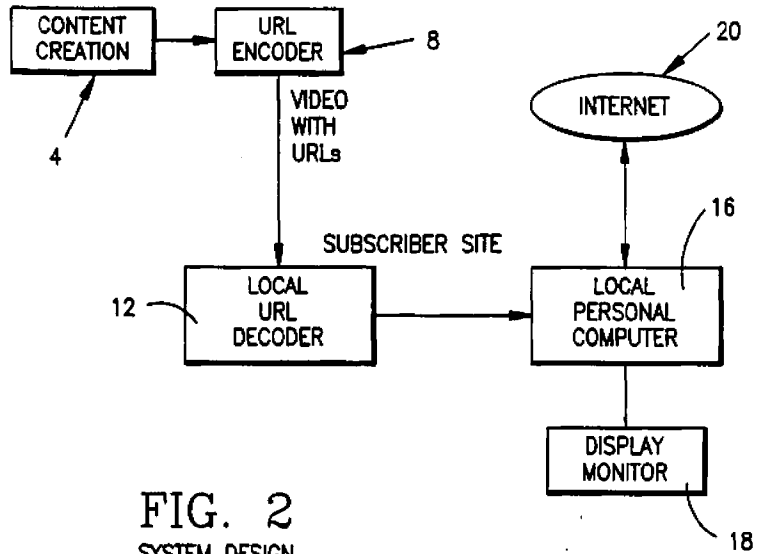
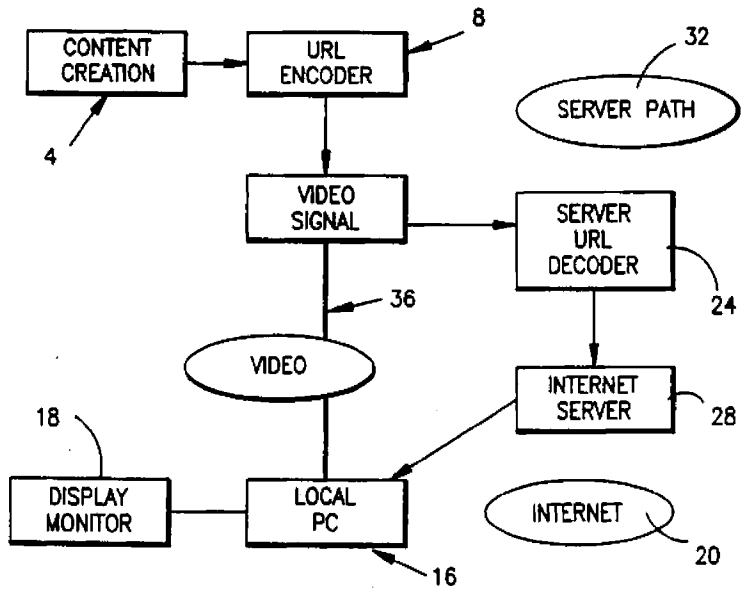
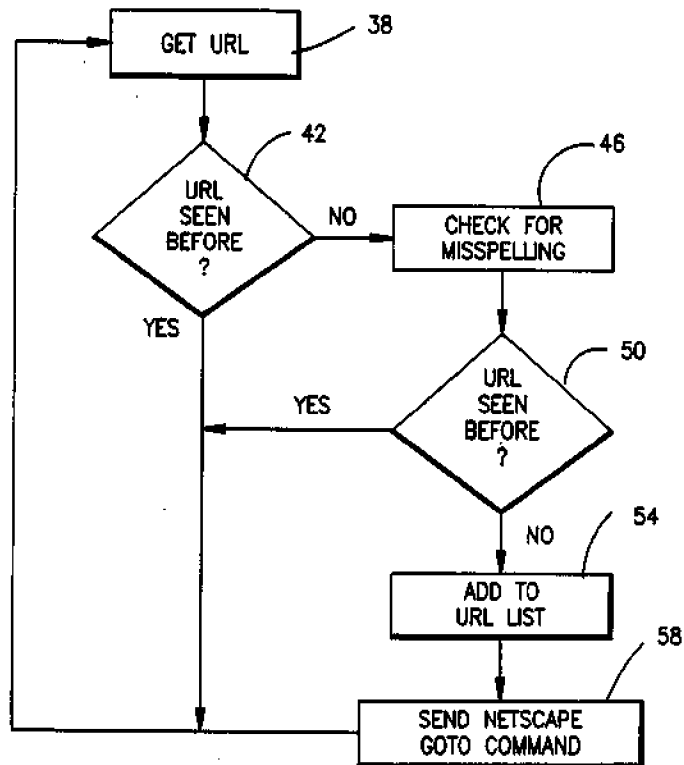


FIG. 2  
SYSTEM DESIGN



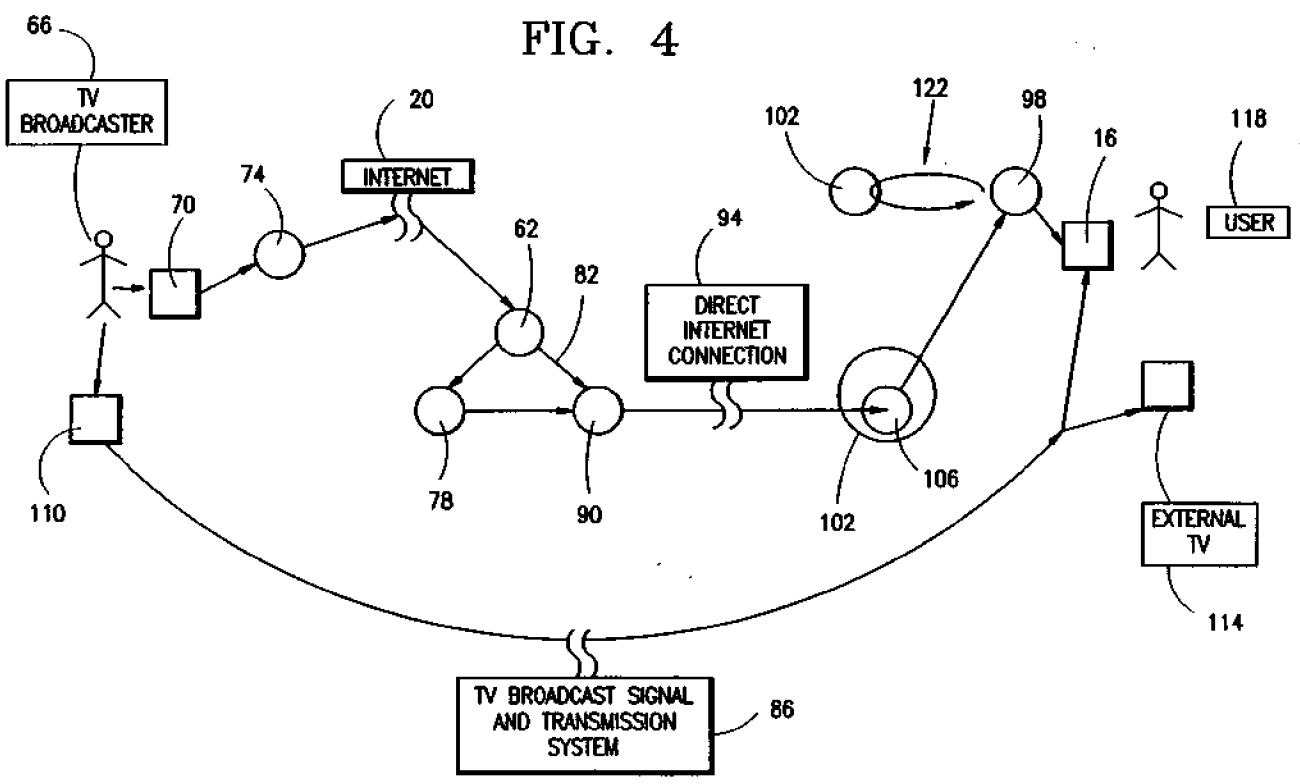


SOFTWARE DESIGN

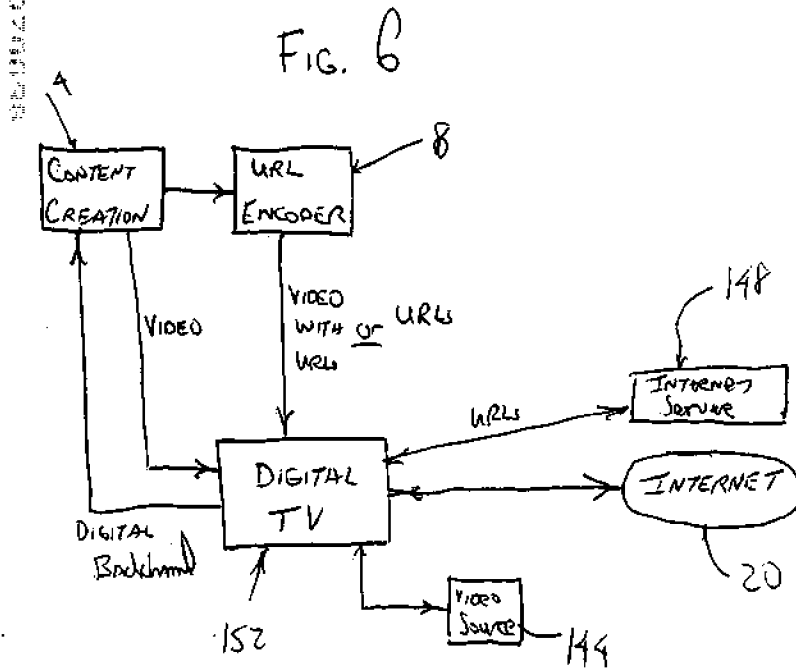
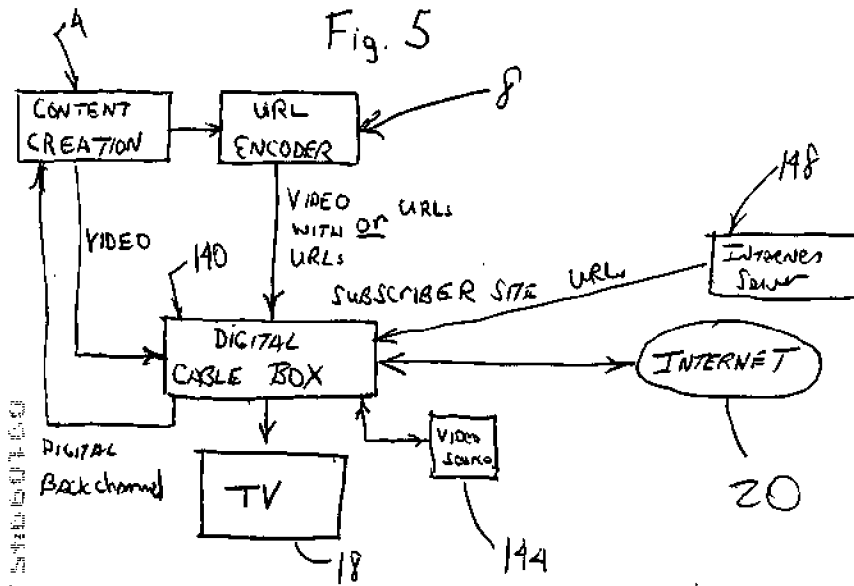
FIG. 3

GROUP OF SHEETS

FIG. 4

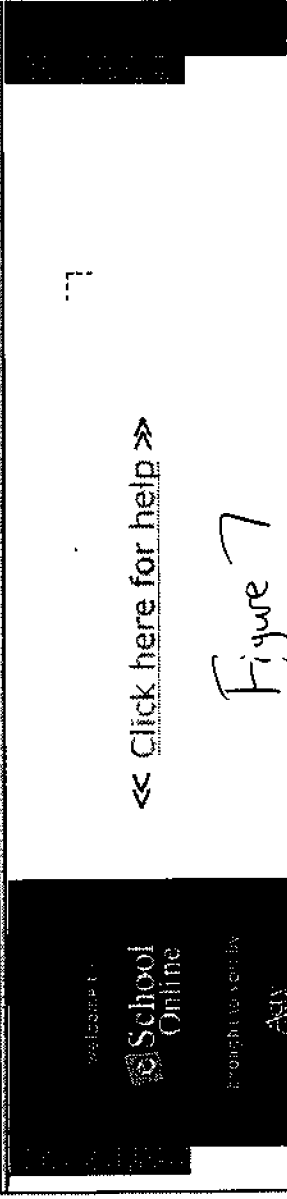
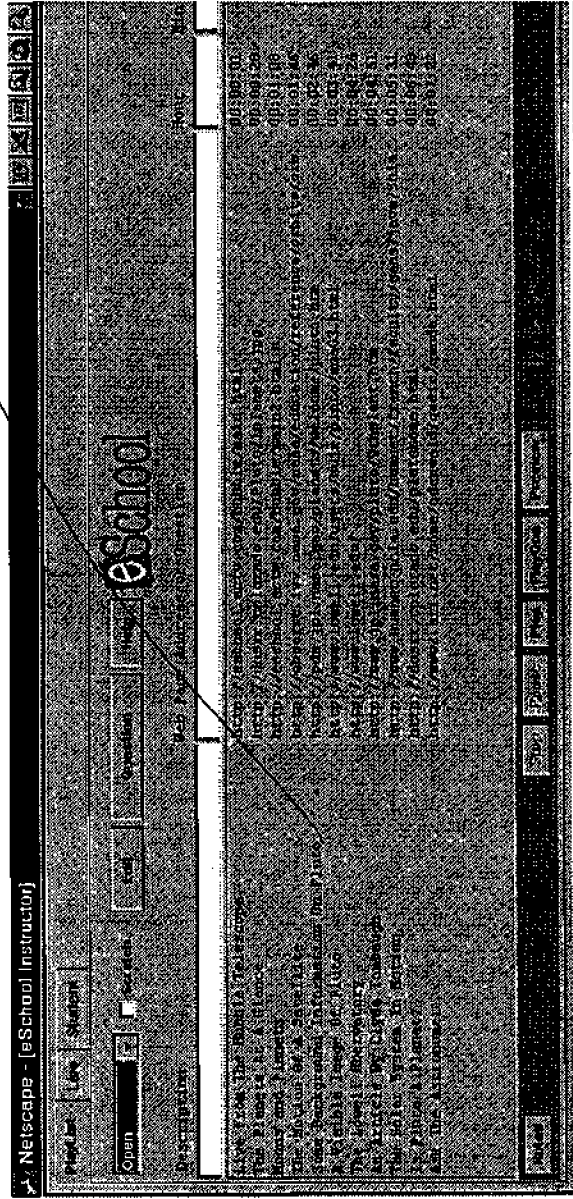


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PRINT OF DRAWINGS  
AS ORIGINALLY FILED

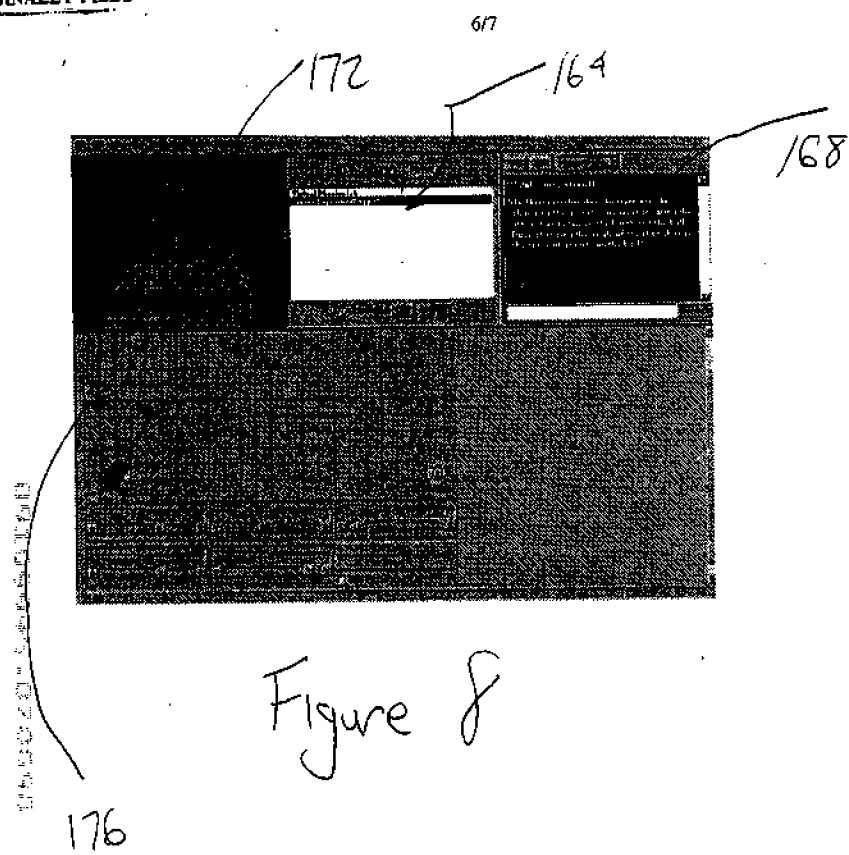


Figure 8



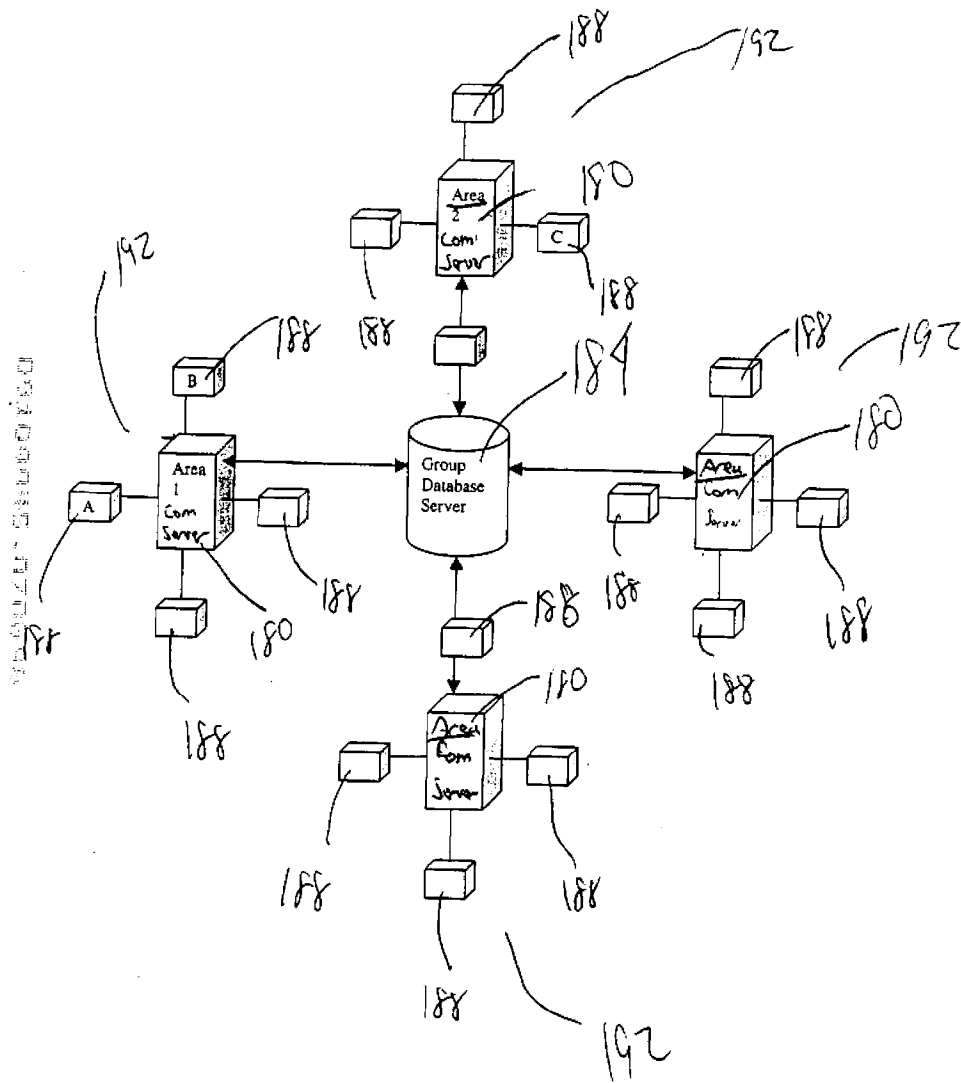


Figure 9

17

FIG. 1

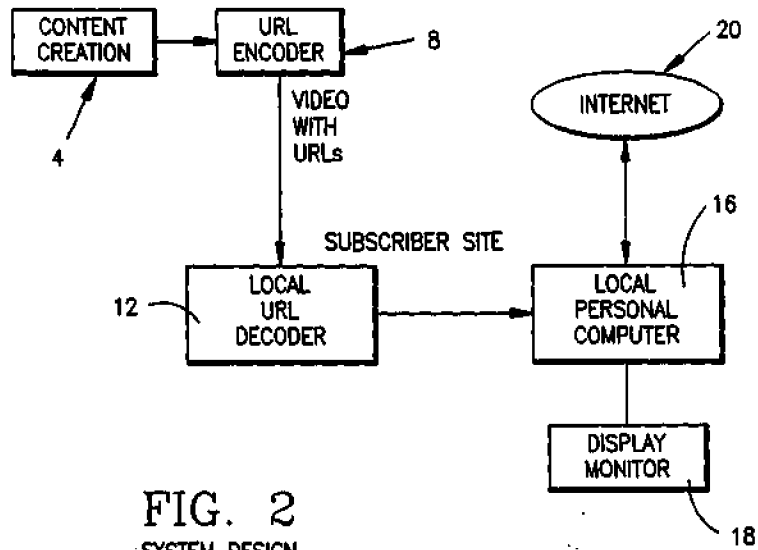
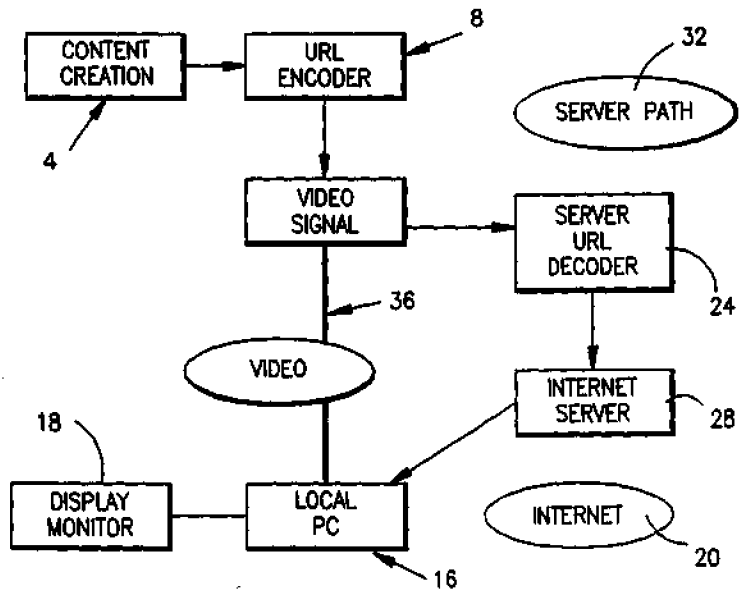
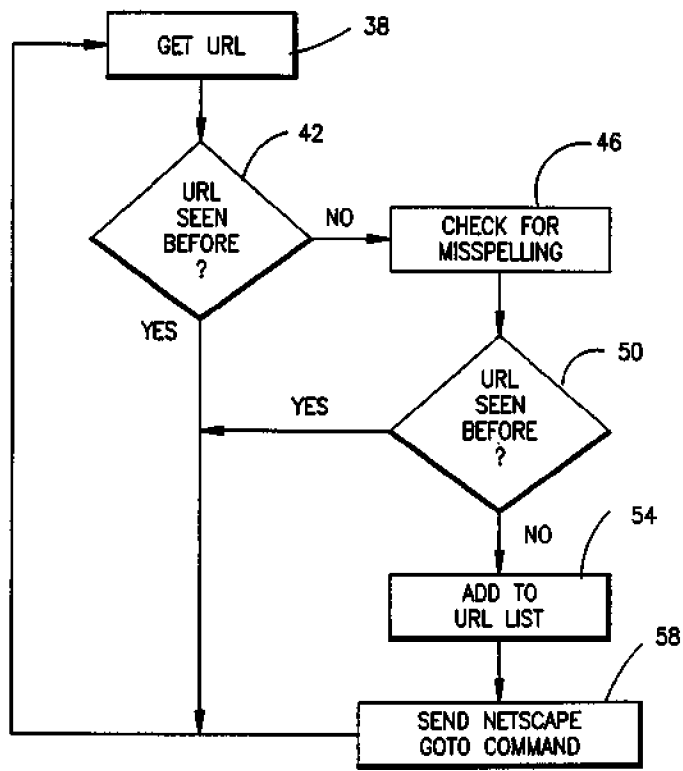


FIG. 2  
SYSTEM DESIGN



05307015480160

0610945.07099

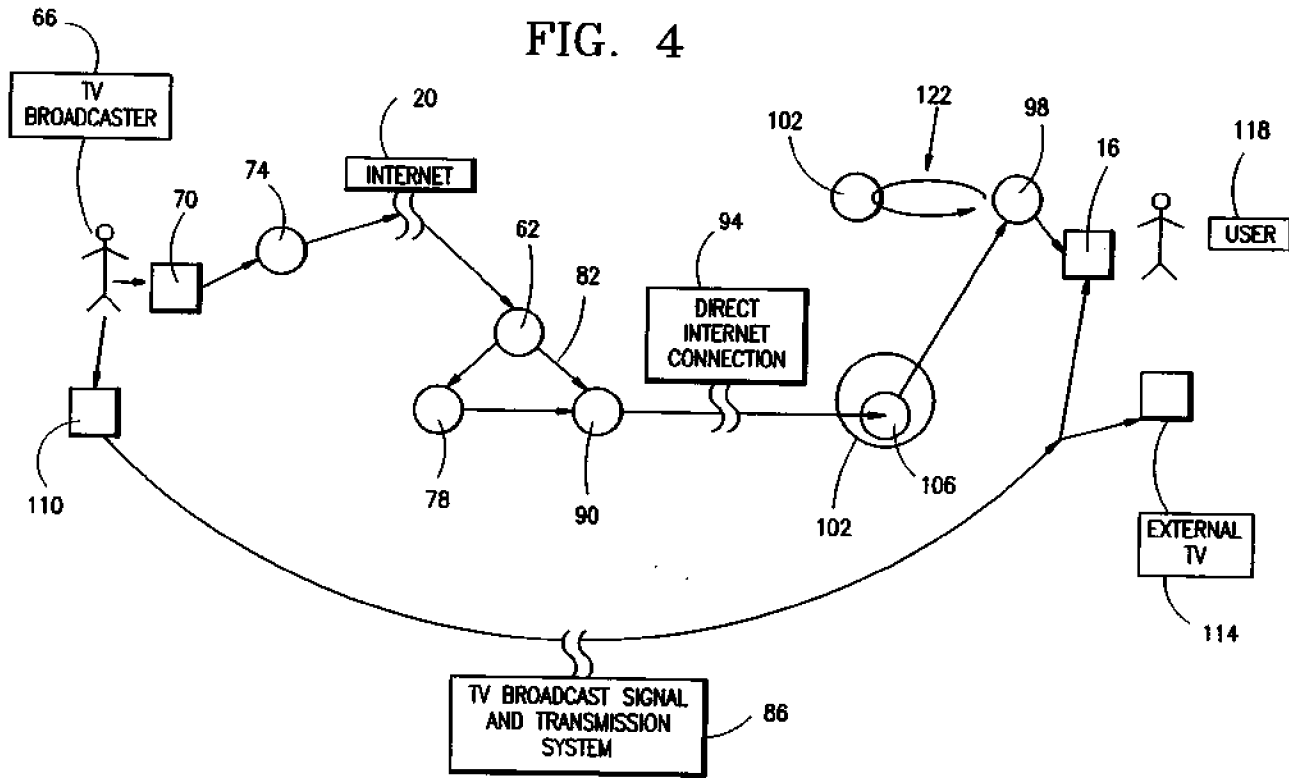


SOFTWARE DESIGN

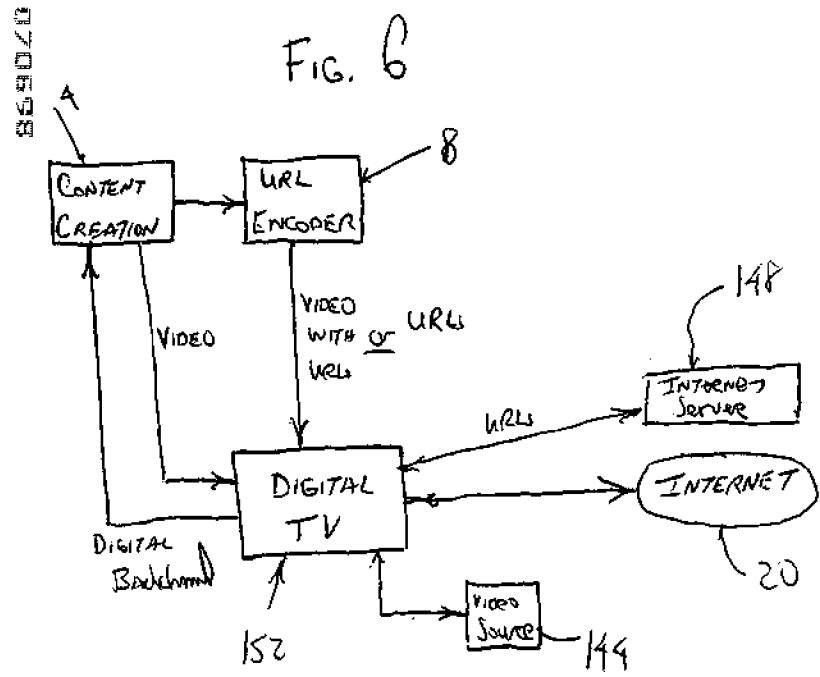
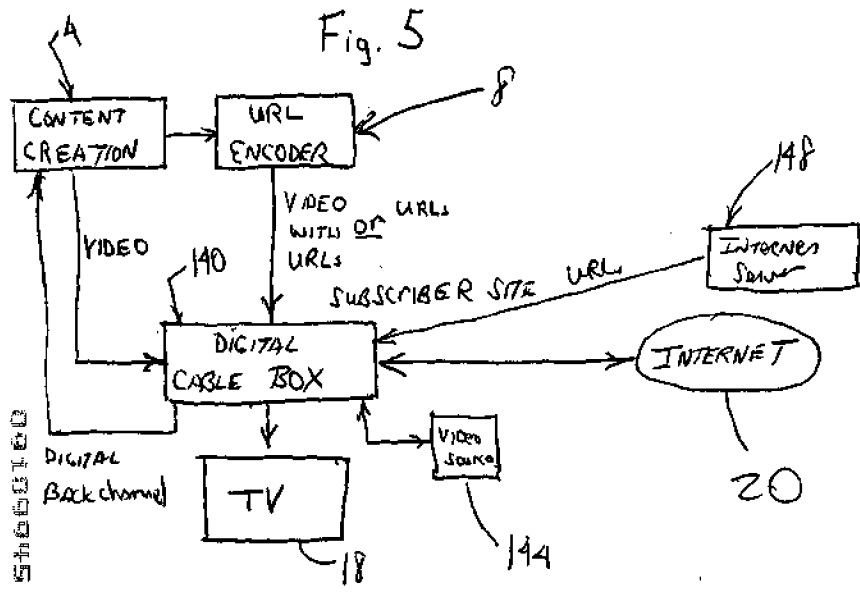
FIG. 3

869040\* 54660760

FIG. 4

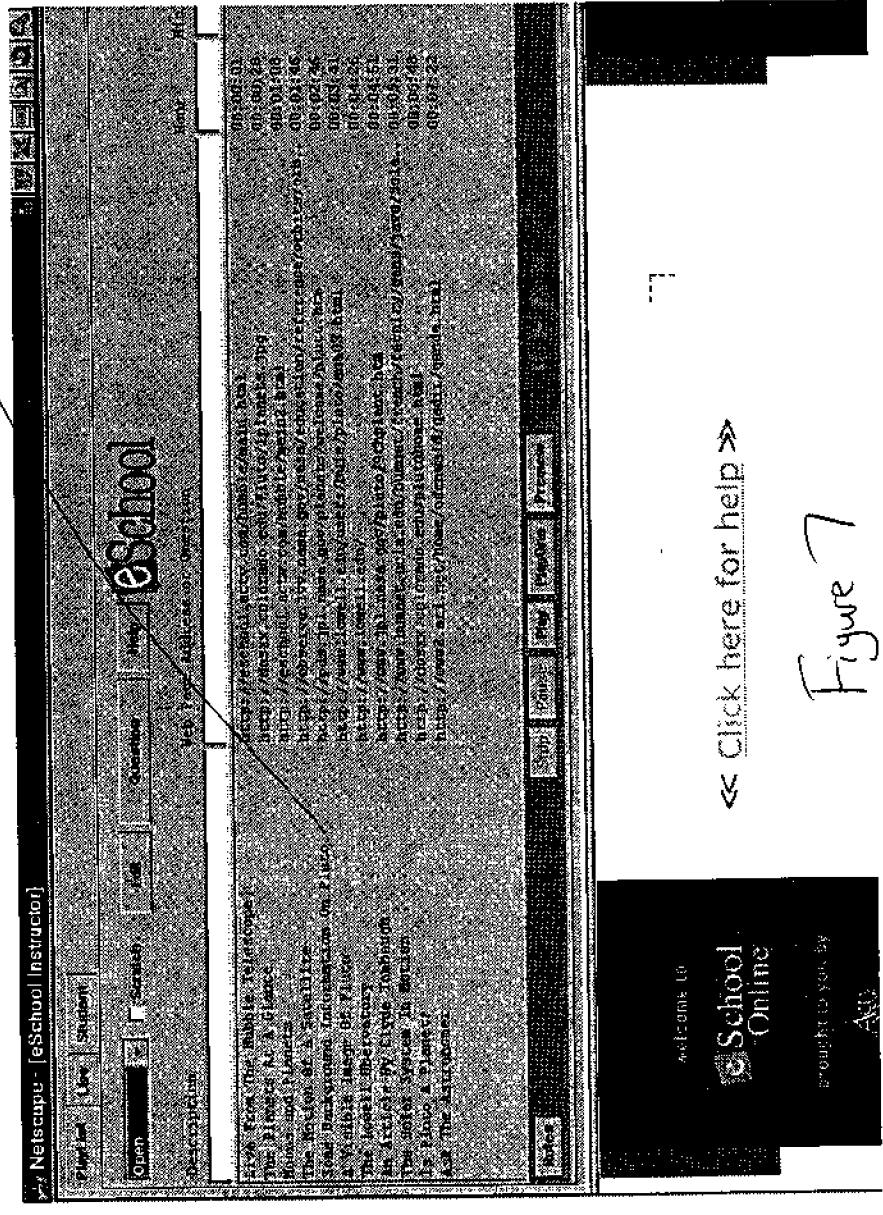


3/7



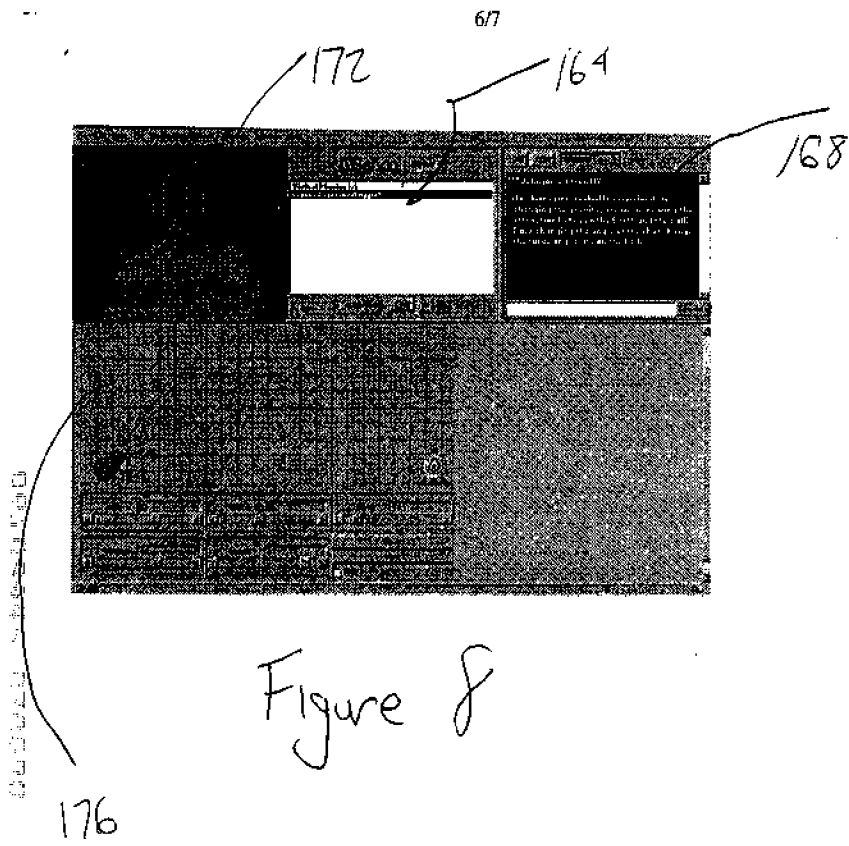
116  
160

C:\WINDOWS\TEMP\stetech.jpg (local)



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Figure 7



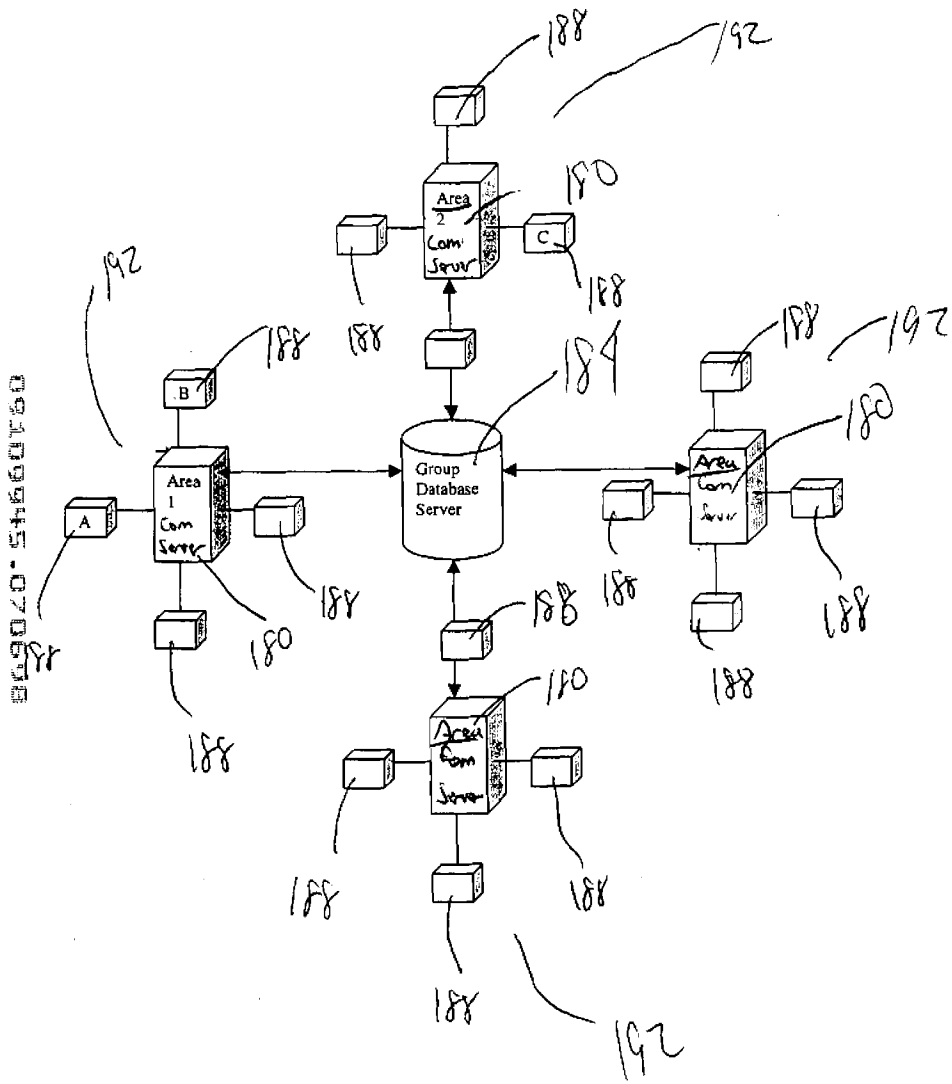


Figure 9



Express Mail No. EL064365508US  
Attorney Docket No. 4247.02

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re: Application of

Craig Ullman, Jack Hidary, and Nova Spivack

Serial No. \_\_\_\_\_

Filed: herewith

For: ENHANCED VIDEO PROGRAMMING SYSTEM AND METHOD FOR  
INCORPORATING AND DISPLAYING RETRIEVED INTEGRATED INTERNET  
INFORMATION SEGMENTS

86907054660160

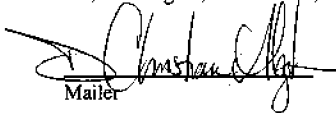
CERTIFICATE OF MAILING BY EXPRESS MAIL

Box PATENT APPLICATION  
Assistant Commissioner for Patents  
Washington, D.C. 20231

Sir:

The undersigned hereby certifies that the attached: UTILITY PATENT APPLICATION TRANSMITTAL (CIP); DECLARATION AND POWER OF ATTORNEY (UNSIGNED); SPECIFICATION, CLAIMS, AND ABSTRACT (35 PAGES); 7 SHEETS OF INFORMAL DRAWINGS; \$872.00 CHECK; RETURN POSTCARD; AND CERTIFICATE OF MAILING BY EXPRESS MAIL, all relating to the above application were deposited as "Express Mail", Mailing Label No. EL064365508US, with the United States Postal Service, addressed to Box Patent Application, Assistant Commissioner for Patents, Washington, D.C. 20231, on July 6, 1998.

July 6, 1998  
Date

  
\_\_\_\_\_  
Mailer

DORSEY & WHITNEY LLP  
370 17th Street, Suite 4400  
Denver, CO 80202  
Tel: 303-629-3400

Express Mail Label No. EL06436 US

**UTILITY PATENT APPLICATION TRANSMITTAL  
(Large Entity)**

(Only for new nonprovisional applications under 37 CFR 1.53(b))

Docket No.  
4247.02

Total Pages in this Submission

**TO THE ASSISTANT COMMISSIONER FOR PATENTS**

Box Patent Application  
Washington, D.C. 20231

Transmitted herewith for filing under 35 U.S.C. 111(a) and 37 C.F.R. 1.53(b) is a new utility patent application for an invention entitled:

**ENHANCED VIDEO PROGRAMMING SYSTEM AND METHOD FOR INCORPORATING AND DISPLAYING  
RETRIEVED INTEGRATED INTERNET INFORMATION SEGMENTS**

and invented by:

**Craig Ultman, Jack Hiday, and Nova Spivack**

**a CONTINUATION APPLICATION, check appropriate box and supply the requisite information:**

Continuation  Divisional  Continuation-in-part (CIP) of prior application No.: 08/615,143

Which is a:

Continuation  Divisional  Continuation-in-part (CIP) of prior application No.: 08/613,144

Which is a:

Continuation  Divisional  Continuation-in-part (CIP) of prior application No.:

Enclosed are:

**Application Elements**

1.  Filing fee as calculated and transmitted as described below
2.  Specification having 35 pages and including the following:
  - a.  Descriptive Title of the Invention
  - b.  Cross References to Related Applications (if applicable)
  - c.  Statement Regarding Federally-sponsored Research/Development (if applicable)
  - d.  Reference to Microfiche Appendix (if applicable)
  - e.  Background of the Invention
  - f.  Brief Summary of the Invention
  - g.  Brief Description of the Drawings (if drawings filed)
  - h.  Detailed Description
  - i.  Claim(s) as Classified Below
  - j.  Abstract of the Disclosure

**UTILITY PATENT APPLICATION TRANSMITTAL  
(Large Entity)**

*(Only for new nonprovisional applications under 37 CFR 1.53(b))*

Docket No.  
4247.02

Total Pages in this Submission

**Application Elements (Continued)**

3.  Drawing(s) *(when necessary as prescribed by 35 USC 113)*
- a.  Formal Number of Sheets \_\_\_\_\_
- b.  Informal Number of Sheets 7
4.  Oath or Declaration
- a.  Newly executed *(original or copy)*  Unexecuted
- b.  Copy from a prior application (37 CFR 1.63(d)) *(for continuation/divisional application only)*
- c.  With Power of Attorney  Without Power of Attorney
- d.  **DELETION OF INVENTOR(S):**  
Signed statement attached deleting inventor(s) named in the prior application,  
see 37 C.F.R. 1.63(d)(2) and 1.33(b).
5.  Incorporation By Reference *(usable if Box 4b is checked)*  
The entire disclosure of the prior application, from which a copy of the oath or declaration is supplied under  
Box 4b, is considered as being part of the disclosure of the accompanying application and is hereby  
incorporated by reference therein.
6.  Computer Program in Microfiche *(Appendix)*
7.  Nucleotide and/or Amino Acid Sequence Submission *(if applicable, all must be included)*
- a.  Paper Copy
- b.  Computer Readable Copy *(identical to computer copy)*
- c.  Statement Verifying Identical Paper and Computer Readable Copy

**Accompanying Application Parts**

8.  Assignment Papers *(cover sheet & document(s))*
9.  37 CFR 3.73(B) Statement *(when there is an assignee)*
10.  English Translation Document *(if applicable)*
11.  Information Disclosure Statement/PTO-1449  Copies of IDS Citations
12.  Preliminary Amendment
13.  Acknowledgment postcard
14.  Certificate of Mailing
- First Class  Express Mail *(Specify Label No.):* EL064365508US

865070-5460160

**UTILITY PATENT APPLICATION TRANSMITTAL  
(Large Entity)**

*(Only for new nonprovisional applications under 37 CFR 1.53(b))*

Docket No.  
4247.02

Total Pages in this Submission

**Accompanying Application Parts (Continued)**

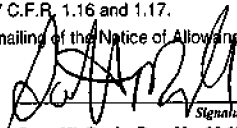
15.  Certified Copy of Priority Document(s) *(if foreign priority is claimed)*
16.  Additional Enclosures *(please identify below):*

**Fee Calculation and Transmittal**

**CLAIMS AS FILED**

For	#Filed	#Allowed	#Extra	Rate	Fee
Total Claims	20	- 20 =	0	x \$22.00	\$0.00
Indep. Claims	4	- 3 =	1	x \$82.00	\$82.00
Multiple Dependent Claims (check if applicable) <input type="checkbox"/>					\$0.00
<b>BASIC FEE</b>					\$790.00
OTHER FEE <i>(specify purpose)</i>					\$0.00
<b>TOTAL FILING FEE</b>					\$872.00

- A check in the amount of **\$872.00** to cover the filing fee is enclosed.
- The Commissioner is hereby authorized to charge and credit Deposit Account No. 04-1415 as described below. A duplicate copy of this sheet is enclosed.
- Charge the amount of \_\_\_\_\_ as filing fee.
- Credit any overpayment.
- Charge any additional filing fees required under 37 C.F.R. 1.16 and 1.17.
- Charge the issue fee set in 37 C.F.R. 1.18 at the mailing of the Notice of Allowance, pursuant to 37 C.F.R. 1.311(b).

  
Signature

Scott W. Doyle, Reg. No. 39,176  
Dorsey & Whitney LLP  
370 Seventeenth St., Suite 4400  
Denver, CO 80202-5644  
Tel: 303-629-3400  
Fax: 303-629-3450

Dated: July 6, 1998

cc:

Express Mail Label No. EL0643 JS

**UTILITY PATENT APPLICATION TRANSMITTAL  
(Large Entity)**

*(Only for new nonprovisional applications under 37 CFR 1.53(b))*

Docket No.  
4247.02

Total Pages in this Submission

10000  
09/05/98  
07/06/98

**TO THE ASSISTANT COMMISSIONER FOR PATENTS**

Box Patent Application  
Washington, D.C. 20231

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  - g.  Brief Description of the Drawings *(if drawings filed)*
  - h.  Detailed Description
  - i.  Claim(s) as Classified Below
  - j.  Abstract of the Disclosure

**COPY**

**UTILITY PATENT APPLICATION TRANSMITTAL  
(Large Entity)**

*(Only for new nonprovisional applications under 37 CFR 1.53(b))*

Docket No.  
4247.02

Total Pages in this Submission

**Application Elements (Continued)**

3.  Drawing(s) *(when necessary as prescribed by 35 USC 113)*
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*(Only for new nonprovisional applications under 37 CFR 1.53(b))*

Docket No.  
4247.02

Total Pages in this Submission

**Accompanying Application Parts (Continued)**

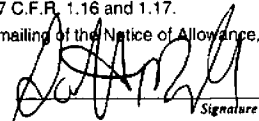
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Signature  
Scott W. Doyle, Reg. No. 39,176  
Dorsey & Whitney LLP  
370 Seventeenth St., Suite 4400  
Denver, CO 80202-5644  
Tel: 303-629-3400  
Fax: 303-629-3450

Dated: **July 6, 1998**

cc:

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UNITED STATES DEPARTMENT OF COMMERCE  
Patent and Trademark Office  
Address: COMMISSIONER OF PATENTS AND TRADEMARKS  
Washington, D.C. 20231

APPLICATION NO.	FILING/RECEIPT DATE	FIRST NAMED APPLICANT	ATTORNEY/AGENT NO.
097300	07706798	LILLMAN	00000000

020686  
DORSEY & WHITNEY  
SUITE 4400  
370 SEVENTEENTH STREET  
DENVER CO 80202-5644

024270727

NOT RECORDED

DATE MAILED: 02/27/91

**NOTICE TO FILE MISSING PARTS OF APPLICATION**  
*Filing Date Granted*

An Application Number and Filing Date have been assigned to this application. The items indicated below, however, are missing. Applicant is given **TWO MONTHS FROM THE DATE OF THIS NOTICE** within which to file all required items and pay fees required below to avoid abandonment. Extensions of time may be obtained by filing a petition accompanied by the extension fee under the provisions of 37 CFR 1.136(a). If any of items 1 or 3 through 5 are indicated as missing, the SURCHARGE set forth in 37 CFR 1.16(a) of  \$65.00 for a small entity in compliance with 37 CFR 1.27, or  \$130.00 for a non-small entity, must also be timely submitted in reply to this NOTICE to avoid abandonment.

If all required items on this form are filed within the period set above, the total amount owed by applicant as a  small entity (statement filed)  non-small entity is \$ 130.00.

- 1. The statutory basic filing fee is:
  - missing.
  - insufficient.
 Applicant must submit \$ \_\_\_\_\_ to complete the basic filing fee and/or file a small entity statement claiming such status (37 CFR 1.27).
- 2. Additional claim fees of \$ \_\_\_\_\_, including any multiple dependent claim fees, are required.
  - \$ \_\_\_\_\_ for \_\_\_\_\_ independent claims over 3.
  - \$ \_\_\_\_\_ for \_\_\_\_\_ dependent claims over 20.
  - \$ \_\_\_\_\_ for multiple dependent claim surcharge.
 Applicant must either submit the additional claim fees or cancel additional claims for which fees are due.
- 3. The oath or declaration:
  - is missing or unexecuted.
  - does not cover the newly submitted items.
  - does not identify the application to which it applies.
  - does not include the city and state or foreign country of applicant's residence.
 An oath or declaration in compliance with 37 CFR 1.63, including residence information and identifying the application by the above Application Number and Filing Date is required.
- 4. The signature(s) to the oath or declaration is/are by a person other than inventor or person qualified under 37 CFR 1.42, 1.43 or 1.47.
 

A properly signed oath or declaration in compliance with 37 CFR 1.63, identifying the application by the above Application Number and Filing Date, is required.
- 5. The signature of the following joint inventor(s) is missing from the oath or declaration:
 

An oath or declaration in compliance with 37 CFR 1.63 listing the names of all inventors and signed by the omitted inventor(s), identifying this application by the above Application Number and Filing Date, is required.
- 6. A \$50.00 processing fee is required since your check was returned without payment (37 CFR 1.21(m)).
- 7. Your filing receipt was mailed in error because your check was returned without payment.
- 8. The application does not comply with the Sequence Rules. See attached "Notice to Comply with Sequence Rules 37 CFR 1.821-1.825."
- 9. OTHER:

Direct the reply and any questions about this notice to "Attention: Box Missing Parts."

**A copy of this notice MUST be returned with the reply.**

Customer Service Center  
Patent Examination Division (703) 308-1202

PART 6 - OFFICE COPY

Form PTO-1533 (rev. 8/79)





Docket No.  
4247.02

### Declaration and Power of Attorney For Patent Application English Language Declaration

As a below named inventor, I hereby declare that:

My residence, post office address and citizenship are as stated below next to my name,

I believe I am the original, first and sole inventor (if only one name is listed below) or an original, first and joint inventor (if plural names are listed below) of the subject matter which is claimed and for which a patent is sought on the invention entitled

**ENHANCED VIDEO PROGRAMMING SYSTEM AND METHOD FOR INCORPORATING AND DISPLAYING RETRIEVED INTEGRATED INTERNET INFORMATION SEGMENTS**

the specification of which

(check one)

is attached hereto.

was filed on July 6, 1998 as United States Application No. or PCT International Application Number 09/109,945 and was amended on \_\_\_\_\_

(if applicable)

I hereby state that I have reviewed and understand the contents of the above identified specification, including the claims, as amended by any amendment referred to above.

I acknowledge the duty to disclose to the United States Patent and Trademark Office all information known to me to be material to patentability as defined in Title 37, Code of Federal Regulations, Section 1.56.

I hereby claim foreign priority benefits under Title 35, United States Code, Section 119(a)-(d) or Section 365(b) of any foreign application(s) for patent or inventor's certificate, or Section 365(a) of any PCT International application which designated at least one country other than the United States, listed below and have also identified below, by checking the box, any foreign application for patent or inventor's certificate or PCT International application having a filing date before that of the application on which priority is claimed.

Prior Foreign Application(s)			Priority Not Claimed
_____ (Number)	_____ (Country)	_____ (Day/Month/Year Filed)	<input type="checkbox"/>
_____ (Number)	_____ (Country)	_____ (Day/Month/Year Filed)	<input type="checkbox"/>
_____ (Number)	_____ (Country)	_____ (Day/Month/Year Filed)	<input type="checkbox"/>

I hereby claim the benefit under 35 U.S.C. Section 119(e) of any United States provisional application(s) listed below:

(Application Serial No.)	(Filing Date)
(Application Serial No.)	(Filing Date)
(Application Serial No.)	(Filing Date)



I hereby claim the benefit under 35 U. S. C. Section 120 of any United States application(s), or Section 365(c) of any PCT International application designating the United States, listed below and, insofar as the subject matter of each of the claims of this application is not disclosed in the prior United States or PCT International application in the manner provided by the first paragraph of 35 U.S.C. Section 112, I acknowledge the duty to disclose to the United States Patent and Trademark Office all information known to me to be material to patentability as defined in Title 37, C. F. R., Section 1.56 which became available between the filing date of the prior application and the national or PCT International filing date of this application:

08/615,143	03/14/96	pending
(Application Serial No.)	(Filing Date)	(Status) (patented, pending, abandoned)
08/613,144	03/08/96	abandoned
(Application Serial No.)	(Filing Date)	(Status) (patented, pending, abandoned)
(Application Serial No.)	(Filing Date)	(Status) (patented, pending, abandoned)

I hereby declare that all statements made herein of my own knowledge are true and that all statements made on information and belief are believed to be true; and further that these statements were made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment, or both, under Section 1001 of Title 18 of the United States Code and that such willful false statements may jeopardize the validity of the application or any patent issued thereon.



**POWER OF ATTORNEY:** As a named inventor, I hereby appoint the following attorney(s) and/or agent(s) to prosecute this application and transact all business in the Patent and Trademark Office connected therewith. *(list name and registration number)*

Customer No. 20686

Send Correspondence to: Customer No. 20686

Direct Telephone Calls to: *(name and telephone number)*  
 Scott W. Doyle (303) 628-1504

Full name of sole or first inventor <b>Craig Ullman</b>	81398
Sole or first inventor's signature <i>Craig Ullman</i>	Date
Residence <b>Brooklyn, New York</b>	
Citizenship <b>USA</b>	
Post Office Address <b>112 Willow St. #4A</b>	
<b>Brooklyn, NY 11201</b>	

Full name of second inventor, if any <b>Jack D. Hildary (see attached duplicate page 3)</b>	Date
Second inventor's signature	
Residence <b>New York, New York</b>	
Citizenship <b>USA</b>	
Post Office Address <b>320 East 46th Street, Apt. 8A</b>	
<b>New York, NY 10017</b>	



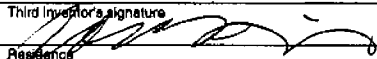
POWER OF ATTORNEY: As a named inventor, I hereby appoint the following attorney(s) and/or agent(s) to prosecute this application and transact all business in the Patent and Trademark Office connected therewith. (list name and registration number)  
Customer No. 20686

Send Correspondence to: Customer No. 20686

Direct Telephone Calls to: (name and telephone number)  
Scott W. Doyle (303) 628-1504

Full name of sole or first inventor Craig Ullman
Sole or first inventor's signature _____ Date _____
Residence Brooklyn, New York
Citizenship USA
Post Office Address 76 State Street
Brooklyn, NY 11203

Full name of second inventor, if any Jack D. Hidary
Second inventor's signature _____ Date 8/13/98
Residence New York, New York
Citizenship USA
Post Office Address 320 East 46th Street, Apt. 8A
New York, NY 10017

Full name of third inventor, if any <b>Nova T. Spivack</b>	
Third inventor's signature 	Date <b>8/13/78</b>
Residence <b>New York, New York</b>	
Citizenship <b>USA</b>	
Post Office Address <b>184 Thompson Street, Apt. 4G</b>	
<b>New York, NY 10012</b>	

Full name of fourth inventor, if any	
Fourth inventor's signature	Date
Residence	
Citizenship	
Post Office Address	

Full name of fifth inventor, if any	
Fifth inventor's signature	Date
Residence	
Citizenship	
Post Office Address	

Full name of sixth inventor, if any	
Sixth inventor's signature	Date
Residence	
Citizenship	
Post Office Address	

SECTOR B



Express Mail No. EL064364887US  
Attorney Docket No. 4247.02

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re: Application of

Craig Ullman, et al.

Serial No. 09/109,945

Filed: July 6, 1998

For: ENHANCED VIDEO PROGRAMMING SYSTEM AND METHOD FOR  
INCORPORATING AND DISPLAYING RETRIEVED INTEGRATED INTERNET  
INFORMATION SEGMENTS

CERTIFICATE OF MAILING BY EXPRESS MAIL

Box MISSING PARTS  
Assistant Commissioner for Patents  
Washington, D.C. 20231

Sir:

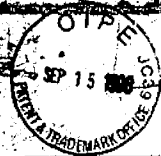
The undersigned hereby certifies that the attached: NOTICE TO FILE MISSING PARTS OF APPLICATION; DECLARATION AND POWER OF ATTORNEY; \$130 CHECK FOR SURCHARGE; RETURN POSTCARD; and CERTIFICATE OF MAILING BY EXPRESS MAIL, all relating to the above application were deposited as "Express Mail", Mailing Label No. EL064364887US, with the United States Postal Service, addressed to Box Missing Parts, Assistant Commissioner for Patents, Washington, D.C. 20231, on September 15, 1998.

9/15/98  
Date

Maria Rodriguez  
Mailer

DORSEY & WHITNEY LLP  
370 17th Street, Suite 4400  
Denver, CO 80202  
Tel: 303-629-3400

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UNITED STATES DEPARTMENT OF COMMERCE  
Patent and Trademark Office  
Address: COMMISSIONER OF PATENTS AND TRADEMARKS  
Washington, D.C. 20231

APPLICATION NUMBER	FILING/RECEIPT DATE	FIRST NAMED APPLICANT	ATTORNEY DOCKET NO./TITLE
09/109,945	07/06/98	LILLMAN	

020635  
DORSEY & WHITNEY  
SUITE 4400  
370 SEVENTEENTH STREET  
DENVER CO 80202-8644

024370727

NEW CREATION

DATE MAILED:

07/27/98

**NOTICE TO FILE MISSING PARTS OF APPLICATION**  
*Filing Date Granted*

An Application Number and Filing Date have been assigned to this application. The items indicated below, however, are missing. Applicant is given **TWO MONTHS FROM THE DATE OF THIS NOTICE** within which to file all required items and pay fees required below to avoid abandonment. Extensions of time may be obtained by filing a petition accompanied by the extension fee under the provisions of 37 CFR 1.136(a). If any of items 1 or 3 through 5 are indicated as missing, the SURCHARGE set forth in 37 CFR 1.16(e) of  \$65.00 for a small entity in compliance with 37 CFR 1.27, or  \$130.00 for a non-small entity, must also be timely submitted in reply to this NOTICE to avoid abandonment.

If all required items on this form are filed within the period set above, the total amount owed by applicant as a  small entity (statement filed)  non-small entity is \$ 713.00.

- 1. The statutory basic filing fee is:
  - missing.
  - insufficient.
 Applicant must submit \$ \_\_\_\_\_ to complete the basic filing fee and/or file a small entity statement claiming such status (37 CFR 1.27).
- 2. Additional claim fees of \$ \_\_\_\_\_, including any multiple dependent claim fees, are required.
  - \$ \_\_\_\_\_ for \_\_\_\_\_ independent claims over 3.
  - \$ \_\_\_\_\_ for \_\_\_\_\_ dependent claims over 20.
  - \$ \_\_\_\_\_ for multiple dependent claim surcharge.
 Applicant must either submit the additional claim fees or cancel additional claims for which fees are due.

- 3. The oath or declaration:
  - is missing or unexecuted.
  - does not cover the newly submitted items.
  - does not identify the application to which it applies.
  - does not include the city and state or foreign country of applicant's residence.
 An oath or declaration in compliance with 37 CFR 1.63, including residence information and identifying the application by the above Application Number and Filing Date is required.

- 4. The signature(s) to the oath or declaration is/are by a person other than inventor or person qualified under 37 CFR 1.42, 1.43 or 1.47. A properly signed oath or declaration in compliance with 37 CFR 1.63, identifying the application by the above Application Number and Filing Date, is required.
- 5. The signature of the following joint inventor(s) is missing from the oath or declaration: 9/15/98

09/22/1998  In compliance with 37 CFR 1.63 listing the names of all inventors and signed by the omitted inventor(s), identifying this application by the above Application Number and Filing Date, is required.

07/23/98 A \$50.00 processing fee is required since your check was returned without payment (37 CFR 1.21(m)).

- 7. Your filing receipt was mailed in error because your check was returned without payment.
- 8. The application does not comply with the Sequence Rules. See attached "Notice to Comply with Sequence Rules 37 CFR 1.821-1.825."
- 9. OTHER:

Direct the reply and any questions about this notice to "Attention: Box Missing Parts."

**A copy of this notice MUST be returned with the reply.**

*Merrilee Jackson*  
Customer Service Center  
Initial Patent Examination Division (703) 308-1202

**PART 2 - COPY TO BE RETURNED WITH RESPONSE**

USPTO Form 1543 (Rev. 9-97)



**UNITED STATES DEPARTMENT OF COMMERCE  
Patent and Trademark Office**

Address: COMMISSIONER OF PATENTS AND TRADEMARKS  
Washington, D.C. 20231

TV

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.
097109,945	07/06/98	ULLMAN	C 4247.02

020686  
 DORSEY & WHITNEY  
 SUITE 4400  
 370 SEVENTEENTH STREET  
 DENVER CO 80202-5644

LM01/0119

EXAMINER

VU, V

ART UNIT	PAPER NUMBER
2758	

4

DATE MAILED: 01/19/99

**Please find below and/or attached an Office communication concerning this application or proceeding.**

Commissioner of Patents and Trademarks



**Office Action Summary**

Application No. 09/109,945	Applicant(s) Ullman et al
Examiner V. Vu	Group Art. Unit 2758

—The MAILING DATE of this communication appears on the cover sheet beneath the correspondence address—

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE —3— MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, such period shall, by default, expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).

**Status**

- Responsive to communication(s) filed on 9-15-98
- This action is FINAL.
- Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11; 453 O.G. 213.

**Disposition of Claims**

- Claim(s) 1-20 is/are pending in the application.
- Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- Claim(s) 4-18 is/are allowed.
- Claim(s) 1-3, 19-20 is/are rejected.
- Claim(s) \_\_\_\_\_ is/are objected to.
- Claim(s) \_\_\_\_\_ are subject to restriction or election requirement.

**Application Papers**

- See the attached Notice of Draftsperson's Patent Drawing Review, PTO-948.
- The proposed drawing correction, filed on \_\_\_\_\_, is  approved  disapproved.
- The drawing(s) filed on \_\_\_\_\_ is/are objected to by the Examiner.
- The specification is objected to by the Examiner.
- The oath or declaration is objected to by the Examiner.

**Priority under 35 U.S.C. § 119 (a)-(d)**

- Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d).
  - All  Some\*  None of the CERTIFIED copies of the priority documents have been received.
  - received in Application No. (Series Code/Serial Number) \_\_\_\_\_
  - received in this national stage application from the International Bureau (PCT Rule 17.2(a)).
- \*Certified copies not received: \_\_\_\_\_

**Attachment(s)**

- Information Disclosure Statement(s), PTO-1449, Paper No(s): \_\_\_\_\_
- Interview Summary, PTO-413
- Notice of Reference(s) Cited, PTO-892
- Notice of Informal Patent Application, PTO-152
- Notice of Draftsperson's Patent Drawing Review, PTO-948
- Other \_\_\_\_\_

Office Action Summary

Serial No. 09/109,945

**DETAILED ACTION**

1. This application has been filed with informal drawings which are acceptable for examination purposes only. Formal drawings will be required when the application is allowed.

**Non-Art rejections:**

2. The following non-statutory double patenting rejection is based on a judicially created doctrine grounded in public policy so as to prevent the unjustified or improper timewise extension of the right to exclude granted by a patent. In re Sarett, 327 F.2d 1005, 140 USPQ 474 (CCPA 1964); In re Schneller, 397 F.2d 350, 158 USPQ 210 (CCPA 1968); In re White, 405 F.2d 904, 160 USPQ 644 (CCPA 1969); In re Thorington, 418 F.2d 528, 163 USPQ 644 (CCPA 1969); In re Vogel, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); In re Van Ornam, 686 F.2d 937, 214 USPQ 761 (CCPA 1970); In re Longi, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); and In re Goodman, 29 USPQ 2d 2010 (Fed. Cir. 1993).

A timely filed terminal disclaimer in compliance with 37 C.F.R. § 1.321(b) would overcome an actual or provisional rejection on this ground provided the conflicting application or patent is shown to be commonly owned with this application. See 37 C.F.R. § 1.78(d).

Serial No. 09/109,945

3. Claims 1-3 and 19-20 are rejected under the judicially created doctrine of double patenting as being unpatentable over prior U.S. Patent No. 5,774,664.

The subject matter recited in claims 1-3 and 19-20 of the patent application is fully disclosed in the patent. The allowance of these claims would extend the rights to exclude already granted in claims 1-3 of the patent. Furthermore, there is no apparent reason why applicant was prevented from presenting the claims in the application for examination during the prosecution of the issued patent.

**Allowable Subject Matter:**

4. Claims 4-18 are allowed over prior art of record because the art of record fails to disclose or fairly suggest an automated integrated distribution system for preparing and delivering web site address information such as URLs, that are related to the contents of the TV broadcast and/or video programming, using (embedding within) the conventional TV broadcast and video signals or via a separate communication medium. The system also includes a receiver, i.e., digital cable box or digital TV, for receiving the web site address information, a web browser for automatically downloading web pages from the related web sites via a communication medium, and means for displaying the retrieved web

Serial No. 09/109,945

page information simultaneously with the TV broadcast and/or video programming.

**Conclusion:**

5. The following references cited by the examiner but not relied upon are considered pertinent to applicant's disclosure.

A. Wolzien, U.S. pat. No. 5,761,606: media online service access via address embedded in video or audio program.

B. Harrison, U.S. pat. No. 5,694,163: method and apparatus for viewing of on-line information service chat data incorporated in a broadcast television program.

C. Knee et al, U.S. pat. No. 5,589,892: electronic television program guide schedule system and method with data feed access.

D. Majeti et al, U.S. pat. no. 5,534,913: apparatus and method for integrating downstream data transfer over a cable television channel with upstream data carrier by other media.

E. Logston et al, U.S. pat. no. 5,481,542: interactive information services control system.

F. Pocock et al, U.S. pat. no. 5,014,125: television system for the interactive distribution of selectable video presentations.

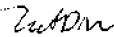
6. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Viet Vu

Serial No. 09/109,945

whose telephone number is (703) 305-9597. The examiner can normally be reached on Monday through Friday from 8:00am to 6:00pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Parsh Lall, can be reached on (703) 305-9715. The fax phone number for this Group is (703) 308-5357.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the Group receptionist whose telephone number is (703) 305-9600.

  
V. Vu  
Art Unit 2758

1/4/99

<b>Notice of References Cited</b>		Application No. 09/109,945	Applicant(s) Ullman et al			
		Examiner V. Vu	Group Art Unit 275F	Page 1 of 1		
U.S. PATENT DOCUMENTS						
*	DOCUMENT NO.	DATE	NAME	CLASS	SUBCLASS	
A	5,761,606	6/2/98	Wolzien	455	6.2	
B	5,694,163	12/2/97	Harrison	348	13	
*C	5,589,892	12/31/96	Knee et al	348	131	
*D	5,534,913	7/9/96	Majeti et al	348	7	
*E	5,481,542	1/2/96	Logston et al	348	7	
*F	5,014,125	5/7/91	Pocock et al	348	7	
G						
H						
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J						
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FOREIGN PATENT DOCUMENTS						
*	DOCUMENT NO.	DATE	COUNTRY	NAME	CLASS	SUBCLASS
N						
O						
P						
Q						
R						
S						
T						
NON-PATENT DOCUMENTS						
*	DOCUMENT (Including Author, Title, Source, and Pertinent Pages)				DATE	
U						
V						
W						
X						

\* A copy of this reference is not being furnished with this Office action.  
(See Manual of Patent Examining Procedure, Section 707.05(a).)



#5

PATENT  
Attorney Docket No. 4247.02

THE UNITED STATES PATENT AND TRADEMARK OFFICE

MAILED

APR 15 1999

Group 2710

In re Patent Application of: )  
 )  
 Craig Ullman, Jack D. Hidary, and )  
 Nova T. Spivak ) Group Art Unit 2758  
 )  
 Serial No.: 09/109,945 ) Examiner: V. Vu  
 )  
 Filed: July 6, 1998 )  
 )  
 For: Enhanced Video Programming )  
 System and Method for )  
 Incorporating and Displaying )  
 Retrieved Integrated Internet )  
 Information Segments )

**INFORMATION DISCLOSURE STATEMENT**  
 Under 37 C.F.R. §§ 1.97(c) and 1.98(d)

Assistant Commissioner for Patents  
 Washington, D.C. 20231

Express Mailing label number EL064362395US  
 Date of Deposit: April 9, 1999  
 I hereby certify that this paper or fee is being deposited with the United States Postal Service "Express Mail Post Office to Addressee" service under 37 CFR 1.10 on the date indicated above and is addressed to the Assistant Commissioner for Patents, Washington, D.C. 20231  
 Name: Maria Rodriguez  
 Signature: Maria Rodriguez

04/14/1999 550LEERU 00000050 09109945

01 FC:126

240.00 DP

Sir:

The Examiner is requested to consider the references noted on the enclosed Form PTO-1449 during examination of the above-identified patent application. These references are

PATENT  
Attorney Docket No. 4247.02

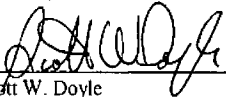
submitted for the Examiner's consideration and are submitted pursuant to the Applicants' duty of disclosure under 37 C.F.R. § 1.56.

Copies of the cited documents have been provided, except those copies marked with an asterisk (\*) which have been previously furnished to the Office in the following prior applications, for which this application claims priority: Serial No. 08/615,143 filed 3/14/96 of which this application is a continuation-in-part; and Serial No. 08/613,144 filed 3/8/96.

Pursuant to 37 C.F.R. §§ 1.97(c) and 1.17(p), enclosed is a check in the amount of \$240.00 to cover the fee for the filing of this Information Disclosure Statement. Any insufficiency or overpayment in the fees may be charged or credited to Deposit Account No. 04-1415. A duplicate copy of this disclosure statement is enclosed for use as may be appropriate.

Should the examiner have any questions concerning the relevance of any patent cited in this disclosure, please contact the undersigned attorney.

Date: April 9, 1999

  
\_\_\_\_\_  
Scott W. Doyle  
DORSEY & WHITNEY LLP  
Customer No. 20686  
370 Seventeenth Street, Suite 4400  
Denver, Colorado 80202  
Tel: 303-629-3400  
Fax: 303-629-3450  
Attorney for Applicant

SWD/dtc





PATENT  
Attorney Docket No. 4247.02

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

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APR 15 1999

Group 2758

In re Patent Application of:	)	
	)	
Craig Ullman, Jack D. Hidary, and	)	
Nova T. Spivak	)	Group Art Unit 2758
	)	
Serial No.: 09/109,945	)	Examiner: V. Vu
	)	
Filed: July 6, 1998	)	
	)	
For: Enhanced Video Programming	)	
System and Method for	)	
Incorporating and Displaying	)	
Retrieved Integrated Internet	)	
Information Segments	)	

**INFORMATION DISCLOSURE STATEMENT**  
Under 37 C.F.R. §§ 1.97(c) and 1.98(d)

Assistant Commissioner for Patents  
Washington, D.C. 20231

Express Mailing label number: <u>ELO64362395US</u>
Date of Deposit: <u>April 9, 1999</u>
I hereby certify that this paper or fee is being deposited with the United States Postal Service "Express Mail Post Office to Addressee" service under 37 CFR 1.10 on the date indicated above and is addressed to the Assistant Commissioner for Patents, Washington, D.C. 20231
Name: <u>Maria Rodriguez</u>
Signature: <u>Maria Rodriguez</u>

Sir:

The Examiner is requested to consider the references noted on the enclosed Form PTO-1449 during examination of the above-identified patent application. These references are

**COPY**

PATENT  
Attorney Docket No. 4247.02

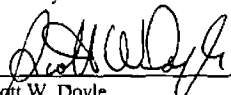
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Should the examiner have any questions concerning the relevance of any patent cited in this disclosure, please contact the undersigned attorney.

Date: April 9, 1999

  
\_\_\_\_\_  
Scott W. Doyle  
DORSEY & WHITNEY LLP  
Customer No. 20686  
370 Seventeenth Street, Suite 4400  
Denver, Colorado 80202  
Tel: 303-629-3400  
Fax: 303-629-3450  
Attorney for Applicant

SWD/dtc

<b>INFORMATION DISCLOSURE CITATION</b> <i>(Use several sheets if needed)</i>				Doctet Number (Optional) 4247.02		Application Number 09/109,945	
				Applicant(s) Craig Ullman, Jack D. Hidary, and Nova T. Spivak			
				Filing Date July 6, 1998		Group Art Unit 2758	
<b>U.S. PATENT DOCUMENTS</b>							
*EXAMINER'S INITIAL	REF	DOCUMENT NUMBER	DATE	NAME	CLASS	SUBCLASS	FILED DATE IF APPROPRIATE
VV	0101	5,044,125	5/7/91	Pocock et al.			
		5,140,419	8/18/92	Galumbeck et al.	348	465	
		5,453,794	9/26/95	Ezaki	348	461	
	0102	5,481,542	1/2/96	Logston et al.		48	
		5,526,035	6/11/96	Lappington et al.	348	13	
	0102	5,534,913	7/9/96	Majeti et al.			
		5,537,141	7/16/96	Harper et al.	348	12	
		5,539,471	7/23/96	Myhrvold et al.	348	473	
		5,543,849	8/6/96	Long	348	460	
		5,553,221	9/3/96	Reimer et al.	348	333	
		5,564,073	10/8/96	Takahisa	455	66	
<b>FOREIGN PATENT DOCUMENTS</b>							
REF	DOCUMENT NUMBER	DATE	COUNTRY	CLASS	SUBCLASS	Translation	
						YES	NO
VV	WO 97/27546	7/31/97	PCT International				
VV	WO 96/13124	5/2/96	PCT International				
VV	EPO 757485A2	2/5/97	European Patent Office				
VV	WO 96/07270	3/7/96	PCT International				
<b>OTHER DOCUMENTS</b> <i>(Including Author, Title, Date, Pertinent Pages, Etc.)</i>							
VV		"Web TV over Digital Cable"; Author = Dale Cripps; May 4, 1998; <a href="http://web-star.com/hdtvnews/webtvoverdigitalcable.html">http://web-star.com/hdtvnews/webtvoverdigitalcable.html</a> ; pages 1-4					
VV		"Internet TV Advertising"; Author = Dale Cripps; May 8, 1998; <a href="http://web-star.com/hdtvnews/internettvadvertising.html">http://web-star.com/hdtvnews/internettvadvertising.html</a> ; pages 1-3					
EXAMINER: VV				DATE CONSIDERED: 4-22-99			
EXAMINER: Initial if citation considered, whether or not citation is in conformance with MPEP Section 609; Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.							

Form PT-3-3820  
(also for... TO-1449)

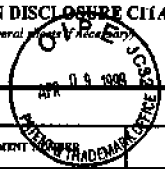
P06AREV04

Patent and Trademark Office - U.S. DEPARTMENT OF COMMERCE

SHEET 1 OF 4

**INFORMATION DISCLOSURE CITATION**

(Use several copies if necessary)



Decklet Number (Optional) 4247.02	Application Number 09/109,945
Applicant(s) Craig Ullman, Jack D. Hildary, and Nova T. Spivak	
Filing Date July 6, 1998	Group Art Unit 2758

**U.S. PATENT DOCUMENTS**

EXAMINER INITIAL	REF	DOCUMENT NUMBER	DATE	NAME	CLASS	SUBCLASS	FILING DATE IF APPROPRIATE
VV.	*	5,572,442	11/5/96	Schulhof et al.	709	219	
		5,585,858	12/17/96	Harper et al.	348	485	
		<del>5,589,892</del>	<del>12/31/96</del>	<del>Knee et al.</del>			
	*	5,612,730	3/18/97	Lewis	348	8	
		5,633,918	5/27/97	Mankovitz	379	93.24	
		5,643,088	7/1/97	Vaughn et al.	463	40	
		5,649,284	7/15/97	Yoshinobu	455	5.1	
		5,659,366	8/19/97	Kerman	348	460	
		5,668,592	9/16/97	Spaulding, II	348	13	
		5,677,708	10/14/97	Matthews, III et al.	345	115	
		<del>5,694,163</del>	<del>12/2/97</del>	<del>Harrison</del>			

**FOREIGN PATENT DOCUMENTS**

REF	DOCUMENT NUMBER	DATE	COUNTRY	CLASS	SUBCLASS	Translation	
						YES	NO

**OTHER DOCUMENTS** (Including Author, Title, Date, Pertinent Pages, Etc.)

VV.	"Gates, TV, Interactivity"; Author = Dale Cripps; May 5, 1998; Pages 1-4; <a href="http://web.star.com/hd/4news/gatestvinteractivity.html">http://web.star.com/hd/4news/gatestvinteractivity.html</a>
VV.	"ICTV" Brochure (a reproduced copy provided); copyright 1988 by ICTV; 27 pages

EXAMINER: VV, Vw	DATE CONSIDERED: 4-22-99
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EXAMINER'S Initial if citation considered, whether or not citation is in conformance with MPEP Section 609; Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

INFORMATION DISCLOSURE CITATION <i>(Use several sheets if necessary)</i>				Docket Number (Optional) 4247.02	Application Number 09/109,945		
				Applicant(s) Craig Ullman, Jack D. Bidary, and Nova T. Spivak			
				Filing Date July 6, 1998		Group Art Unit 2758	
U.S. PATENT DOCUMENTS							
EXAMINER INITIAL	REF	DOCUMENT NUMBER	DATE	NAME	CLASS	SUBCLASS	FILING DATE IF APPROPRIATE
VV.		5,696,905	12/9/97	Reimer et al.	705	27	
		5,724,103	3/3/98	Batchelor	348	553	
		5,724,091	3/3/98	Freeman et al.	348	13	
		5,729,252	3/17/98	Fraser	345	302	
		5,734,437	3/31/98	Back	348	563	
		5,761,602	6/2/98	Wagner et al.	455	3.1	
		<del>5,761,606</del>	<del>6/2/98</del>	<del>Wolzien</del>	<del>455</del>	<del>6.2</del>	
		5,774,664	6/30/98	Hidary et al.	709	218	
✓		5,778,181	7/7/98	Hidary et al.	709	218	
FOREIGN PATENT DOCUMENTS							
REF	DOCUMENT NUMBER	DATE	COUNTRY	CLASS	SUBCLASS	Translation	
						YES	NO
OTHER DOCUMENTS <i>(Including Author, Title, Date, Pertinent Pages, Etc.)</i>							
VV.		"TV Navigator" brochure; copyright 1997 by Network Computer, Inc.; 6 pages					
VV.		"Worldgate" brochure; copyright 1998 by Worldgate Communications; 12 pages					
EXAMINER: V. VV				DATE CONSIDERED: 4-22-99			
EXAMINER'S Initial if citation considered, whether or not citation is in conformance with MPEP Section 609; Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.							

**INFORMATION DISCLOSURE QUESTION**  
(Use several sheets if necessary)

Decklet Number (Optional) 4247.02 Application Number 09/109,945  
 Applicant(s) Craig Ullman, Jack D. Hidary, and Nova T. Spivak  
 Filing Date July 6, 1998 Group Art Unit 2758



**U.S. PATENT DOCUMENTS**

EXAMINER INITIAL	REF	DOCUMENT NUMBER	DATE	NAME	CLASS	SUBCLASS	FILING DATE IF APPROPRIATE

**FOREIGN PATENT DOCUMENTS**

REF	DOCUMENT NUMBER	DATE	COUNTRY	CLASS	SUBCLASS	Translation	
						YES	NO

**OTHER DOCUMENTS** (Including Author, Title, Date, Pertinent Pages, Etc.)

uv.	"Microsoft Web TV" brochure; copyright 1998 by WebTV Networks, Inc.; 16 pages

EXAMINER: V. Vw DATE CONSIDERED: 4-20-99

EXAMINER: Initial if citation considered, whether or not citation is in conformance with MPEP Section 609; Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

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APR 15 1999

Group Art: 2758

Applicant: Craig Ullman, et. al.  
Serial No.: 09/109,945  
Examiner: V. Vu

Docket No.: 4247.02  
Filed: July 6, 1998  
Group Art: 2758

Title: Enhanced video programming system and method for incorporating and displaying retrieved integrated Internet information segments



Assistant Commissioner for Patents  
Washington, D.C. 20231

Express Mailing label number: <u>EL064362395US</u>
Date of Deposit: <u>April 9, 1999</u>
I hereby certify that this paper or fee is being deposited with the United States Postal Service "Express Mail Post Office to Addressee" service under 37 CFR 1.10 on the date indicated above and is addressed to the Assistant Commissioner for Patents, Washington, D.C. 20231
Name: <u>Maria Rodriguez</u>
Signature: <u>Maria Rodriguez</u>

**RESPONSE TO OFFICE ACTION**

Dear Assistant Commissioner:

In response to the Office Action mailed January 19, 1999, in which the Examiner states that a terminal disclaimer is necessary to overcome an actual or provisional rejection of claims 1-3 and 19-20, Applicant hereby submits the attached terminal disclaimer for the instant application.

Additionally, Applicant thanks the Examiner for specifically allowing claims 4-18. However, Applicant wishes to clarify the Examiner's remarks wherein the Examiner stated that, in reference to the allowable subject matter, the claims contain "means for displaying the retrieved web page information simultaneously with the TV broadcast and/or video programming." (Examiner's Remarks, page 3-4 of Office Action) Applicant asserts that the language of independent claim 4 does not include a display means. Further, while "display means" is an element in dependent claim 5, independent claim 12, and associated dependent claims, these claims are not limited to display of "web page information simultaneously with the TV broadcast and/or video programming." In fact, these claims recite a "display means ... for presenting the video concurrently with or independently from the Internet information segments." This clarification should not impact the allowability of claims 4-18 or any of the other claims.

Since the Examiner has not specified any further bases for rejecting the present application and has specifically allowed claims 4-18 without the need for any terminal disclaimer, Applicant submits that upon entry of the terminal disclaimer the present application overcomes all objections and is in a form fit for allowance. Therefore, in view of the above, Applicant respectfully requests allowance of claims 1-20.

Applicant also requests the Examiner to review the Information Disclosure Statement and attached reference materials, which is submitted herewith pursuant to Applicant's duty to disclose and in conjunction with payment of the appropriate fees.

RECEIVED

Dorsey & Whitney L.L.P.

APR 15 1999

April 8, 1999


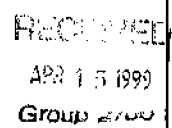





Group 2700

By Scott W. Doyle, Esq.  
Attorney for Applicant  
USPTO Reg. No. 39,176



CP 275?

			<b>TRANSMITTAL LETTER</b> (General - Patent Pending)		Docket No. 4247.02
In Re Application Of: Craig Ullman, et al.					
Serial No.	Filing Date	Examiner	Group Art Unit		
09/109945	July 6, 1998	V. Vu	2758		
Title: Enhanced Video Programming System, etc.					
<u>TO THE ASSISTANT COMMISSIONER FOR PATENTS:</u>					
Transmitted herewith is:					
Response to Office Action of January 19, 1999 Terminal Disclaimer with \$110.00 fee Information Disclosure Statement with \$240.00 fee including PTO-1449 and copies of references					
in the above identified application.					
<input type="checkbox"/> No additional fee is required.					
<input checked="" type="checkbox"/> A check in the amount of 240 and 110 is attached.					
<input checked="" type="checkbox"/> The Assistant Commissioner is hereby authorized to charge and credit Deposit Account No. 04-1415 as described below. A duplicate copy of this sheet is enclosed.					
<input type="checkbox"/> Charge the amount of					
<input checked="" type="checkbox"/> Credit any overpayment.					
<input checked="" type="checkbox"/> Charge any additional fee required.					
 Signature			Dated: April 9, 1999		
Scott W. Doyle, Reg. No. 39,176 Dorsey & Whitney LLP 370 Seventeenth St., Suite 4400 Denver, CO 80202-5644 Tel: 303-629-3400 Fax: 303-629-3450			<div style="border: 1px solid black; padding: 5px;"> <p> <input checked="" type="checkbox"/> certify that this document and fee is being deposited on _____ with the U.S. Postal Service as first class mail under 37 C.F.R. 1.8 and is addressed to the Assistant Commissioner for Patents, Washington, D.C. 20231.         </p> <p style="text-align: center;">           Signature of Person Mailing Correspondence         </p> <p style="text-align: center;">           Typed or Printed Name of Person Mailing Correspondence         </p> </div>		
CC:					

		<b>TRANSMITTAL LETTER</b> (General - Patent Pending)		Docket No. 4247.02	
In Re Application		Craig Ullman, et al.			
Serial No. 09/109945	Filing Date July 6, 1998	Examiner V. Vu	Group Art Unit 2758		
Title: Enhanced Video Programming System, etc.					
<u>TO THE ASSISTANT COMMISSIONER FOR PATENTS:</u>					
Transmitted herewith is: Response to Office Action of January 19, 1999 Terminal Disclaimer with \$110.00 fee Information Disclosure Statement with \$240.00 fee including PTO-1449 and copies of references					
in the above identified application.					
<input type="checkbox"/> No additional fee is required. <input checked="" type="checkbox"/> A check in the amount of 240 and 110 is attached. <input checked="" type="checkbox"/> The Assistant Commissioner is hereby authorized to charge and credit Deposit Account No. 04-1415 as described below. A duplicate copy of this sheet is enclosed.					
<input type="checkbox"/> Charge the amount of <input checked="" type="checkbox"/> Credit any overpayment. <input checked="" type="checkbox"/> Charge any additional fee required.					
 Signature				Dated: April 9, 1999	
Scott W. Doyle, Reg. No. 39,176 Dorsey & Whitney LLP 370 Seventeenth St., Suite 4400 Denver, CO 80202-5644 Tel: 303-629-3400 Fax: 303-629-3450				<div style="border: 1px solid black; padding: 5px;"> <p>certify that this document and fee is being deposited on _____ with the U.S. Postal Service as first class mail under 37 C.F.R. 1.8 and is addressed to the Assistant Commissioner for Patents, Washington, D.C. 20231.</p> <hr/> <p>Signature of Person Mailing Correspondence</p> <hr/> <p>Typed or Printed Name of Person Mailing Correspondence</p> </div>	
<div style="font-size: 2em; font-weight: bold; transform: rotate(-15deg); display: inline-block;">COPY</div>					
CC:					

Copyright 1995 Legason

P-16A/REV-1

Applicant: Craig Ullman, et. al.  
Serial No.: 09/109,945  
Examiner: V. Vu

Docket No.: 42-47.02  
Filed: July 6, 1998  
Group Art: 2758

#7  
MAM  
4-20-99  
APR 15 1999  
Group 2758

Title: Enhanced video programming system and method for incorporating and displaying retrieved integrated Internet information segments



Assistant Commissioner for Patents  
Washington, D.C. 20231

Express Mailing label number: EH064362395US  
Date of Deposit: April 9, 1999  
I hereby certify that this paper or its being deposited with the United States Postal Service "Express Mail Post Office to Addressee" service under 37 CFR 1.16 on the date indicated above and is addressed to the Assistant Commissioner for Patents, Washington, D.C. 20231  
Name: Maria Rodriguez  
Signature: Maria Rodriguez

**TERMINAL DISCLAIMER**

Applicant having a one hundred percent ownership interest in the subject patent application and in United States Patent No. 5,774,664 hereby disclaims the terminal part of the statutory term of any patent granted on the instant application which would extend beyond the expiration of the full statutory term defined in 35 U.S.C. 154 to 156 and 173 of prior Patent No. 5,774,664. The owner hereby agrees that any patent so granted on the instant application shall be enforceable only for and during such period that it and the prior patent are commonly owned. This agreement runs with any patent granted on the instant application and is binding upon the grantee, its successors or assigns.

In making the above disclaimer, the owner does not disclaim the terminal part of any patent granted on the instant application that would extend to the expiration date of the full statutory term as defined in 35 U.S.C. 154 to 156 and 173 of the prior patent in the event the prior patent later: expires for failure to pay a maintenance fee, is held unenforceable, is found invalid by a court of competent jurisdiction, is statutorily disclaimed in whole or terminally disclaimed under 35 U.S.C. 1.321, has all claims canceled by a reexamination certificate, is reissued, or is in any manner terminated prior to the expiration of its full statutory term.

04/14/1999 88ALEEKU 00000050 09109945  
02 FC:148 110.00 CP

April 8, 1999

Dorsey & Whitney L.L.P.

By Scott W. Doyle, Esq.  
Attorney for Applicant  
USPTO Reg. No. 39,176

109,945



UNITED STATES DEPARTMENT OF COMMERCE  
Patent and Trademark Office  
Address: COMMISSIONER OF PATENTS AND TRADEMARKS  
Washington, D.C. 20231

APPLICATION NUMBER	FILING DATE	FIRST NAMED APPLICANT	ATTORNEY DOCKET NO.
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097109,945 07/10/98 ULLMAN

020686  
DORSEY & WHITNEY  
SUITE 4400  
370 SEVENTEENTH STREET  
DENVER CO 80202-5644

1185714223

EXAMINER

VII.V  
ART UNIT PAPER NUMBER

DATE MAILED: 04/23/99

This is a communication from the examiner in charge of your application.  
COMMISSIONER OF PATENTS AND TRADEMARKS

### NOTICE OF ALLOWABILITY

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance and Issue Fee Due or other appropriate communication will be mailed in due course.

This communication is responsive to Terminal Disclosure filed 4-9-99

The allowed claim(s) is/are 1-20

- The drawings filed on \_\_\_\_\_ are acceptable.
- Acknowledgement is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d).
  - All  Some  None of the CERTIFIED copies of the priority documents have been
    - received.
    - received in Application No. (Series Code/Serial Number) \_\_\_\_\_
    - received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

\*Certified copies not received: \_\_\_\_\_

- Acknowledgement is made of a claim for domestic priority under 35 U.S.C. § 119(e).

A SHORTENED STATUTORY PERIOD FOR REPLY to comply with the requirements noted below is set to EXPIRE THREE MONTHS FROM THE "DATE MAILED" of this Office action. Failure to timely comply will result in ABANDONMENT of this application. Extensions of time may be obtained under the provisions of 37 CFR 1.136(a).

- Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL APPLICATION, PTO-152, which discloses that the oath or declaration is deficient. A SUBSTITUTE OATH OR DECLARATION IS REQUIRED.

Applicant MUST submit NEW FORMAL DRAWINGS

- because the originally filed drawings were declared by applicant to be informal.
  - including changes required by the Notice of Draftperson's Patent Drawing Review, PTO-948, attached hereto or to Paper No. \_\_\_\_\_
  - including changes required by the proposed drawing correction filed on \_\_\_\_\_, which has been approved by the examiner.
  - including changes required by the attached Examiner's Amendment/Comment.

Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the reverse side of the drawings. The drawings should be filed as a separate paper with a transmittal letter addressed to the Official Draftperson.

- Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

Any reply to this notice should include, in the upper right hand corner, the APPLICATION NUMBER (SERIES CODE/SERIAL NUMBER). If applicant has received a Notice of Allowance and Issue Fee Due, the ISSUE BATCH NUMBER and DATE of the NOTICE OF ALLOWANCE should also be included.

#### Attachment(s)

- Notice of References Cited, PTO-892
- Information Disclosure Statement(s), PTO-1449, Paper No(s) 5
- Notice of Draftperson's Patent Drawing Review, PTO-948
- Notice of Informal Patent Application, PTO-152
- Interview Summary, PTO-413
- Examiner's Amendment/Comment
- Examiner's Comment Regarding Requirement for Deposit of Biological Material
- Examiner's Statement of Reasons for Allowance

*Viet D. Vu*  
Viet D. Vu  
Patent Examiner

PTOL-97 (Rev. 8/97)

U.S. GPO: 1996-433-221/US2198

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UNITED STATES DEPARTMENT OF COMMERCE  
Patent and Trademark Office

RS

**NOTICE OF ALLOWANCE AND ISSUE FEE DUE**

020696  
DORSEY & WHITNEY  
SUITE 4400  
370 SEVENTEENTH STREET  
DENVER CO 80202-5644

LN5170420

APPLICATION NO.	FILING DATE	TOTAL CLAIMS	EXAMINER AND GROUP ART UNIT	DATE MAILED
09/189,945	07/06/98	020	VU, V	7/18 04/23/99
First Named Applicant: ULLMAN, 35 USC 154(b) Term ext. 0 Pay...				

TITLE OF INVENTION: ENHANCED VIDEO PROGRAMMING SYSTEM AND METHOD FOR INCORPORATING AND DISPLAYING RETRIEVED INTEGRATED INTERNET INFORMATION SEGMENTS

ATTY'S DOCKET NO.	CLASS-SUBCLASS	BATCH NO.	APPLN TYPE	SMALL ENTITY	FEE DUE	DATE DUE
4247.02	709-218.000	S15	UTILITY	NO	\$1210.00	07/23/99

**THE APPLICATION IDENTIFIED ABOVE HAS BEEN EXAMINED AND IS ALLOWED FOR ISSUANCE AS A PATENT. PROSECUTION ON THE MERITS IS CLOSED.**

**THE ISSUE FEE MUST BE PAID WITHIN THREE MONTHS FROM THE MAILING DATE OF THIS NOTICE OR THIS APPLICATION SHALL BE REGARDED AS ABANDONED. THIS STATUTORY PERIOD CANNOT BE EXTENDED.**

**HOW TO RESPOND TO THIS NOTICE:**

I. Review the SMALL ENTITY status shown above. If the SMALL ENTITY is shown as YES, verify your current SMALL ENTITY status:

If the SMALL ENTITY is shown as NO:

- A. If the status is changed, pay twice the amount of the FEE DUE shown above and notify the Patent and Trademark Office of the change in status, or
- B. If the status is the same, pay the FEE DUE shown above.

- A. Pay FEE DUE shown above, or
- B. File verified statement of Small Entity Status before, or with, payment of 1/2 the FEE DUE shown above.

II. Part B-Issue Fee Transmittal should be completed and returned to the Patent and Trademark Office (PTO) with your ISSUE FEE. Even if the ISSUE FEE has already been paid by charge to deposit account, Part B Issue Fee Transmittal should be completed and returned. If you are charging the ISSUE FEE to your deposit account, section "4b" of Part B-Issue Fee Transmittal should be completed and an extra copy of the form should be submitted.

III. All communications regarding this application must give application number and batch number. Please direct all communications prior to issuance to Box ISSUE FEE unless advised to the contrary.

**IMPORTANT REMINDER: Utility patents issuing on applications filed on or after Dec. 12, 1980 may require payment of maintenance fees. It is patentee's responsibility to ensure timely payment of maintenance fees when due.**

PATENT AND TRADEMARK OFFICE COPY

PTOL-65 (REV. 10-88) Approved for use through 06/30/99. (0651-0033)

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PART B-12 TRANSMITTAL

B #

Complete and mail this form, together with applicable fee, to: **Box 199UL.FEE**  
Assistant Commissioner for Patents  
Washington, D.C. 20231

Express Mail No. EI554833638US

**MAILING INSTRUCTIONS:** This form should be used for transmitting the ISSUE FEE. Blocks 1 through 4 should be completed where appropriate. All further correspondence including the Issue Fee Payment, advance orders and notification of maintenance fees will be mailed to the current correspondence address as indicated unless corrected below or directed otherwise in Block 1, by (a) indicating a new correspondence address; and/or (b) indicating a separate "FEE ADDRESS" for maintenance fee notifications.

Note: The certificate of mailing below can only be used for domestic mailings of the Issue Fee Transmittal. This certificate cannot be used for any other accompanying papers. Each additional paper, such as an assignment or formal drawing, must have its own certificate of mailing.

Certificate of Mailing by Express Mail

I hereby certify that this Issue Fee Transmittal is being deposited with the United States Postal Service with sufficient postage to insure express mail in an envelope addressed to the Box Issue Fee address above on the date indicated below.

Maris Rodriguez (Depositor's name)

*Maris Rodriguez* (Signature)

July 20, 1999 (Date)



020686  
DORSEY & WHITNEY  
SUITE 4400  
370 SEVENTEENTH STREET  
DENVER CO 80202-8644

CURRENT CORRESPONDENCE ADDRESS (Note: Legibly mark-up with any corrections or use Block 1)

APPLICATION NO.	FILING DATE	TOTAL CLAIMS	EXAMINER AND GROUP ART UNIT	DATE MAILED
09/18/9, 945	07/06/98	020	VIL V	03/17/99
First Named Applicant	ULLMAN,	(35 USC 154(a) term ends)		

TITLE OF INVENTION: ENHANCED VIDEO PROGRAMMING SYSTEM AND METHOD FOR THE DISPLAYING RETRIEVED INTEGRATED INTERNET INFORMATION SEGMENTS

ATTYS DOCKET NO.	CLASS-SUBCLASS	BATCH NO.	APPLN. TYPE	SMALL ENTITY	FEE DUE	DATE DUE
0	4247.02	709-2131.000	515	UTILITY	NO	07/20/99

1. Change of correspondence address or indication of "Fee Address" (37 CFR 1.369). Use of PTO form(s) and Customer Number are recommended, but not required.

Change of correspondence address (or Change of Correspondence Address form PTO/BB/122) attached.

"Fee Address" indication (or "Fee Address" Indication form PTO/SB/47) attached. Customer No. 20686

2. For printing on the patent front page, list (1) the names of up to 3 registered patent attorneys or agents OR, alternatively, (2) the name of a single firm (having as a member a registered attorney or agent) and the names of up to 2 registered patent attorneys or agents. If no name is listed, no name will be printed.

1. Dorsey & Whitney LLP

2. \_\_\_\_\_

3. \_\_\_\_\_

3. ASSIGNEE NAME AND RESIDENCE DATA TO BE PRINTED ON THE PATENT (print or type) PLEASE NOTE: Unless an assignee is identified below, no assignee data will appear on the patent. Inclusion of assignee data is only appropriate when an assignment has been previously submitted to the PTO or is being submitted under separate cover. Completion of this form is NOT a substitute for filing an assignment.

(A) NAME OF ASSIGNEE: ACTV, Inc.

(B) RESIDENCE: (CITY & STATE OR COUNTRY) New York, New York

Please check the appropriate assignee category indicated below (will not be printed on the patent)  
 Individual  corporation or other private group entity  government

4a. The following fees are enclosed (make check payable to Commissioner of Patents and Trademarks):

Issue Fee  
 Advance Order - # of Copies \_\_\_\_\_

4b. The following fees or deficiency in these fees should be charged to:

DEPOSIT ACCOUNT NUMBER: 04-1415  
(ENCLOSE AN EXTRA COPY OF THIS FORM)  
 Issue Fee  
 Advance Order - # of Copies \_\_\_\_\_

The COMMISSIONER OF PATENTS AND TRADEMARKS is requested to apply the Issue Fee to the application identified above.

(Authorized Signature) *Thomas H. Young* (Date) 7-20-99

NOTE: This Issue Fee will not be accepted from anyone other than the applicant, a registered attorney or agent, or the assignee or other party in interest as shown on the records of the Patent and Trademark Office.

Burden Hour Statement: This form is estimated to take 0.2 hours to complete. Time will vary depending on the needs of the individual case. Any comments on the amount of time required to complete this form should be sent to the Chief Information Officer, Patent and Trademark Office, Washington, D.C. 20231. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND FEES AND THIS FORM TO: Box Issue Fee, Assistant Commissioner for Patents, Washington D.C. 20231

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07/22/1999 STEFFERRI 00000011 09109945

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JUL 23 1999

Publishing Division

13

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Patent and Trademark Office, U.S. DEPARTMENT OF COMMERCE

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PART B—ISSUE FEE TRANSMITTAL

Complete and mail this form, together with applicable fees, to:

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Assistant Commissioner for Patent  
Washington, D.C. 20231

Express Mail No. EI554833638US

MAILING INSTRUCTIONS: This form should be used for transmitting the ISSUE FEE. Blocks 1 through 4 should be completed where appropriate. All further correspondence including the Issue Fee receipt, the Patent, advance orders and notification of maintenance fees will be mailed to the current correspondence address as indicated unless corrected below or directed otherwise in Block 1, by (a) specifying a new correspondence address; and/or (b) indicating a separate "FEE ADDRESS" for maintenance fee notifications.

Note: The certificate of mailing below can only be used for domestic mailings of the Issue Fee Transmittal. This certificate cannot be used for any other accompanying papers. Each additional paper, such as an assignment or formal drawing, must have its own certificate of mailing.

Certificate of Mailing by Express Mail

I hereby certify that this Issue Fee Transmittal is being deposited with the United States Postal Service with sufficient postage for express mail in an envelope addressed to the Box Issue Fee address above on the date indicated below.

Maria Rodriguez (Depositor's name)

Maria Rodriguez (Signature)

July 20, 1999 (Date)



CURRENT CORRESPONDENCE ADDRESS (Note: Legibly mark-up with any corrections or use Block 1)

APPLICATION NO.	FILING DATE	TOTAL CLAIMS	EXAMINER AND GROUP ART UNIT	DATE MAILED
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First Named Applicant

TITLE OF INVENTION

ATTY'S DOCKET NO.	CLASS-SUBCLASS	BATCH NO.	APPLN. TYPE	SMALL ENTITY	FEE DUE	DATE DUE
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1. Change of correspondence address or indication of "Fee Address" (37 CFR 1.363). Use of PTO form(s) and Customer Number are recommended, but not required.

Change of correspondence address (or Change of Correspondence Address form PTO/SB/122) attached.

"Fee Address" indication (or "Fee Address" indication form PTO/SB/47) attached. Customer No. 20686

2. For printing on the patent front page, list (1) the names of up to 3 registered patent attorneys or agents OR, alternatively, (2) the name of a single firm (having as a member a registered attorney or agent) and the names of up to 2 registered patent attorneys or agents. If no name is listed, no name will be printed.

Dorsey & Whitney LLP

3. ASSIGNEE NAME AND RESIDENCE DATA TO BE PRINTED ON THE PATENT (print or type). PLEASE NOTE: Unless an assignee is identified below, no assignee data will appear on the patent. Inclusion of assignee data is only appropriate when an assignment has been previously submitted to the PTO or is being submitted under separate cover. Completion of this form is NOT a substitute for filing an assignment.

(A) NAME OF ASSIGNEE ACTV, Inc.

(B) RESIDENCE: (CITY & STATE OR COUNTRY) New York, New York

Please check the appropriate assignee category indicated below (will not be printed on the patent)

Individual [ ] corporation or other private group entity [x] government [ ]

4a. The following fees are enclosed (make check payable to Commissioner of Patents and Trademarks):

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4b. The following fees or deficiency in fees (see should be charged to:

DEPOSIT ACCOUNT NUMBER 04-1415-

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Issue Fee [x]

Advance Order - # of Copies \_\_\_\_\_

The COMMISSIONER OF PATENTS AND TRADEMARKS (is requested to apply the Issue Fee to the application identified above.

(Authorized Signature)

Thomas H. Young, Reg. No. 25,798

(Date)

7-20-99

NOTE: The Issue Fee will not be accepted from anyone other than the applicant, a registered attorney or agent, or the assignee or other party in interest as shown by the records of the Patent and Trademark Office.

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09/109,945



UNITED STATES DEPARTMENT OF COMMERCE  
Patent and Trademark Office  
Address: COMMISSIONER OF PATENTS AND TRADEMARKS  
Washington, D.C. 20231

APPLICATION NUMBER	FILED DATE	FIRST NAMED APPLICANT	ATTORNEY DOCKET NO.
077109,945	07/08/99	FILE MARK	

077109,945  
 NORSEY & WHITNEY  
 SUITE 2000  
 370 SEVENTEENTH STREET  
 DENVER CO 80202-5841

EXAMINER

ART UNIT	PAPER NUMBER
2753	9

DATE MAILED: 08/11/99

INTERVIEW SUMMARY

Will participants (applicant/applicant's representative/PTO personnel):

(1) *V. Vu* (2) *Boylan* (3) *Boylan* (4) *Boylan*  
 Date of Interview: *8-6-99*

Type:  Telephonic  Personal (copy is given to  applicant  applicant's representative)

Exhibit shown or demonstration conducted:  Yes  No If yes, brief description:

Agreement  was reached.  was not reached.

Claim(s) discussed: *Claim 1*

Identification of prior art discussed: *US Pat. No. 3,778,181*

Description of the general nature of what was agreed to if an agreement was reached, or any other comments:

*The applicant has agreed to file a terminal disclaimer to address the concern of common ownership for the current application and US Pat. No. 3,778,181*

(A fuller description, if necessary, and a copy of the amendments, if available, which the examiner agreed would render the claims allowable must be attached. Also, where no copy of the amendments which would render the claims allowable is available, a summary thereof must be attached.)

1.  This is not necessary for applicant to provide a separate record of the substance of the interview.

Unless the paragraph above has been checked to indicate to the contrary, A FORMAL WRITTEN RESPONSE TO THE LAST OFFICE ACTION IS NOT WAIVED AND MUST BE FILED WITH THE SUBSTANCE OF THE INTERVIEW. (See MPEP Section 715.04) If a response to the last Office action has already been filed, APPLICANT IS GIVEN ONE MONTH FROM THIS INTERVIEW DATE TO FILE A STATEMENT OF THE SUBSTANCE OF THE INTERVIEW.

2.  Since the Examiner's interview summary above (including any attachments) reflects a complete response to each of the objections, objections and requirements that may be present in the last Office action, and since the claims are now allowable, this completed form is considered to fulfill the response requirements of the last Office action. Applicant is not relieved from providing a separate record of the interview.

Examiner/Note: You must sign this form unless it has an attachment to another form.

*Boylan*



08/06/99 FRI 14:47 FAX 303 829 3450

DORSEY & WHITNEY

**OFFICIAL**  
FAX RECEIVED

AUG 09 1999

Group 2700

Applicant: Craig Ullman, et. al.  
Serial No.: 09/109,945  
Examiner: V. Vu  
Title: Enhanced video programming system and method for incorporating and displaying retrieved integrated Internet information segments

Docket No.: 4247.02  
Filed: July 6, 1998  
Group Art: 2758

Box Issue Fee  
Assistant Commissioner for Patents  
Washington, D.C. 20231

ATTN: EXAMINER V. VU  
VIA FACSIMILE NO. 703-305-7201

CERTIFICATE OF TRANSMISSION BY FACSIMILE (37 CFR 1.6)  
I hereby certify that this paper is being facsimile transmitted to the United States Patent and Trademark Office at the above-noted facsimile number on August 6, 1999.

*Becky P. Nelson*  
Type or Printed name of Person Signing

*Becky P. Nelson*  
Signature

**PETITION UNDER 37 C.F.R. § 1.312(b)**

Box Issue Fee  
Assistant Commissioner for Patents  
Washington, D.C. 20231

Sir:

Examiner Vu has requested an additional Terminal Disclaimer in order to disclaim the terminal part of the statutory term of any patent granted on the instant application which would extend beyond the expiration of prior U.S. Pat. No. 5778181. In view thereof, Applicants respectfully request that this Petition under 37 C.F.R. § 1.312(b) be granted, and the Terminal Disclaimer entered in this application. In compliance therewith, Applicant hereby submits the Terminal Disclaimer.

The Petition fee of \$130.00 and the Disclaimer fee of \$110.00 may be charged to Deposit Account No. 04-1415. In addition, any other fees which may be necessary may also be charged to the deposit account. A duplicate copy of this paper is enclosed herewith for this purpose.

Dated this 6<sup>th</sup> day of August 1999.

Respectfully submitted,  
*Scott W. Doyle*  
Scott W. Doyle, Reg. No. 39,176  
Attorney for Applicant  
Customer No. 20686  
Tel: 303-629-3400

08/10/1999 TURNER 00000001 041615 09109945  
01 FE:126  
02 FE:146  
130.00 CR  
110.00 CR

**OFFICIAL  
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AUG 09 1999

Applicant: Craig Ullman, et. al.      Docket No.: 4247.02  
Serial No.: 09/109,945      Filed: July 6, 1998  
Examiner: V. Vu      Group Art: 2758      Group 2700  
Title: Enhanced video programming system and method for incorporating and displaying  
retrieved integrated Internet information segments

ATTN: EXAMINER V. VU  
VIA FACSIMILE NO. 703-305-7201

CERTIFICATE OF TRANSMISSION BY FACSIMILE (37 CFR 1.8)  
I hereby certify that this paper is being facsimile transmitted to the United States Patent and Trademark Office at the above-noted facsimile number on August 6, 1999.

*Becky Lindhart*  
Typed or Printed name of Person Signing

*Becky Lindhart*  
Signature

Box Issue Fee  
Assistant Commissioner for Patents  
Washington, D.C. 20231

**PETITION UNDER 37 C.F.R. § 1.312(b)**

Box Issue Fee  
Assistant Commissioner for Patents  
Washington, D.C. 20231

FACSIMILE ACCOUNTABILITY	
09/109,945	
PET	ISSUED
122	130.00
148	110.00

**COPY**

Sir:

Examiner Vu has requested an additional Terminal Disclaimer in order to disclaim the terminal part of the statutory term of any patent granted on the instant application which would extend beyond the expiration of prior U.S. Pat. No. 5778181. In view thereof, Applicants respectfully request that this Petition under 37 C.F.R. § 1.312(b) be granted, and the Terminal Disclaimer entered in this application. In compliance therewith, Applicant hereby submits the Terminal Disclaimer.

The Petition fee of \$130.00 and the Disclaimer fee of \$110.00 may be charged to Deposit Account No. 04-1415. In addition, any other fees which may be necessary may also be charged to the deposit account. A duplicate copy of this paper is enclosed herewith for this purpose.

Dated this 6<sup>th</sup> day of August 1999.

Respectfully submitted,  
*Scott W. Lindhart*  
Scott W. Lindhart, Reg. No. 39,176  
Attorney-in-Charge, Applicant  
Customer No. 30686  
Tel: 303-399-3400

08/10/1999 3180038 09/109945  
Sale Ref: 0000000  
01 FC:122  
02 FC:148

08/06/99 FRI 14:47 FAX 303 629 3450

DORSEY & WHITNEY

001

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AUG 09 1999

Group 2700

**DORSEY & WHITNEY LLP**

REPUBLIC PLAZA BUILDING  
SUITE 4400  
370 SEVENTEENTH STREET  
DENVER, COLORADO 80202-5644

FACSIMILE COVER SHEET  
(303) 629-3400

THE INFORMATION CONTAINED IN THIS FACSIMILE MESSAGE IS LEGALLY PRIVILEGED AND CONFIDENTIAL INFORMATION INTENDED SOLELY FOR THE USE OF THE PERSONS OR ENTITIES NAMED BELOW. IF YOU ARE NOT SUCH PERSONS OR ENTITIES, DO NOT READ THE MESSAGE BELOW. ANY DISTRIBUTION, DISSEMINATION OR REPRODUCTION OF THIS FACSIMILE MESSAGE IS STRICTLY PROHIBITED. IF YOU HAVE RECEIVED THIS MESSAGE IN ERROR, PLEASE IMMEDIATELY CALL US COLLECT AT (303)629-3400

Date: August 6, 1999

Time: 1:45 PM

Total Number of Pages (including this cover sheet): **X 5**

TO: Examiner V. Vu

FAX #: 1-703-305-7201

FIRM NAME: USPTO

LOCATION: Washington, D.C.

TELEPHONE #: 1-703-305-9597

FROM: Donna Carrera

TELEPHONE NUMBER: 303-628-1508

COMMENTS:

SEE ATTACHED TERMINAL DISCLAIMER RE SN 09/109945

  
Originator's Signature

Original will be sent via (check one):  Mail  Messenger  Air  Courier  Will not be

PLEASE CONTACT FACSIMILE OPERATOR Receptionist AT(303)629-3400  
IF TRANSMISSION IS INCOMPLETE OR CANNOT BE READ.

Reference # 9436/436109-1

08/06/99 FRI 14:47 FAX 303 829 3450

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AUG 09 1999

Applicant: Craig Ullman, et. al.      Docket No.: 4247.02  
 Serial No.: 09/109,945                Filed: July 6, 1998  
 Examiner: V. Vu                         Group Art: 2758  
 Title: Enhanced video programming system and method for incorporating and displaying  
 retrieved integrated Internet information segments

Group 2700

*Make sure  
file  
110-11-148*

Box Issue Fee  
 Assistant Commissioner for Patents  
 Washington, D.C. 20231

ATTN: EXAMINER V. VU  
 VIA FACSIMILE NO. 703-305-7201

**CERTIFICATE OF TRANSMISSION BY FACSIMILE (37 CFR 1.8)**  
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*Becky Binkhart*  
 Typed or Printed name of Person Signing

*Becky Binkhart*  
 Signature

*ok for entry  
 vr.*

**TERMINAL DISCLAIMER**

Applicant having a one hundred percent ownership interest in the subject patent application and in United States Patent No. 5778181, hereby disclaims the terminal part of the statutory term of any patent granted on the instant application which would extend beyond the expiration of the full statutory term defined in 35 U.S.C. 154 to 156 and 173 of prior Patent No. 5778181. The owner hereby agrees that any patent so granted on the instant application shall be enforceable only for and during such period that it and the prior patent are commonly owned. This agreement runs with any patent granted on the instant application and is binding upon the grantee, its successors or assigns.

In making the above disclaimer, the owner does not disclaim the terminal part of any patent granted on the instant application that would extend to the expiration date of the full statutory term as defined in 35 U.S.C. 154 to 156 and 173 of the prior patent in the event the prior patent later: expires for failure to pay a maintenance fee, is held unenforceable, is found invalid by a court of competent jurisdiction, is statutorily disclaimed in whole or terminally disclaimed under 35 U.S.C. 1.321, has all claims canceled by a reexamination certificate, is reissued, or is in any manner terminated prior to the expiration of its full statutory term.

Dorsey & Whitney L.L.P.

August 6, 1999

*Scott W. Doyle*  
 Scott W. Doyle, Reg. No. 39,176  
 Attorney for Applicant  
 Customer No. 20686

08/06/99 FRI 14:48 FAX 303 629 3450

DORSEY & WHITNEY

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AUG 09 1999

Group 2700

Applicant: Craig Ullman, et. al.      Docket No.: 4247.02  
 Serial No.: 09/109,945              Filed: July 6, 1998  
 Examiner: V. Vu                      Group Art: 2758  
 Title: Enhanced video programming system and method for incorporating and displaying  
 retrieved integrated Internet information segments

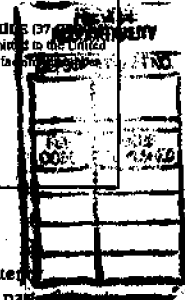
Box Issue Fee  
 Assistant Commissioner for Patents  
 Washington, D.C. 20231

ATTN: EXAMINER V. VU  
 VIA FACSIMILE NO. 703-305-7201

**CERTIFICATE OF TRANSMISSION BY FACSIMILE**  
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*Becky B. Nichols*  
 Typed or Printed name of Person Signing

*Becky B. Nichols*  
 Signature



**TERMINAL DISCLAIMER**

Applicant having a one hundred percent ownership interest in the subject patent application and in United States Patent No. 5778181, hereby disclaims the terminal part of the statutory term of any patent granted on the instant application which would extend beyond the expiration of the full statutory term defined in 35 U.S.C. 154 to 156 and 173 of prior Patent No. 5778181. The owner hereby agrees that any patent so granted on the instant application shall be enforceable only for and during such period that it and the prior patent are commonly owned. This agreement runs with any patent granted on the instant application and is binding upon the grantee, its successors or assigns.

In making the above disclaimer, the owner does not disclaim the terminal part of any patent granted on the instant application that would extend to the expiration date of the full statutory term as defined in 35 U.S.C. 154 to 156 and 173 of the prior patent in the event the prior patent later: expires for failure to pay a maintenance fee, is held unenforceable, is found invalid by a court of competent jurisdiction, is statutorily disclaimed in whole or terminally disclaimed under 35 U.S.C. 1.321, has all claims canceled by a reexamination certificate, is reissued, or is in any manner terminated prior to the expiration of its full statutory term.

Dorsey & Whitney L.L.P.

*Scott W. Doyle*  
 Scott W. Doyle, Reg. No. 39,176  
 Attorney for Applicant  
 Customer No. 20686

August 6, 1999

COPY



**UNITED STATES DEPARTMENT OF COMMERCE**  
**Patent and Trademark Office**  
 Address: COMMISSIONER OF PATENTS AND TRADEMARKS  
 Washington, D.C. 20231

#12

APPLICATION NUMBER	FILING DATE	FIRST NAMED APPLICANT	ATTORNEY DOCKET NO.
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UNITED STATES DEPARTMENT OF COMMERCE  
 PATENT AND TRADEMARK OFFICE  
 320 NEWPORT CENTER BUILDING  
 DENVER, CO 80202-4244

EXAMINER
----------

ART UNIT	PAPER NUMBER
----------	--------------

DATE MAILED:

12

**Response to Rule 312  
 Communication**

The petition filed on 8/6/99 under 37 CFR 1.312(b) is granted. The paper has been forwarded to the examiner for consideration on the merits.

*Robert Santt*  
 Director,  
 Patent Examining Group 2700

- The amendment filed on \_\_\_\_\_ under 37 CFR 1.312 has been considered, and has been:
  - entered.
  - entered as directed to matters of form not affecting the scope of the invention (Order 3311).
  - disapproved. See explanation below.
  - entered in part. See explanation below.

1,945



UNITED STATES DEPARTMENT OF COMMERCE  
Patent and Trademark Office  
Address: COMMISSIONER OF PATENTS AND TRADEMARKS  
Washington, D.C. 20231

APPLICATION NUMBER	FILING DATE	FIRST NAMED APPLICANT	ATTORNEY DOCKET NO.
--------------------	-------------	-----------------------	---------------------

097109, 1415 07/06/79W TELEGRAM

020636  
DORSEY R. WHITNEY  
SUITE 8400  
370 SEVENTEENTH STREET  
DENVER CO 80202-0644

11817026

EXAMINER

ART UNIT PAPER NUMBER

13

DATE MAILED:

This is a communication from the examiner in charge of your application.  
COMMISSIONER OF PATENTS AND TRADEMARKS

### Supplemental NOTICE OF ALLOWABILITY

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance and Issue Fee Due or other appropriate communication will be mailed in due course.

This communication is responsive to Terminal Disclaimer filed 8-6-99

The allowed claim(s) is/are 1-20

The drawings filed on \_\_\_\_\_ are acceptable.

Acknowledgement is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d).

All  Some\*  None of the CERTIFIED copies of the priority documents have been received.

received in Application No. (Series Code/Serial Number) \_\_\_\_\_

received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

\*Certified copies not received: \_\_\_\_\_

Acknowledgement is made of a claim for domestic priority under 35 U.S.C. § 119(e).

A SHORTENED STATUTORY PERIOD FOR REPLY to comply with the requirements noted below is set to EXPIRE THREE MONTHS FROM THE "DATE MAILED" of this Office action. Failure to timely comply will result in ABANDONMENT of this application. Extensions of time may be obtained under the provisions of 37 CFR 1.136(a).

Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL APPLICATION, PTO-152, which discloses that the oath or declaration is deficient. A SUBSTITUTE OATH OR DECLARATION IS REQUIRED.

Applicant MUST submit NEW FORMAL DRAWINGS

because the originally filed drawings were declared by applicant to be informal.

including changes required by the Notice of Draftperson's Patent Drawing Review, PTO-948, attached hereto or to Paper No. \_\_\_\_\_

including changes required by the proposed drawing correction filed on \_\_\_\_\_, which has been approved by the examiner.

including changes required by the attached Examiner's Amendment/Comment.

Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the reverse side of the drawings. The drawings should be filed as a separate paper with a transmittal letter addressed to the Official Draftperson.

Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

Any reply to this notice should include, in the upper right hand corner, the APPLICATION NUMBER (SERIES CODE/SERIAL NUMBER). If applicant has received a Notice of Allowance and Issue Fee Due, the ISSUE BATCH NUMBER and DATE of the NOTICE OF ALLOWANCE should also be included.

#### Attachment(s)

- Notice of References Cited, PTO-892
- Information Disclosure Statement(s), PTO-1449, Paper No(s) \_\_\_\_\_
- Notice of Draftperson's Patent Drawing Review, PTO-948
- Notice of Informal Patent Application, PTO-152
- Interview Summary, PTO-413
- Examiner's Amendment/Comment
- Examiner's Comment Regarding Requirement for Deposit of Biological Material
- Examiner's Statement of Reasons for Allowance

Viet D. My  
Patent Examiner

PTOL-37 (Rev. 8/97)

U.S. GPO: 1988-433-221/82108



**UNITED STATES DEPARTMENT OF COMMERCE  
Patent and Trademark Office**

Address: COMMISSIONER OF PATENTS AND TRADEMARKS  
Washington, D.C. 20231

APPLICATION NO.	FILED DATE	FILED MAN	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.
-----------------	------------	-----------	----------------------	---------------------

020686  
DORSEY & WHITNEY  
SUITE 4400  
370 SEVENTEENTH STREET  
DENVER CO 80202-5644

LMS1/1022

EXAMINER

ART UNIT	PAPER NUMBER
----------	--------------

DATE MAILED: 10/22/98

*18/A*


Please find below and/or attached an Office communication concerning this application or proceeding.

Commissioner of Patents and Trademarks



*Supplemental*  
**Notice of Allowability**

Application No. 09/109,945	Applicant Ullman et al
Examiner Viet Vu	Group Art Unit 2758



All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance and Issue Fee Due or other appropriate communication will be mailed in due course.

- This communication is responsive to \_\_\_\_\_
- The allowed claim(s) is/are \_\_\_\_\_
- The drawings filed on \_\_\_\_\_ are acceptable.
- Acknowledgement is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d).
  - All  Some\*  None of the CERTIFIED copies of the priority documents have been
    - received.
    - received in Application No. (Series Code/Serial Number) \_\_\_\_\_
    - received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

\*Certified copies not received: \_\_\_\_\_

- Acknowledgement is made of a claim for domestic priority under 35 U.S.C. § 119(e).

A SHORTENED STATUTORY PERIOD FOR RESPONSE to comply with the requirements noted below is set to EXPIRE THREE MONTHS FROM THE "DATE MAILED" of this Office action. Failure to timely comply will result in ABANDONMENT of this application. Extensions of time may be obtained under the provisions of 37 CFR 1.136(a).

- Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL APPLICATION, PTO-152, which discloses that the oath or declaration is deficient. A SUBSTITUTE OATH OR DECLARATION IS REQUIRED.
- Applicant MUST submit NEW FORMAL DRAWINGS
  - because the originally filed drawings were declared by applicant to be informal.
  - including changes required by the Notice of Draftsperson's Patent Drawing Review, PTO-948, attached hereto or to Paper No. \_\_\_\_\_
  - including changes required by the proposed drawing correction filed on \_\_\_\_\_, which has been approved by the examiner.
  - including changes required by the attached Examiner's Amendment/Comment.

Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the reverse side of the drawings. The drawings should be filed as a separate paper with a transmittal letter addressed to the Official Draftsperson.

- Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

Any response to this letter should include, in the upper right hand corner, the APPLICATION NUMBER (SERIES CODE/SERIAL NUMBER). If applicant has received a Notice of Allowance and Issue Fee Due, the ISSUE BATCH NUMBER and DATE of the NOTICE OF ALLOWANCE should also be included.

**Attachment(s)**

- Notice of References Cited, PTO-892
- Information Disclosure Statement(s), PTO-1449, Paper No(s) \_\_\_\_\_
- Notice of Draftsperson's Patent Drawing Review, PTO-948
- Notice of Informal Patent Application, PTO-152
- Interview Summary, PTO-413
- Examiner's Amendment/Comment
- Examiner's Comment Regarding Requirement for Deposit of Biological Material
- Examiner's Statement of Reasons for Allowance

Serial Number: 09/109,945  
Art Unit: 2758

**EXAMINER'S AMENDMENT**

1. An examiner's amendment to the record appears below to correct an improper dependency of claim 20. Should the changes and/or additions be unacceptable to applicant, an amendment may be filed as provided by 37 CFR 1.312. To ensure consideration of such an amendment, it MUST be submitted no later than the payment of the issue fee.

Authorization for this examiner's amendment was given in a telephone interview with Mr. Doyle on October 21, 1999.

2. The application has been amended as follows:

In claim 20, line 1, "claims 20" is replaced by --claim 19--.

3. Any inquiry concerning this communication or earlier communications from the examiner should be directed to V. Vu whose telephone number is (703) 305-9597.



**VIET D. VU  
PRIMARY EXAMINER**

V. Vu  
October 21, 1999



Issue Batch No. S15  
Notice of Allowance Date: 04/23/1999  
Attorney Docket No. 4247.02

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Application of:

Craig Ullman, Jack D. Hidary, and Nova T. Spivack

Serial No. 09/109945

Group Art Unit: 2758

Examiner: V. Vu

Filed: July 6, 1998

For: Enhanced Video Programming System and Method for Incorporating and Displaying Retrieved Integrated Internet Information Segments

SUBMISSION OF FORMAL DRAWINGS

Box Issue Fee  
Assistant Commissioner for Patents  
Washington, D.C. 20231

Attn: Official Draftsman

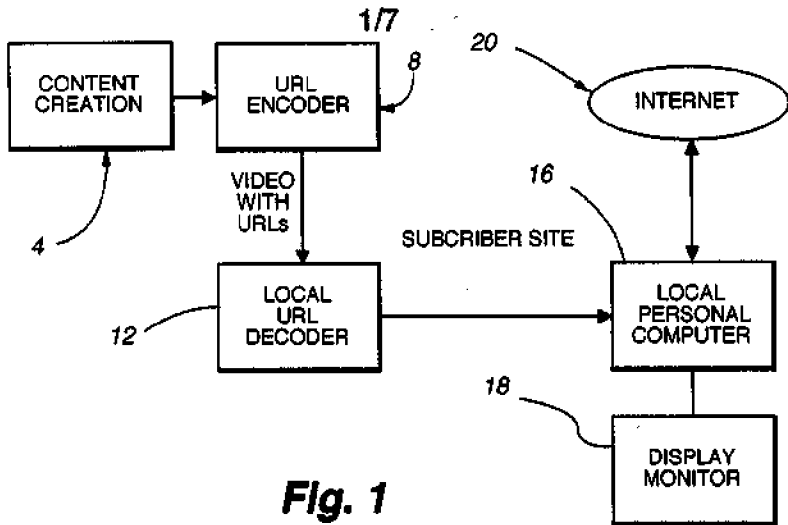
Sir:

Enclosed herewith please find seven (7) sheets of formal drawings which are to be filed in the above-identified case in substitution for the informal drawings filed with the application on July 6, 1998, and pursuant to the Examiner's request in the Notice of Allowance dated April 23, 1999.

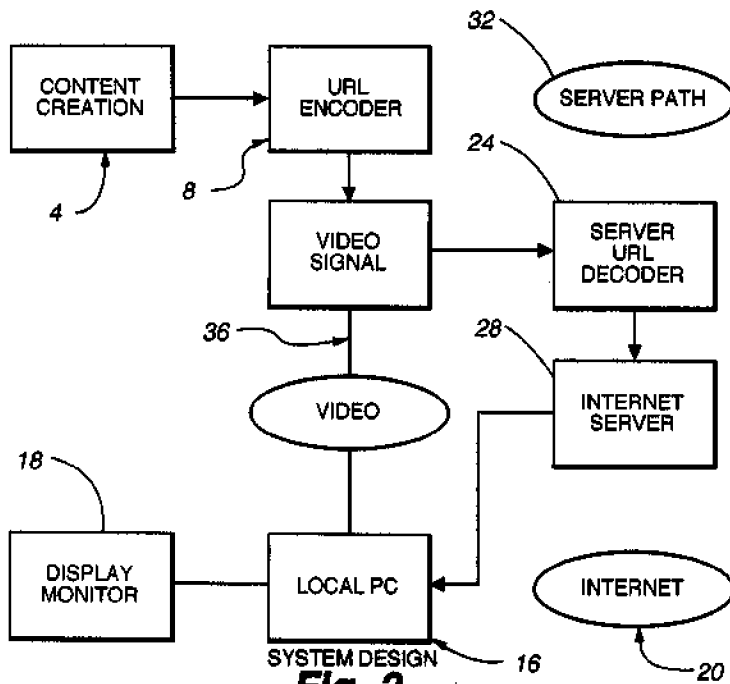
Signed at Denver, Colorado, on July 20<sup>th</sup>, 1999.

Respectfully submitted,

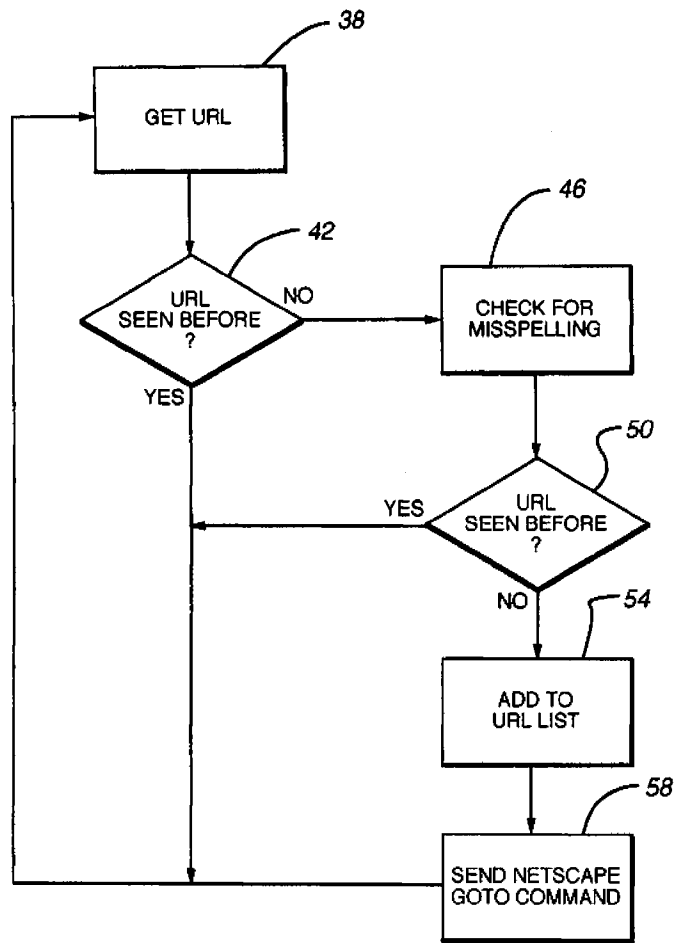
Thomas H. Young  
Registration No. 25,795  
Customer No. 20686  
Dorsey & Whitney LLP  
Republic Plaza Building, Suite 4400  
370 Seventeenth Street  
Denver, Colorado 80202-5644  
Tel: 303-628-1500  
Fax: 303-629-3450



**Fig. 1**

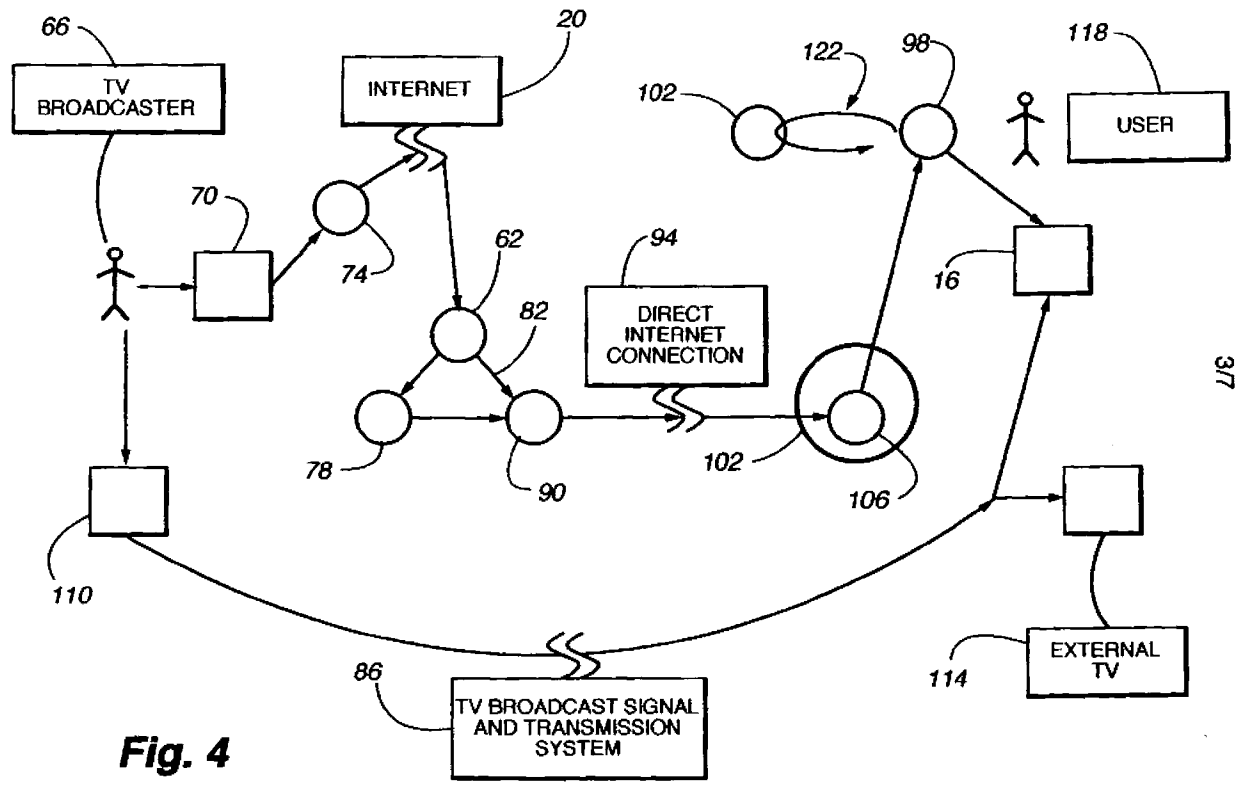


**Fig. 2**  
8928109

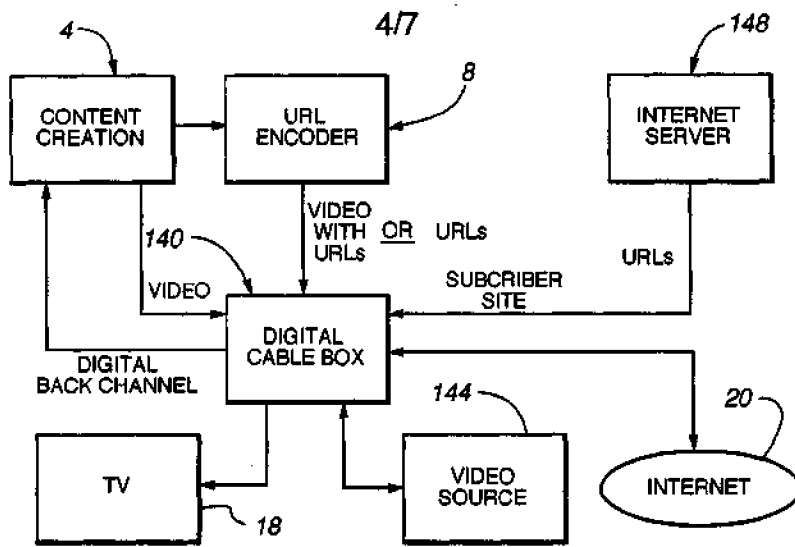


SOFTWARE DESIGN

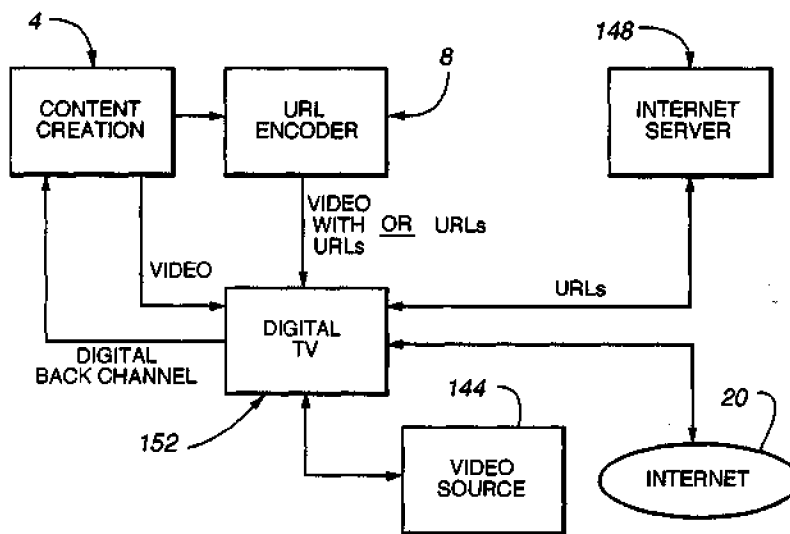
**Fig. 3**



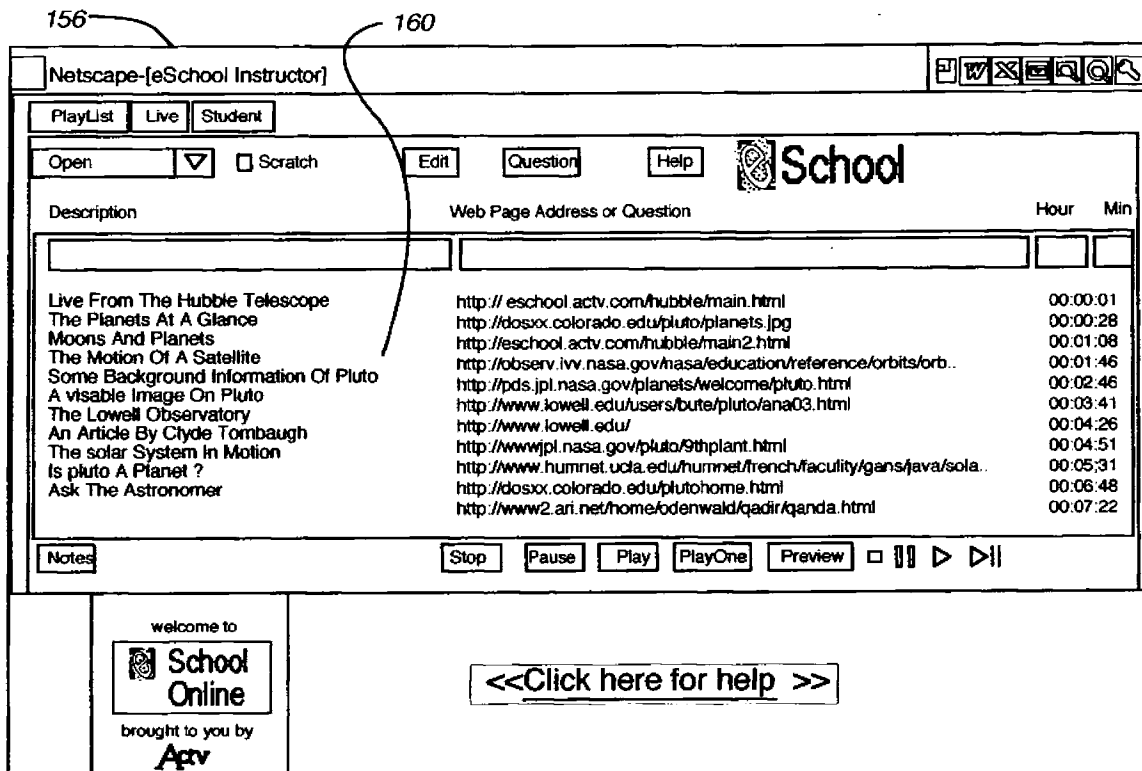
**Fig. 4**



**Fig. 5**



**Fig. 6**



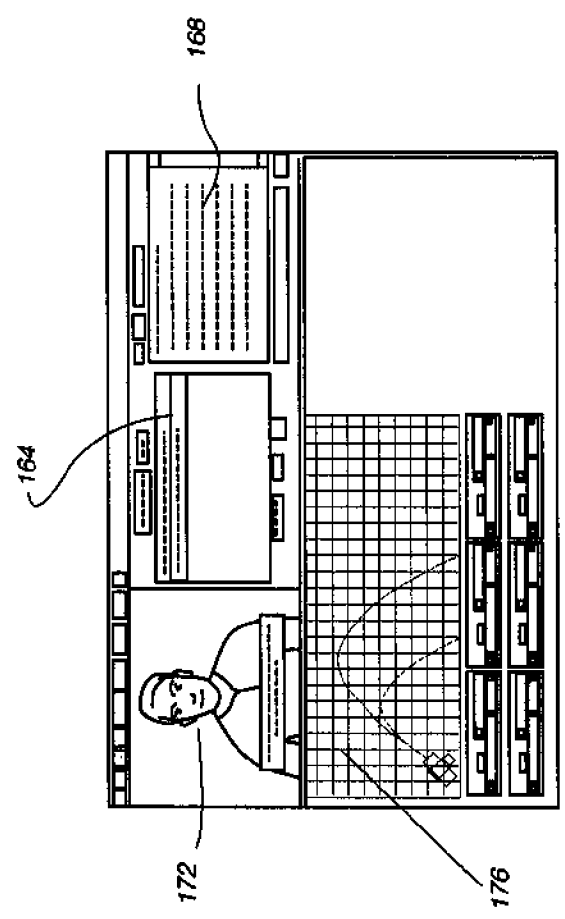
5/7

Fig. 7

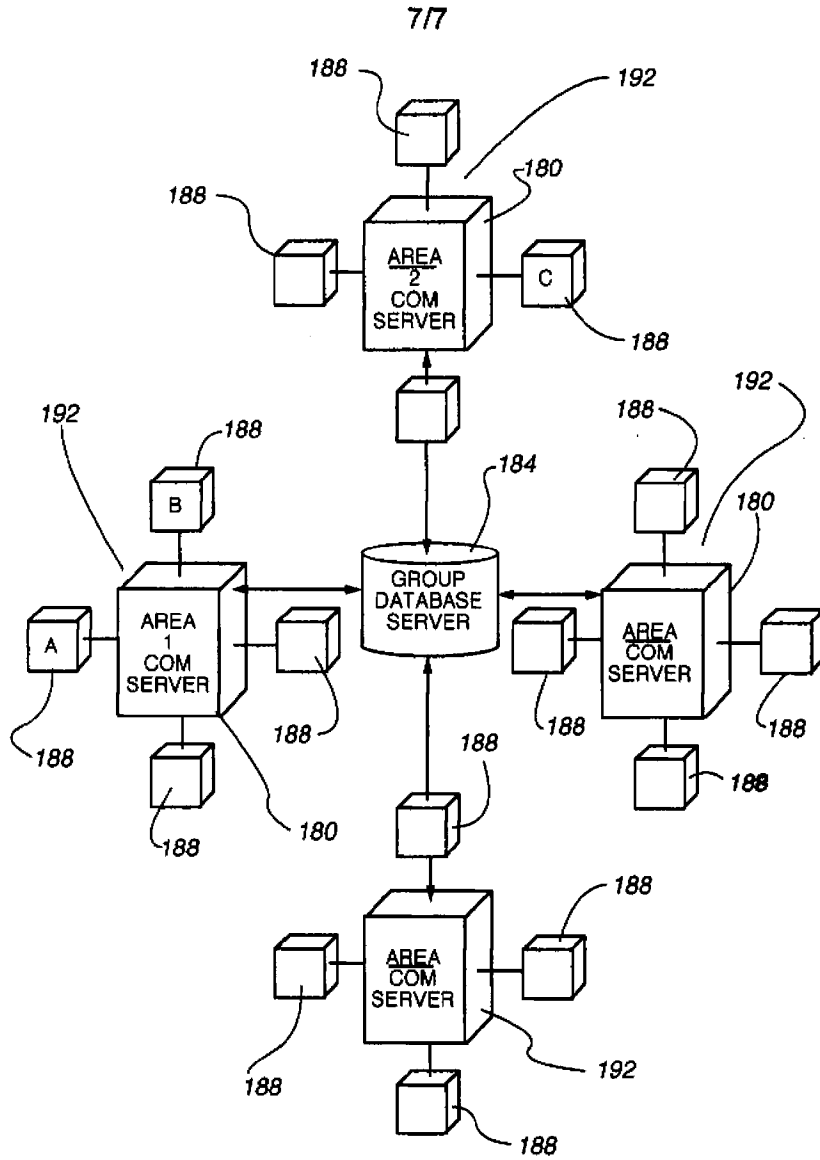


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677



**Fig. 8**



**Fig. 9**

2703/27E1 8-9 #155B  
8/16/99



Issue Batch No. S15  
Notice of Allowance Date: 04/23/1999  
Attorney Docket No. 4247.02

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Application of:

Craig Ullman, Jack D. Hidary, and Nova T. Spivack

Serial No. 09/109945

Filed: July 6, 1998

Group Art Unit: 2758 Publishing Division  
Examiner: V. Vu 05

RECEIVED

JUL 23 1999

For: Enhanced Video Programming System and Method for Incorporating and Displaying Retrieved Integrated Internet Information Segments

CERTIFICATE OF MAILING BY EXPRESS MAIL

Box ISSUE FEE  
Assistant Commissioner for Patents  
Washington, D.C. 20231

Attn: Official Draftsman

Sir:

The undersigned hereby certifies that the attached **Submission of Formal Drawings, formal drawings (7 sheets); Certificate of Mailing by Express Mail; and return postcard**, all relating to the above application were deposited as Express Mail, Mailing Label No. EI554833638US, with the United States Postal Service, addressed to Box Issue Fee, Assistant Commissioner for Patents, Washington, D.C. 20231, on July 20, 1999.

  
Mailer - Maria Rodriguez

Customer No. 20686  
DORSEY & WHITNEY LLP  
370 17th Street, Suite 4400  
Denver, CO 80202  
Tel: 303-628-1500



Approved for use through 11/30/2005. OMB 0651-0035  
 U.S. Patent and Trademark Office, U.S. DEPARTMENT OF COMMERCE  
 Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it displays a valid OMB control number.

<b>REQUEST FOR WITHDRAWAL AS ATTORNEY OR AGENT AND CHANGE OF CORRESPONDENCE ADDRESS</b>	Application Number	Patent No.: 6,018,766
	Filing Date	Issue Date: January 25, 2000
	First Named Inventor	Craig ULLMAN
	Art Unit	2768
	Examiner Name	V. VU
	Attorney Docket Number	558442000221

To: Commissioner for Patents  
 P.O. Box 1450  
 Alexandria, VA 22313-1450

Please withdraw me as attorney or agent for the above identified patent application, and

all the attorneys/agents of record.  
 the attorneys/agents (with registration numbers) listed on the attached paper(s), or  
 the attorneys/agents associated with Customer Number

NOTE: This box can only be checked when the power of attorney of record in the application is to all the practitioners associated with a customer number.

The reasons for this request are:  
 Patent is being transferred to another attorney.

**CORRESPONDENCE ADDRESS**

1.  The correspondence address is NOT affected by this withdrawal.  
 2.  Change the correspondence address and direct all future correspondence to:

The address associated with Customer Number:

OR

Firm or Individual Name: Marc Kaufman, Esq.

Address: Nixon Peabody LLP, 401 9<sup>th</sup> Street, N.W., Suite 900

City: Washington State D.C. Zip: 20004

Country: United States of America

Telephone: 202-585-8164 Email: mkaufman@nixonpeabody.com

Signature:

Name: Adam Keser Registration No. 54,217

Date: September 29, 2006 Telephone No. (703) 780-7301

NOTE: Withdrawal is effective when approved rather than when received. Unless there are at least 30 days between approval of withdrawal and the expiration date of a time period for response or possible extension period, the request to withdraw is normally disapproved.

**COMPLETED**

va-177571



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
PO Box 450  
Alexandria, Virginia 22313-1450  
www.uspto.gov

APPLICATION NUMBER	FILING OR 371 (c) DATE	FIRST NAMED APPLICANT	ATTY DOCKET NO./TITLE
09/109,945	07/06/1998	CRAIG ULLMAN	4247.02

NIXON PEABODY LLP  
Marc Kaufman Esq.  
401 9th STREET NW  
SUITE 900  
WASHINGTON, DC 20004

CONFIRMATION NO. 4117



\*0000000022139018\*

Date Mailed: 01/24/2007

**NOTICE OF ACCEPTANCE OF POWER OF ATTORNEY**

This is in response to the Power of Attorney filed 09/29/2006.

The Power of Attorney in this application is accepted. Correspondence in this application will be mailed to the above address as provided by 37 CFR 1.33.

ANITA C GREENE  
OICE (703) 308-9010 EXT 159

OFFICE COPY



**UNITED STATES PATENT AND TRADEMARK OFFICE**

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. BOX 1428  
Alexandria, Virginia 22313-1428  
[www.uspto.gov](http://www.uspto.gov)

APPLICATION NUMBER	FILING OR 371 (c) DATE	FIRST NAMED APPLICANT	ATTY. DOCKET NO./TITLE
09/109,945	07/06/1998	CRAIG ULLMAN	4247.02

43997  
OPTV/MOFO  
C/O MORRISON & FOERSTER LLP  
1650 TYSONS BOULEVARD, SUITE 300  
MCLEAN, VA 22102

CONFIRMATION NO. 4117

1 0000000022139007\*  
\*OC000000022139007\*

Date Mailed: 01/24/2007

**NOTICE REGARDING CHANGE OF POWER OF ATTORNEY**

This is in response to the Power of Attorney filed 09/29/2006.

- The withdrawal as attorney in this application has been accepted. Future correspondence will be mailed to the new address of record. 37 CFR 1.33.

ANITA C GREENE  
OIPB (703) 308-9010 EXT 159

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CENTRAL FAX CENTER

JAN 22 2008

S/N 09/109,945

PATENT

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Applicant:	Jack D. Hidary et al.	Patent No.:	6,018,768
Serial No.:	09/109,945	Issue Date:	January 25, 2000
Filed:	July 6, 1998	Docket:	2050.106US1
Customer No.	44367	Confirmation No.:	
Title:	ENHANCED VIDEO PROGRAMMING SYSTEM AND METHOD FOR INCORPORATING AND DISPLAYING RETRIEVED INTEGRATED INTERNET INFORMATION SEGMENTS		

REVOCATION AND POWER OF ATTORNEY  
CERTIFICATE UNDER 37 CFR § 3.73(b)

CHANGE OF CORRESPONDENCE ADDRESS

Commissioner for Patents  
P.O. Box 1450  
Alexandria, VA 22313-1450

In accordance with 37 C.F.R. Section 1.36, M.P.E.P. Section 402.05 and 402.07, please revoke any existing Powers of Attorney, if any, and appoint the following attorneys and/or patent agents to prosecute this application and to transact all business in the Patent and Trademark Office in connection therewith:

Customer Number: 44367

CERTIFICATE UNDER 37 CFR § 3.73(b)

ACTV, Inc hereby certifies that it is the assignee of the entire right, title and interest in the patent application identified above by virtue of an assignment from the inventor(s) recorded 09/15/1998 on Reel 009462, Frames 0220 - 0222. To the best of my knowledge and belief, title is in ACTV, Inc, the assignee.

Pursuant to 37 C.F.R. § 3.73(b) I hereby declare that I am empowered to sign this certificate on behalf of ACTV, Inc, the assignee.

I hereby declare that all statements made herein of my own knowledge are true, and that all statements made on information and belief are believed to be true.

Please direct all correspondence in this case to:

Schwegman, Lundberg & Woessner, P.A.  
Customer No. 44367

Date 1/14/08

By [Signature]  
Name: Mark Beargah  
Title: General Counsel

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JAN 22 2008

SCHWEGMAN ■ LUNDBERG ■ WOESSNER  
PATENT, TRADEMARK & COPYRIGHT ATTORNEYS  
P.O. Box 2938  
Minneapolis, MN 55402  
Telephone (612) 373-6900 Facsimile (612) 339-3061

January 18, 2008

TO: Commissioner for Patents  
Attn: Post Issue  
Facsimile Center  
P.O. Box 1450  
Alexandria, VA 22313-1450

FROM: Garth Vivier  
OUR REF: 2050.106US1

**COMPLETED**

FAX NUMBER (571) 273-8300

Document(s) Transmitted: Revocation and Power of Attorney & Change of Correspondence Address (1 pg.)

Total pages of this transmission, including cover letter: 2 pgs.  
If you do NOT receive all of the pages described above, please telephone us at 612-373-6900 or fax us at 612-339-3061.

In re. Patent Application of: Jack D. Hidary et al. Patent No.: 6,018,768  
Serial No.: 09/109,945 Issue Date: January 25, 2000  
Filed: July 6, 1998 Docket No.: 2050.106US1  
Confirmation No.:  
Title: ENHANCED VIDEO PROGRAMMING SYSTEM AND METHOD FOR INCORPORATING AND DISPLAYING RETRIEVED INTEGRATED INTERNET INFORMATION SEGMENTS

By: *Garth Vivier*  
Name: Garth Vivier  
Reg. No.: 57,313

I hereby certify that this paper is being transmitted by facsimile to the U.S. Patent and Trademark Office on the date shown below.

*Michele Quaranto*  
Michele Quaranto

1-21-08  
Date of Transmission





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UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
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P.O. Box 1519  
Alexandria, Virginia 22313-1150  
www.uspto.gov

APPLICATION NUMBER	PATENT NUMBERS	GROUP ART UNIT	FILE WRAPPER LOCATION
09/109,945	6018768	2758	9200 J 10012 1015 115

**Change of Address/Power of Attorney**

The following fields have been set to Customer Number 43997 on

- Correspondence Address

The address of record for Customer Number 43997 is:

OPTV/MOFO  
C/O MORRISON & FOERSTER LLP  
1650 TYSONS BOULEVARD, SUITE 300  
MCLEAN, VA 22102

The Practitioners of record for Customer Number 43997 are:

**PTO INSTRUCTIONS:**

Please take the following action when the correspondence address has been changed to a customer number:

- 1) Add 'ADDRESS CHANGE TO CUSTOMER NUMBER' on the next available content line of the File Jacket.
- 2) Put a line through the old address on the File Jacket and enter the Customer Number as the new address.
- 3) File this Notice in the File Jacket.

Please take the following action when the correspondence address has NOT been changed:

- 1) File this Notice in the File Jacket

**DELIVER TO TECH 5 (2700)**

• **CPK2-8A25**

2710-2714

2720-2724

2730-2738

2740-2747

• **CPK2-2A31**

2750-2758

• **CPK2-4A23**

2760-2767

2770-2778

2780-2787

(CHECK YOUR INITIALS)

T.M. \_\_\_\_\_

B.C. \_\_\_\_\_

J.E. \_\_\_\_\_

T.D. \_\_\_\_\_

K.K. \_\_\_\_\_

K.R.

P.S. \_\_\_\_\_

K.P. \_\_\_\_\_

D.I. \_\_\_\_\_

**THIS IS A PA--24 HOURS RETURN AFTER THIS TIME  
WILL RESULT IN DELAY OF ISSUANCE OF THIS APPLICATION  
AND ADD TO THE CORPS CYCLE TIME**

**THIS IS AN IDC--72 HOURS TO RETURN AFTER THIS TIME  
WILL RESULT IN DELAY OF ISSUANCE OF THIS APPLICATION  
AND ADD TO THE CORPS CYCLE TIME**

**CORRECT AND RETURN APPLICATION BY** 10/22

**\*\*\*CHARGE TO 7550\*\*\*  
\*\*\*FOR HAND DELIVER LOCATION: CPK 3  
SUITE 903\*\*\***

CHECKLIST FOR PROCESSING NEW APPLICATIONS

SERIAL NUMBER 09109945

revised 6/29/95

INSTRUCTIONS:

1. Make a checkmark beside each item IF verified.
2. If corrections are required, write notes to the examiner or supervisor on reverse side.

1. FACE OF THE FILE

1. Printed and stamped serial numbers match the bar code label.
2. Filing Date present.
3. Class/Subclass present.
4. Applicant(s) name present.
5. Total number of drawings present.
6. Total number of claims present.
7. Total number of independent claims present.
8. Filing fee received present.
9. Mailing address present.
10. Title of invention present.

2. CENTER OF THE FILE

A. DRAWINGS

1. None (go to B)
2. Serial Number present and correct on each sheet.
3. Number of sheets entered on line 1 of contents.

B. SMALL ENTITY STATEMENT

1. None and not recorded on face of file (go to C)
2. Statement present.
3. Small Entity recorded on face of file.

C. DECLARATION OR OATH

1. Title matches face of file and specification.
2. Declaration phrase present. (I hereby declare all...)
3. (Original and first inventor or inventors...) phrase present.
4. (Reviewed and understand the contents of the application, including claims...) phrase present.
5. (Acknowledge duty to disclose information in accordance with 1.56(a)...) phrase present.
6. Residence, citizenship, post office address of all applicants present.
7. Signed by all applicants.
8. Less than 3 months before filing date, or less than six months after filing date.

D. CLAIMS (as filed)

1. Complete form 1360 and 875: (forms on right side of file)
2. Circle independent claims on the Index of Claims.
3. Draw line under the last claim number on the Index of Claims.

B. SPECIFICATION

1. Serial Number present and correct.
2. Specification in permanent ink.
3. Brief Description of each drawing figure.
4. No missing or duplicate pages.
5. No holes punched in text.

F. ABSTRACT

1. None (go to G)
2. Serial Number present and correct.
3. Abstract on separate page.
4. 25 lines or less.
5. One paragraph ONLY.

G. PTQ-1556

1. Present

H. PRE-AMENDMENTS  
(found on right side of file)

1. None (go to I)
2. Enter on Contents of file wrapper.
3. Instruction to cancel claims.
4. Claims canceled on Index of Claims.
5. Instruction to add claims.
6. Circle new independent claims on the Index of Claims.
7. Draw line under the new last claim number on Index of Claims.
8. Complete forms 1360 and 875.

I. PTQ-948

1. Present

3. RIGHT SIDE OF FILE

1. PALM File Data sheet present.
2. Transmittal letters present.
3. Forms 1360 & 875 present/completed.
4. Miscellaneous Papers present/entered.
5. Petition to Make Special present. (Enter and place in the center)
6. Drawing prints present. (2 copies)

**FEES**

- 1. Correct filing fee paid.
- 2. Excess claims fees paid:
  - a. Excess total claims more than 20.
  - b. Excess independent claims more than 3.
  - c. First multiple dependent claim fee paid.
- 3. Miscellaneous paper fee paid.

**FINAL STEPS**

- 1. Sign and date center of filewrapper, under flap.
- 2. Docketed to examiner.

**NOTES TO SUPERVISOR:**

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**NOTES TO EXAMINER:**

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**SIGNATURE OF PREPARER:**

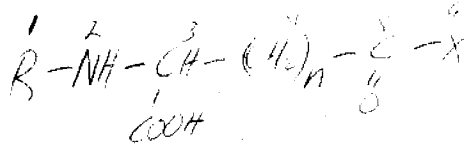
Andrew Badie      DATE: 10/30

### SEARCH REQUEST FORM


Requestor's Name: D. Landrum Serial Number: 07/031,842  
 Date: 11/5/78 Phone: 308-4522 Art Unit: 1013

**Search Topic:**

Please write a detailed statement of search topic. Describe specifically as possible the subject matter to be searched. Define any terms that may have a special meaning. Give examples or relevant citations, authors keywords, etc., if known. For sequences, please attach a copy of the sequence. You may include a copy of the broadest and/or most relevant claim(s).



R = H, L-alkyl, alkyl

X = L- or D-tryptophan = 

9 sites

14.37  
1424-34

@ 529.03

**STAFF USE ONLY**

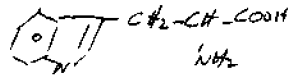
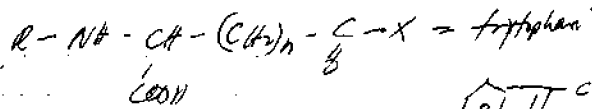
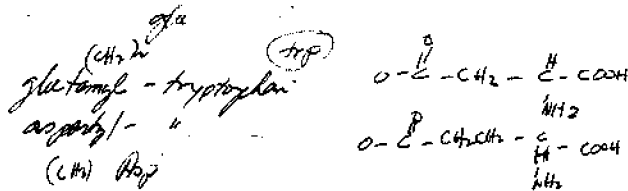
Date completed: 11/10  
 Searcher: Wass 4258  
 Terminal time: 120  
 Elapsed time: \_\_\_\_\_  
 CPU time: \_\_\_\_\_  
 Total time: \_\_\_\_\_  
 Number of Searches: \_\_\_\_\_  
 Number of Databases: \_\_\_\_\_

**Search Site**  
 STIC  
 CM-1  
 Pre-S  
**Type of Search**  
 N.A. Sequence  
 A.A. Sequence  
 Structure  
 graphic

**Vendors**  
 IG Suite  
 STN  
 Dialog  
 APS  
 Geninfo  
 SDC  
 DARC/Questel  
 Other

09/03/87

1-14 components + methods of use



double patenting  
a obvious double patenting

514/19, 419, 438

518/ 496,

5,786, 519

102 103 191 103

with R = H

(1-14)

X = L-tryptophan

n = 2

1, 2, 4, 12, 13

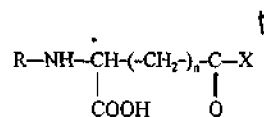
claim 9) - 112 - undiff. l. wh. + method for

**In the Claims:**

Please amend claims 1 and 12 as follows:

1. (Amended) A compound with at least two amino acid residues and having the structure of Formula 1:

**FORMULA 1**

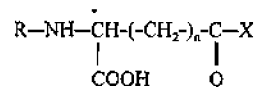


where n is 1 or 2, R is hydrogen, an acyl having 2 to 10 carbon atoms, or an alkyl having from 1 to 6 carbons, and X is L-tryptophan[,] or D-tryptophan, [ $\beta$ -L-aspartyl-L-tryptophan, or  $\beta$ -D-aspartyl-L-tryptophan,] and wherein the  $\alpha$  carbon marked with an asterisk in Formula 1 has a stereoconfiguration, when n is 2, that is different from the stereoconfiguration of X.

12. An immunomodulatory therapeutic method comprising:

administering to a patient a dose in the range of about 1 ng to about 1000  $\mu$ g of body weight a compound in a pharmaceutically acceptable form and having the structure of Formula 1:

**FORMULA 1**

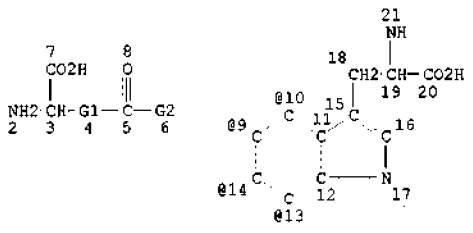


where n is 1 or 2, R is hydrogen, an acyl having 2 to 10 carbon atoms, or an alkyl having from 1 to 6 carbons, and X is L-tryptophan[,] or D-tryptophan, [ $\beta$ -L-aspartyl-L-tryptophan, or  $\beta$ -D-aspartyl-L-

Lambkin  
09/03/84

=> d 17 que stat

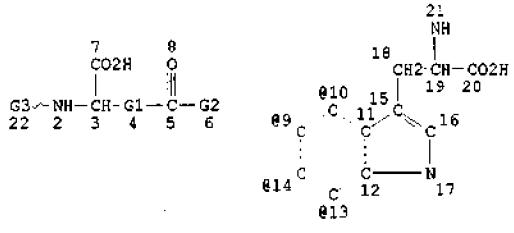
L4 STR



REP G1=(0-10) CH2  
VAR G2=10/9/14/13  
NODE ATTRIBUTES:  
DEFAULT MLEVEL IS ATOM  
DEFAULT ELEVEL IS LIMITED

GRAPH ATTRIBUTES:  
RING(S) ARE ISOLATED OR EMBEDDED  
NUMBER OF NODES IS 20

STEREO ATTRIBUTES: NONE  
L5 STR



O=C~C  
23 @24 25

REP G1=(0-10) CH2  
VAR G2=10/9/14/13  
VAR G3=AK/24



NODE ATTRIBUTES:  
DEFAULT MLEVEL IS ATOM  
DEFAULT ECLEVEL IS LIMITED

GRAPH ATTRIBUTES:  
RING(S) ARE ISOLATED OR EMBEDDED  
NUMBER OF NODES IS 24

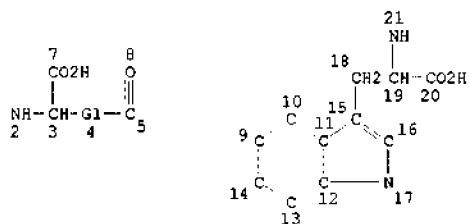
STEREO ATTRIBUTES: NONE  
L7 0 SEA FILE=REGISTRY SSS FUL L4 OR L5

100.0% PROCESSED 19841 ITERATIONS  
SEARCH TIME: 00.00.20

0 ANSWERS

=> d 110 que stat;d 1-39 ide cbib abs:dis his;d

L8 STR



REP G1=(0-10) CH2  
NODE ATTRIBUTES:  
DEFAULT MLEVEL IS ATOM  
DEFAULT ECLEVEL IS LIMITED

GRAPH ATTRIBUTES:  
RING(S) ARE ISOLATED OR EMBEDDED  
NUMBER OF NODES IS 19

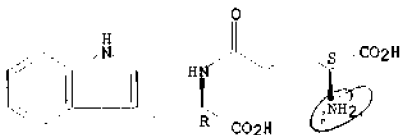
STEREO ATTRIBUTES: NONE  
L10 39 SEA FILE=REGISTRY SSS FUL L8

100.0% PROCESSED 19681 ITERATIONS  
SEARCH TIME: 00.00.05

39 ANSWERS

L10 ANSWER 1 OF 39 REGISTRY COPYRIGHT 1998 ACS  
RN 205698-38-0 REGISTRY  
CN D-Tryptophan, L-.gamma.-glutamyl- (9CI) (CA INDEX NAME)  
FS STEREOSEARCH  
MF C16 H19 N3 O5  
SR CA  
LC STN Files: CA, CAPLUS, TOXLIT, USPATFULL

Absolute stereochemistry.



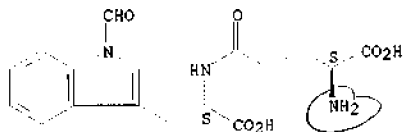
1 REFERENCES IN FILE CA (1967 TO DATE)  
1 REFERENCES IN FILE CAPLUS (1967 TO DATE)

REFERENCE 1: 128:267791 Peptide, preparation method, pharmaceutical composition, and use in reconstitution of hematopoietic and immune system cells after radio- or chemotherapy. Deigin, Vladislav I.; Korotkov, Andrei Marxovich (Can.). U.S. US 5736519 A 19980407, 6 pp. (English). CODEN: USXXAM. APPLICATION: US 96-657888 19980607.

AB Peptides X-A-D-Trp-Y (X = H, glycine, alanine, leucine, isoleucine, valine, N-valine, proline, tyrosine, phenylalanine, tryptophan, D-alanine, D-leucine, D-isoleucine, D-valine, D-N-valine, D-proline, D-tyrosine, D-phenylalanine, D-tryptophan, .alpha.-aminobutyric acid, .xi.-aminocaproic acid; A = D-glutamic acid, iD-glutamic acid; Y = glycine, alanine, leucine, isoleucine, valine, N-valine, proline, tyrosine, phenylalanine, tryptophan, D-alanine, D-leucine, D-isoleucine, D-valine, D-N-valine, D-proline, D-tyrosine, D-phenylalanine, D-tryptophan, .alpha.-aminobutyric acid, .xi.-aminocaproic acid, OH, Cl-3 substituted amide) are disclosed. Also disclosed are pharmaceutical comps. contg. the peptides. The peptides are useful for reconstitution of cells of the hemopoietic and immune systems in a subject following radiation-or chemotherapy-induced suppression of the cells. Prepn. and biol. activity of H-iD-Glu-D-Trp-OH is described.

L10 ANSWER 2 OF 39 REGISTRY COPYRIGHT 1998 ACS  
RN 191676-40-1 REGISTRY  
CN L-Tryptophan, L-.gamma.-glutamyl-1-formyl- (9CI) (CA INDEX NAME)  
FS STEREOSEARCH  
MF C17 H19 N3 O6  
SR CA  
LC STN Files: CA, CAPLUS, TOXLIT, USPATFULL

Absolute stereochemistry.



1 REFERENCES IN FILE CA (1967 TO DATE)  
1 REFERENCES IN FILE CAPLUS (1967 TO DATE)

REFERENCE 1: 127:76011 .gamma.-L-Glutamyl-containing immunomodulator compounds and therapeutic methods using them. Kolobov, Alexander A.; Simbirtsev, Andrey S.; Kulikov, Sergey V.; Prusakov, Alexey N.; Kalihina, Natalia M.; Pigareva, Natalia V.; Kotov, Alexander U.; Shpen, Vladimir M.; Kaurov, Oleg A.; Ketlinsky, Sergey A. (Wei,

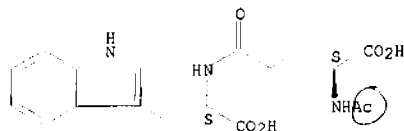
*agilent*

Edward, T., USA). PCI Int. Appl. WO 9719691 A1 19970605, 40 pp.  
DESIGNATED STATES: W: CN, JP, KR, SG; RW: AT, BE, CH, DE, DK, ES,  
FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE. (English). CODEN:  
PIXXD2. APPLICATION: WO 96-US17913 19961113. PRIORITY: RU  
95-95119704 19951128; RU 95-95120266 19951128; US 96-634718  
19960418.

AB Synthetic immunomodulatory mols. having a .gamma.-L-glutamyl moiety  
at the amino terminus and a formula R-NH-CH(COOH)CH2CH2C(O)X (R = H,  
acyl, alkyl; X = arom. or heterocyclic amino acid or deriv.) are  
provided. Included are those compds. where R = H and X =  
L-tryptophan, e.g. .gamma.-L-glutamyl-Nin-formyl-L-tryptophan,  
N-methyl-.gamma.-L-glutamyl-L-tryptophan, N-acetyl-.gamma.-L-  
glutamyl-L-tryptophan, and .gamma.-L-glutamyl-.beta.-thienyl-D-  
alanylamide. A preferred embodiment is Bestim (.gamma.-L-glutamyl-L-  
tryptophan). The results from studies of the immunostimulating  
activities of the .gamma.-L-glutamyl substituted dipeptides in  
humans with immunodeficiencies are provided.

L10 ANSWER 3 OF 39 REGISTRY COPYRIGHT 1998 ACS  
RN 191676-33-2 REGISTRY  
CN L-Tryptophan, N-acetyl-L-.gamma.-glutamyl- (9CI) (CA INDEX NAME)  
FS STEREOSEARCH  
MF C18 H21 N3 O6  
SR CA  
LC STN Files: CA, CAPLUS, TOXLIT, USPATFULL

Absolute stereochemistry.



1 REFERENCES IN FILE CA (1967 TO DATE)  
1 REFERENCES IN FILE CAPLUS (1967 TO DATE)

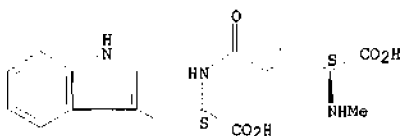
REFERENCE 1: 127:76C11 .gamma.-L-Glutamyl-containing immunomodulator  
compounds and therapeutic methods using them. Kolobov, Alexander  
A.; Simbirtsev, Andrey S.; Kulikov, Sergey V.; Prusakov, Alexey N.;  
Kalinina, Natalia M.; Pigareva, Natalia V.; Kotov, Alexander U.;  
Shpen, Vladimir M.; Kurov, Oleg A.; Kettinsky, Sergey A. (Wei,  
Edward, T., USA). PCI Int. Appl. WO 9719691 A1 19970605, 40 pp.  
DESIGNATED STATES: W: CN, JP, KR, SG; RW: AT, BE, CH, DE, DK, ES,  
FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE. (English). CODEN:  
PIXXD2. APPLICATION: WO 96-US17913 19961113. PRIORITY: RU  
95-95119704 19951128; RU 95-95120266 19951128; US 96-634718  
19960418.

AB Synthetic immunomodulatory mols. having a .gamma.-L-glutamyl moiety  
at the amino terminus and a formula R-NH-CH(COOH)CH2CH2C(O)X (R = H,  
acyl, alkyl; X = arom. or heterocyclic amino acid or deriv.) are  
provided. Included are those compds. where R = H and X =  
L-tryptophan, e.g. .gamma.-L-glutamyl-Nin-formyl-L-tryptophan,  
N-methyl-.gamma.-L-glutamyl-L-tryptophan, N-acetyl-.gamma.-L-  
glutamyl-L-tryptophan, and .gamma.-L-glutamyl-.beta.-thienyl-D-  
alanylamide. A preferred embodiment is Bestim (.gamma.-L-glutamyl-L-  
tryptophan). The results from studies of the immunostimulating  
activities of the .gamma.-L-glutamyl substituted dipeptides in

humans with immunodeficiencies are provided.

L10 ANSWER 4 OF 39 REGISTRY COPYRIGHT 1998 ACS  
RN 191676-25-2 REGISTRY  
CN L-Tryptophan, N-methyl-L-.gamma.-glutamyl- (9CI) (CA INDEX NAME)  
FS STEREOSEARCH  
MF C17 M21 N3 O5  
SR CA  
LC STN Files: CA, CAPLUS, TOXLIT, USPATFULL

Absolute stereochemistry.



1 REFERENCES IN FILE CA (1967 TO DATE)  
1 REFERENCES IN FILE CAPLUS (1967 TO DATE)

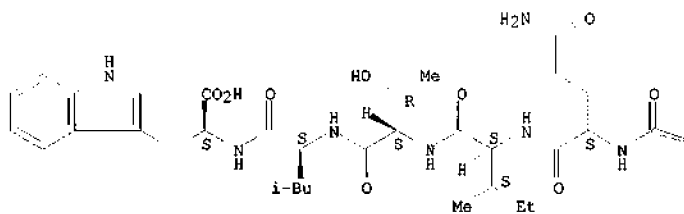
REFERENCE 1, 127,76011 .gamma.-L-Glutamyl-containing immunomodulator compounds and therapeutic methods using them. Kolobov, Alexander A.; Simbirtsev, Andrey S.; Kulikov, Sergey V.; Prusakov, Alexey N.; Kalinina, Natalia M.; Pigareva, Natalia V.; Kotov, Alexander U.; Shpen, Vladimir M.; Kaurov, Oleg A.; Ketlinsky, Sergey A. (Wei, Edward, T., USA). PCT Int. Appl. WO 9719691 A1 19970605, 40 pp. DESIGNATED STATES: W; CN, JP, KR, SG; RW: AT, BE, CH, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE. (English). CODEN: PIXXD2. APPLICATION: WO 96-US17913 19961113. PRIORITY: RU 95-95119704 19951128; RU 95-95120266 19951128; US 96-634718 19960418.

AB Synthetic immunomodulatory mols. having a .gamma.-L-glutamyl moiety at the amino terminus and a formula R-NH-CH(COOH)CH2CH2C(O)X (R = H, acyl, alkyl; X = arom. or heterocyclic amino acid or deriv.) are provided. Included are those compds. where R = H and X = L-tryptophan, e.g. .gamma.-L-glutamyl-Nin-formyl-L-tryptophan, N-methyl-.gamma.-L-glutamyl-L-tryptophan, N-acethyl-.gamma.-L-glutamyl-L-tryptophan, and .gamma.-L-glutamyl-.beta.-thienyl-D-alanylamide. A preferred embodiment is Bestim (.gamma.-L-glutamyl-L-tryptophan). The results from studies of the immunostimulating activities of the .gamma.-L-glutamyl substituted dipeptides in humans with immunodeficiencies are provided.

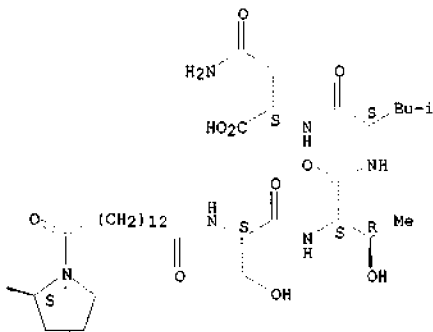
L10 ANSWER 5 OF 39 REGISTRY COPYRIGHT 1998 ACS  
RN 191091-09-5 REGISTRY  
CN L-Tryptophan, 1-(13-carboxy-1-oxotridecyl)-L-prolyl-L-glutamyl-L-isoleucyl-L-threonyl-L-leucyl-, (1.fwdarw.1')-amide with L-seryl-L-threonyl-L-leucyl-L-asparagine (9CI) (CA INDEX NAME)  
FS PROTEIN SEQUENCE; STEREOSEARCH  
MF C68 H109 N13 O19  
SR CA  
LC STN Files: CA, CAPLUS, TOXLIT

Absolute stereochemistry.

PAGE 1-A



PAGE 1-B



1 REFERENCES IN FILE CA (1967 TO DATE)  
1 REFERENCES IN FILE CAPLUS (1967 TO DATE)

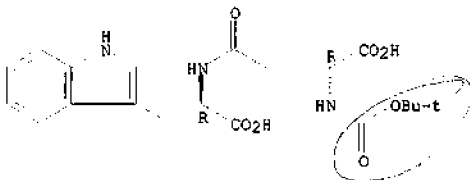
REFERENCE 1: 127:44441 Targeting the Dimerization Interface of HIV-1 Protease: Inhibition with Cross-Linked Interfacial Peptides. Zutshi, Reena; Franciskovich, Jeff; Shultz, Michael; Schweitzer, Barbara; Bishop, Patricia; Wilson, Matt; Chmielewski, Jean (Department of Chemistry, Purdue University West Lafayette, Indiana, IN, 47907, USA). J. Am. Chem. Soc., 119(21), 4841-4845 (English) 1997. CODEN: JACSAT. ISSN: 0002-7863. Publisher: American Chemical Society.

AB Agents have been designed and synthesized which target the dimerization interface of HIV-1 protease. These agents, which

contain cross-linked peptides from the N- and C-termini of the protease, both inhibit HIV-1 protease activity and decrease the amt. of protease dimer in soln. as measured by size exclusion chromatog., protein crosslinking, and protease fluorescence studies. Addnl. the authors have shown that active site-targeted agents inhibit HIV-1 protease activity but have little effect on protease dimerization. These data support the claim that inhibition with the crosslinked agents is based on a decrease in the amt. of protease homodimer in soln. which in turn is responsible for a decrease in the activity of the protease.

L10 ANSWER 6 OF 39 REGISTRY COPYRIGHT 1998 ACS  
 RN 186087-52-5 REGISTRY  
 CN D-Tryptophan, N-[(1,1-dimethylethoxy)carbonyl]-D-.gamma.-glutamyl-  
 (9CI) (CA INDEX NAME)  
 FS STEREOSEARCH  
 MF C21 H27 N3 O7  
 SR CA  
 LC STN Files: CA, CAPLUS, TOXLIT, USPATFULL

Absolute stereochemistry.



2 REFERENCES IN FILE CA (1967 TO DATE)  
 2 REFERENCES IN FILE CAPLUS (1967 TO DATE)

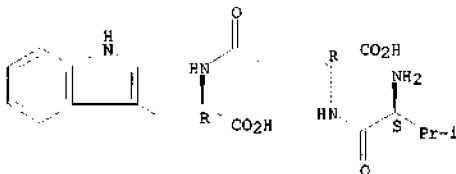
- REFERENCE 1: 128:267791 Peptide, preparation method, pharmaceutical composition, and use in reconstitution of hematopoietic and immune system cells after radio- or chemotherapy. Deigin, Vladislav I.; Korotkov, Andrei Marxovich (Can.). U.S. 5736519 A 19980407, 6 pp. (English). CODEN: USXXAM. APPLICATION: US 96-657888 19960607.
- AB Peptides X-A-D-Trp-Y (X = R, glycine, alanine, leucine, isoleucine, valine, N-valine, proline, tyrosine, phenylalanine, tryptophan, D-alanine, D-leucine, D-isoleucine, D-valine, D-N-valine, D-proline, D-tyrosine, D-phenylalanine, D-tryptophan, .alpha.-aminobutyric acid, .xi.-aminocaproic acid; A = D-glutamic acid, D-glutamic acid; Y = glycine, alanine, leucine, isoleucine, valine, N-valine, proline, tyrosine, phenylalanine, tryptophan, D-alanine, D-leucine, D-isoleucine, D-valine, D-N-valine, D-proline, D-tyrosine, D-phenylalanine, D-tryptophan, .alpha.-aminobutyric acid, .xi.-aminocaproic acid; OH, Cl-3 substituted amide) are disclosed. Also disclosed are pharmaceutical comps. contg. the peptides. The peptides are useful for reconstitution of cells of the hemopoietic and immune systems in a subject following radiation-or chemotherapy-induced suppression of the cells. Prepn. and biol. activity of H-iD-Glu-D-Trp-OH is described.
- REFERENCE 2: 126:118206 Method for the preparation of immunoregulatory peptides. Deigin, Vladislav Isakovich; Korotkov, Andrey Marxovich (Deigin, Vladislav Isakovich, Russia; Korotkov, Andrey Marxovich). PCT Int. Appl. WO 9640740 A1 19961219, 9 pp. DESIGNATED STATES: W:

AU, BR, BY, CA, CN, CZ, HU, JP, KG, KP, KZ, LT, LV, MN, SK, UA, US, UZ; RW: AT, BE, CH, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE. (Russian). CODEN: PIXXD2. APPLICATION: WO 96-RU116 19960506. PRIORITY: RU 95-95108559 19950607.

AB Immunoregulatory peptides X-A-D-Trp-Y (A = D-Glu, id-Glu; X = H, Gly, Ala, Leu, Ile, Val, Nval, Pro, Tyr, Phe, Trp, D-Ala, D-Leu, D-Ile, D-Val, D-NVal, D-Pro, D-Tyr, D-Phe, D-Trp, .gamma.-aminobutyric acid, .xi.-aminocaproic acid; Y = Gly, Ala, Leu, Ile, Val, Nval, Pro, Tyr, Phe, Trp, D-Ala, D-Leu, D-Ile, D-Val, D-NVal, D-Pro, D-Tyr, D-Phe, D-Trp, .gamma.-aminobutyric acid, .xi.-aminocaproic acid, -OH or substituted amide) were prepd. by coupling of an internal anhydride of tert-butoxycarbonylglutamic acid with K salts of D-Trp-Y, followed by chromatog. sepn. of the .alpha.- and .gamma.-isomers. Further coupling was carried out by using activated esters of tert-butoxycarbonyl amino acids. Thus, the reaction of Boc-D-Glu-OH with H-D-Trp-OK in DMF in the presence of DCC, followed by deprotection and chromatog., afforded 35% each H-D-Glu-D-Trp-OH and H-id-Glu-D-Trp-OH. The latter dipeptide inhibited proliferation of spleen cells in mice (data tabulated).

L10 ANSWER 7 OF 39 REGISTRY COPYRIGHT 1998 ACS  
RN 186087-50-3 REGISTRY  
CN D-Tryptophan, L-valyl-D-.gamma.-glutamyl- (9CI) (CA INDEX NAME)  
FS STEREOSEARCH  
MF C21 H28 N4 O6  
SR CA  
LC STN Files: CA, CAPLUS

Absolute stereochemistry.



1 REFERENCES IN FILE CA (1967 TO DATE)  
1 REFERENCES IN FILE CAPLUS (1967 TO DATE)

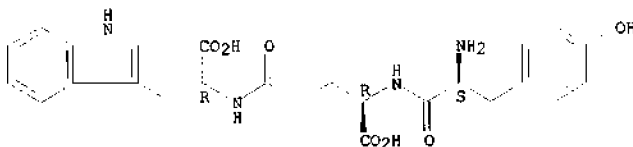
REFERENCE 1: 126:118206 Method for the preparation of immunoregulatory peptides. Deigin, Vladislav Isakovich; Korotkov, Andrey Marxovich (Deigin, Vladislav Isakovich, Russia; Korotkov, Andrey Marxovich). PCT Int. Appl. WO 9640740 A1 19961219, 9 pp. DESIGNATED STATES: W: AU, BR, BY, CA, CN, CZ, HU, JP, KG, KP, KZ, LT, LV, MN, SK, UA, US, UZ; RW: AT, BE, CH, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE. (Russian). CODEN: PIXXD2. APPLICATION: WO 96-RU116 19960506. PRIORITY: RU 95-95108559 19950607.

AB Immunoregulatory peptides X-A-D-Trp-Y (A = D-Glu, id-Glu; X = H, Gly, Ala, Leu, Ile, Val, Nval, Pro, Tyr, Phe, Trp, D-Ala, D-Leu, D-Ile, D-Val, D-NVal, D-Pro, D-Tyr, D-Phe, D-Trp, .gamma.-aminobutyric acid, .xi.-aminocaproic acid; Y = Gly, Ala, Leu, Ile, Val, Nval, Pro, Tyr, Phe, Trp, D-Ala, D-Leu, D-Ile, D-Val, D-NVal, D-Pro, D-Tyr, D-Phe, D-Trp, .gamma.-aminobutyric acid, .xi.-aminocaproic acid, -OH or substituted amide) were prepd. by coupling of an internal anhydride of tert-butoxycarbonylglutamic acid with K salts of D-Trp-Y, followed by chromatog. sepn. of the

.alpha.- and .gamma.-isomers. Further coupling was carried out by using activated esters of tert-butoxycarbonyl amino acids. Thus, the reaction of Boc-D-Glu-OH with H-D-Trp-OK in DMF in the presence of DCC, followed by deprotection and chromatog., afforded 35% each H-D-Glu-D-Trp-OH and H-ID-Glu-D-Trp-OH. The latter dipeptide inhibited proliferation of spleen cells in mice (data tabulated).

L10 ANSWER 8 OF 39 REGISTRY COPYRIGHT 1998 ACS  
 RN 186087-46-7 REGISTRY  
 CN D-Tryptophan, L-tyrosyl-D-.gamma.-glutamyl- (9CI) (CA INDEX NAME)  
 FS STEREOSEARCH  
 MF C25 H28 N4 O7  
 SR CA  
 LC STN Files: CA, CAPLUS

Absolute stereochemistry.



1 REFERENCES IN FILE CA (1967 TO DATE)  
 1 REFERENCES IN FILE CAPLUS (1967 TO DATE)

REFERENCE 1: 126:118206 Method for the preparation of immunoregulatory peptides. Deigin, Vladislav Isakovich; Korotkov, Andrey Marxovich (Deigin, Vladislav Isakovich, Russia; Korotkov, Andrey Marxovich). ECT Int. Appl. WO 9640740 A1 19961219, 9 pp. DESIGNATED STATES: W: AU, BR, BY, CA, CN, CZ, HU, JP, KG, KP, KZ, LT, LV, MN, SK, UA, US, UZ; RW: AT, BE, CH, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE. (Russian). CODEN: PIXXD2. APPLICATION: WO 96-RU116 19960506. PRIORITY: RU 95-95108559 19950607.

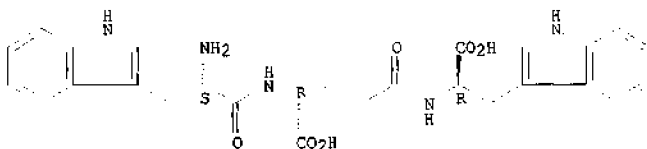
AB Immunoregulatory peptides X-A-D-Trp-Y (A = D-Glu, ID-Glu; X = H, Gly, Ala, Leu, Ile, Val, Nval, Pro, Tyr, Phe, Trp, D-Ala, D-Leu, D-Ile, D-Val, D-Nval, D-Pro, D-Tyr, D-Phe, D-Trp, .gamma.-aminobutyric acid, .xi.-aminocaproic acid; Y = Gly, Ala, Leu, Ile, Val, Nval, Pro, Tyr, Phe, Trp, D-Ala, D-Leu, D-Ile, D-Val, D-Nval, D-Pro, D-Tyr, D-Phe, D-Trp, .gamma.-aminobutyric acid, .xi.-aminocaproic acid, -OH or substituted amide) were prep'd. by coupling of an internal anhydride of tert-butoxycarbonylglutamic acid with K salts of D-Trp-Y, followed by chromatog. sepn. of the .alpha.- and .gamma.-isomers. Further coupling was carried out by using activated esters of tert-butoxycarbonyl amino acids. Thus, the reaction of Boc-D-Glu-OH with H-D-Trp-OK in DMF in the presence of DCC, followed by deprotection and chromatog., afforded 35% each H-D-Glu-D-Trp-OH and H-ID-Glu-D-Trp-OH. The latter dipeptide inhibited proliferation of spleen cells in mice (data tabulated).

L10 ANSWER 9 OF 39 REGISTRY COPYRIGHT 1998 ACS  
 RN 186087-44-5 REGISTRY  
 CN D-Tryptophan, L-tryptophyl-D-.gamma.-glutamyl- (9CI) (CA INDEX NAME)  
 FS STEREOSEARCH  
 MF C27 H29 N5 O6  
 SR CA



LC STN Files: CA, CAPLUS

Absolute stereochemistry.

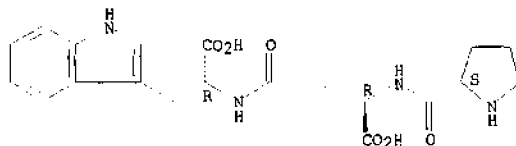


1 REFERENCES IN FILE CA (1967 TO DATE)  
1 REFERENCES IN FILE CAPLUS (1967 TO DATE)

REFERENCE 1: 126:118206 Method for the preparation of immunoregulatory peptides. Deigin, Vladislav Isakovich; Korotkov, Andrey Marxovich (Deigin, Vladislav Isakovich, Russia; Korotkov, Andrey Marxovich). PCT Int. Appl. WO 9640740 A1 19961219, 9 pp. DESIGNATED STATES: W: AU, BR, BY, CA, CN, CZ, HU, JP, KG, KP, KZ, LT, LV, MN, SK, UA, US, UZ; RW: AT, BE, CH, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, ML, PT, SE. (Russian). CODEN: PIXXD2. APPLICATION: WO 96-RU116 19960506. PRIORITY: RU 95-95108559 19950607.

AB Immunoregulatory peptides X-A-D-Trp-Y (A = D-Glu, iD-Glu; X = H, Gly, Ala, Leu, Ile, Val, Nval, Pro, Tyr, Phe, Trp, D-Ala, D-Leu, D-Ile, D-Val, D-NVal, D-Pro, D-Tyr, D-Phe, D-Trp, .gamma.-aminobutyric acid, .xi.-aminocaproic acid; Y = Gly, Ala, Leu, Ile, Val, Nval, Pro, Tyr, Phe, Trp, D-Ala, D-Leu, D-Ile, D-Val, D-NVal, D-Pro, D-Tyr, D-Phe, D-Trp, .gamma.-aminobutyric acid, .xi.-aminocaproic acid, -OH or substituted amide) were prepd. by coupling of an internal anhydride of tert-butoxycarbonylglutamic acid with K salts of D-Trp-Y, followed by chromatog. sepn. of the .alpha.- and .gamma.-isomers. Further coupling was carried out by using activated esters of tert-butoxycarbonyl amino acids. Thus, the reaction of Boc-D-Glu-OH with H-D-Trp-OK in DMF in the presence of DCC, followed by deprotection and chromatog., afforded 35% each H-D-Glu-D-Trp-OH and H-iD-Glu-D-Trp-OH. The latter dipeptide inhibited proliferation of spleen cells in mice (data tabulated).

L10 ANSWER 10 OF 39 REGISTRY COPYRIGHT 1998 ACS  
RN 186087-42-3 REGISTRY  
CN D-Tryptophan, L-prolyl-D-.gamma.-glutamyl- (9CI) (CA INDEX NAME)  
FS STEREOSEARCH  
MF C21 H26 N4 O6  
SR CA  
LC STN Files: CA, CAPLUS



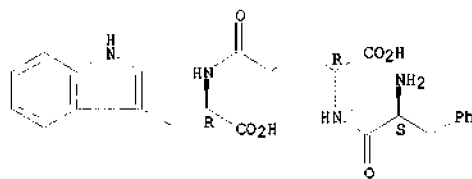
1 REFERENCES IN FILE CA (1967 TO DATE)  
1 REFERENCES IN FILE CAPLUS (1967 TO DATE)

REFERENCE 1: 126:118206 Method for the preparation of immunoregulatory peptides. Deigin, Vladislav Isakovich; Korotkov, Andrey Marxovich (Deigin, Vladislav Isakovich, Russia; Korotkov, Andrey Marxovich). PCT Int. Appl. WO 9640740 A1 19961219, 9 pp. DESIGNATED STATES: W: AU, BR, BY, CA, CN, CZ, HU, JP, KG, KP, KZ, LT, LV, MN, SK, UA, US, UZ; RW: AT, BE, CH, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE. (Russian). CODEN: PIXXD2. APPLICATION: WO 96-RU116 19960506. PRIORITY: RU 95-95108559 19950607.

AB Immunoregulatory peptides X-A-D-Trp-Y (A = D-Glu, id-Glu; X = H, Gly, Ala, Leu, Ile, Val, Nval, Pro, Tyr, Phe, Trp, D-Ala, D-Leu, D-Ile, D-Val, D-NVal, D-Pro, D-Tyr, D-Phe, D-Trp, .gamma.-aminobutyric acid, .xi.-aminocaproic acid; Y = Gly, Ala, Leu, Ile, Val, Nval, Pro, Tyr, Phe, Trp, D-Ala, D-Leu, D-Ile, D-Val, D-NVal, D-Pro, D-Tyr, D-Phe, D-Trp, .gamma.-aminobutyric acid, .xi.-aminocaproic acid, -OH or substituted amide) were prepd. by coupling of an internal anhydride of tert-butoxycarbonylglutamic acid with K salts of D-Trp-Y, followed by chromatog. sepn. of the .alpha.- and .gamma.-isomers. Further coupling was carried out by using activated esters of tert-butoxycarbonyl amino acids. Thus, the reaction of Boc-D-Glu-OH with H-D-Trp-OK in DMF in the presence of DCC, followed by deprotection and chromatog., afforded 35% each H-D-Glu-D-Trp-OH and H-id-Glu-D-Trp-OH. The latter dipeptide inhibited proliferation of spleen cells in mice (data tabulated).

L10 ANSWER 11 OF 39 REGISTRY COPYRIGHT 1998 ACS  
RN 186087-40-1 REGISTRY  
CN D-Tryptophan, L-phenylalanyl-D-.gamma.-glutamyl- (9CI) (CA INDEX NAME)  
FS STEREOSEARCH  
MF C25 H28 N4 O6  
SR CA  
LC STN Files: CA, CAPLUS

Absolute stereochemistry.



1 REFERENCES IN FILE CA (1967 TO DATE)  
1 REFERENCES IN FILE CAPLUS (1967 TO DATE)

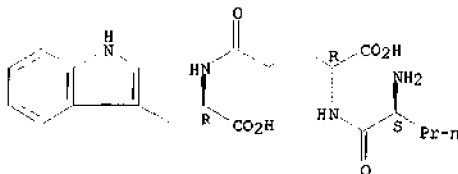
REFERENCE 1: 126:118206 Method for the preparation of immunoregulatory peptides. Deigin, Vladislav Isakovich; Korotkov, Andrey Marxovich (Deigin, Vladislav Isakovich, Russia; Korotkov, Andrey Marxovich). PCT Int. Appl. WO 9640740 A1 19961219, 9 pp. DESIGNATED STATES: W: AU, BR, BY, CA, CN, CZ, HU, JP, KG, KP, KZ, LT, LV, MN, SK, UA, US, UZ; RW: AT, BE, CH, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE. (Russian). CODEN: PIXXD2. APPLICATION: WO 96-RU116 19960506. PRIORITY: RU 95-95108559 19950607.

AB Immunoregulatory peptides X-A-D-Trp-Y (A = D-Glu, id-Glu; X = H,

Gly, Ala, Leu, Ile, Val, Nval, Pro, Tyr, Phe, Trp, D-Ala, D-Leu, D-Ile, D-Val, D-NVal, D-Pro, D-Tyr, D-Phe, D-Trp, .gamma.-aminobutyric acid, .xi.-aminocaproic acid; Y = Gly, Ala, Leu, Ile, Val, Nval, Pro, Tyr, Phe, Trp, D-Ala, D-Leu, D-Ile, D-Val, D-NVal, D-Pro, D-Tyr, D-Phe, D-Trp, .gamma.-aminobutyric acid, .xi.-aminocaproic acid, -OH or substituted amide) were prepd. by coupling of an internal anhydride of tert-butoxycarbonylglutamic acid with K salts of D-Trp-Y, followed by chromatog. sepn. of the .alpha.- and .gamma.-isomers. Further coupling was carried out by using activated esters of tert-butoxycarbonyl amino acids. Thus, the reaction of Boc-D-Glu-OH with H-D-Trp-OK in DMF in the presence of DCC, followed by deprotection and chromatog., afforded 35% each H-D-Glu-D-Trp-OH and H-ID-Glu-D-Trp-OH. The latter dipeptide inhibited proliferation of spleen cells in mice (data tabulated).

L10 ANSWER 12 OF 39 REGISTRY COPYRIGHT 1998 ACS  
 RN 186087-38-7 REGISTRY  
 CN D-Tryptophan, L-norvalyl-D-.gamma.-glutamyl- (9CI) (CA INDEX NAME)  
 FS STEREOSEARCH  
 MF C21 H28 N4 O6  
 SR CA  
 LC STN Files: CA, CAPLUS

Absolute stereochemistry.



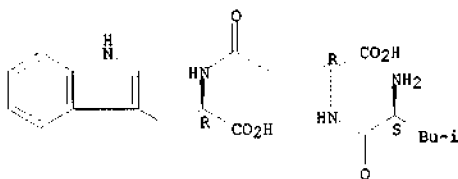
1 REFERENCES IN FILE CA (1967 TO DATE)  
 1 REFERENCES IN FILE CAPLUS (1967 TO DATE)

- REFERENCE 1: 126:118206 Method for the preparation of immunoregulatory peptides. Deigin, Vladislav Isakovich; Korotkov, Andrey Marxovich (Deigin, Vladislav Isakovich, Russia; Korotkov, Andrey Marxovich). PCT Int. Appl. WO 9640740 A1 19961219, 9 pp. DESIGNATED STATES: W: AU, BR, BY, CA, CN, CZ, HU, JP, KG, KP, KZ, LT, LV, MN, SK, UA, US, UZ; RW: AT, BE, CH, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE. (Russian). CODEN: PIKXD2. APPLICATION: WO 96-RU116 19960506. PRIORITY: RU 95-95108559 19950607.
- AB Immunoregulatory peptides X-A-D-Trp-Y (A = D-Glu, ID-Glu; X = H, Gly, Ala, Leu, Ile, Val, Nval, Pro, Tyr, Phe, Trp, D-Ala, D-Leu, D-Ile, D-Val, D-NVal, D-Pro, D-Tyr, D-Phe, D-Trp, .gamma.-aminobutyric acid, .xi.-aminocaproic acid; Y = Gly, Ala, Leu, Ile, Val, Nval, Pro, Tyr, Phe, Trp, D-Ala, D-Leu, D-Ile, D-Val, D-NVal, D-Pro, D-Tyr, D-Phe, D-Trp, .gamma.-aminobutyric acid, .xi.-aminocaproic acid, -OH or substituted amide) were prepd. by coupling of an internal anhydride of tert-butoxycarbonylglutamic acid with K salts of D-Trp-Y, followed by chromatog. sepn. of the .alpha.- and .gamma.-isomers. Further coupling was carried out by using activated esters of tert-butoxycarbonyl amino acids. Thus, the reaction of Boc-D-Glu-OH with H-D-Trp-OK in DMF in the presence of DCC, followed by deprotection and chromatog., afforded 35% each H-D-Glu-D-Trp-OH and H-ID-Glu-D-Trp-OH. The latter dipeptide

inhibited proliferation of spleen cells in mice (data tabulated).

L10 ANSWER 13 OF 39 REGISTRY COPYRIGHT 1998 ACS  
RN 186087-36-5 REGISTRY  
CN D-Tryptophan, L-leucyl-D- $\gamma$ -glutamyl- (9CI) (CA INDEX NAME)  
FS STEREOSEARCH  
MF C22 H30 N4 O6  
SR CA  
LC STN Files: CA, CAPLUS, TOXLIT, USPATFULL

Absolute stereochemistry.



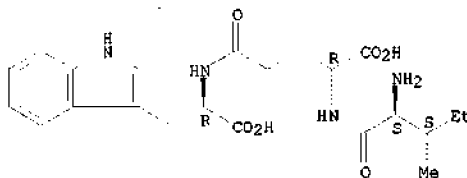
2 REFERENCES IN FILE CA (1967 TO DATE)  
2 REFERENCES IN FILE CAPLUS (1967 TO DATE)

- REFERENCE 1: 128:267791 Peptide, preparation method, pharmaceutical composition, and use in reconstitution of hematopoietic and immune system cells after radio- or chemotherapy. Deigin, Vladislav I.; Korotkov, Andrei Marxovich (Can.). U.S. US 5736519 A 19980407, 6 pp. (English). CODEN: USXXAM. APPLICATION: US 96-657888 19960607.
- AB Peptides X-A-D-Trp-Y (X = H, glycine, alanine, leucine, isoleucine, valine, N-valine, proline, tyrosine, phenylalanine, tryptophan, D-alanine, D-leucine, D-isoleucine, D-valine, D-N-valine, D-proline, D-tyrosine, D-phenylalanine, D-tryptophan,  $\alpha$ -aminobutyric acid,  $\omega$ -aminocaproic acid; A = D-glutamic acid,  $\beta$ -glutamic acid; Y = glycine, alanine, leucine, isoleucine, valine, N-valine, proline, tyrosine, phenylalanine, tryptophan, D-alanine, D-leucine, D-isoleucine, D-valine, D-N-valine, D-proline, D-tyrosine, D-phenylalanine, D-tryptophan,  $\alpha$ -aminobutyric acid,  $\omega$ -aminocaproic acid, OH, Cl-3 substituted amide) are disclosed. Also disclosed are pharmaceutical compns. contg. the peptides. The peptides are useful for reconstitution of cells of the hemopoietic and immune systems in a subject following radiation-or chemotherapy-induced suppression of the cells. Prepn. and biol. activity of H- $\beta$ -Glu-D-Trp-OH is described.
- REFERENCE 2: 126:118206 Method for the preparation of immunoregulatory peptides. Deigin, Vladislav Isakovich; Korotkov, Andrey Marxovich (Deigin, Vladislav Isakovich, Russia; Korotkov, Andrey Marxovich). PCT Int. Appl. WO 96/0740 A1 19961219, 9 pp. DESIGNATED STATES: W: AU, BR, BY, CA, CN, CZ, HU, JP, KG, KP, KZ, LT, LV, MN, SK, UA, US, UZ; RW: AT, BE, CH, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE. (Russian). CODEN: PIXXD2. APPLICATION: WO 96-RU116 19960506. PRIORITY: RU 95-95108559 19950607.
- AB Immunoregulatory peptides X-A-D-Trp-Y (A = D-Glu,  $\beta$ -Glu; X = H, Gly, Ala, Leu, Ile, Val, Nval, Pro, Tyr, Phe, Trp, D-Ala, D-Leu, D-Ile, D-Val, D-NVal, D-Pro, D-Tyr, D-Phe, D-Trp,  $\gamma$ -aminobutyric acid,  $\omega$ -aminocaproic acid; Y = Gly, Ala, Leu, Ile, Val, Nval, Pro, Tyr, Phe, Trp, D-Ala, D-Leu, D-Ile, D-Val, D-NVal, D-Pro, D-Tyr, D-Phe, D-Trp,  $\gamma$ -aminobutyric acid,

.xi.-aminocaproic acid, -OH or substituted amide) were prepd. by coupling of an internal anhydride of tert-butoxycarbonylglutamic acid with K salts of D-Trp-Y, followed by chromatog. sepn. of the .alpha.- and .gamma.-isomers. Further coupling was carried out by using activated esters of tert-butoxycarbonyl amino acids. Thus, the reaction of Boc-D-Glu-OH with H-D-Trp-OK in DMF in the presence of DCC, followed by deprotection and chromatog., afforded 35% each H-D-Glu-D-Trp-OH and H-iD-Glu-D-Trp-OH. The latter dipeptide inhibited proliferation of spleen cells in mice (data tabulated).

L10 ANSWER 14 OF 39 REGISTRY COPYRIGHT 1998 ACS  
 RN 186087-34-3 REGISTRY  
 CN D-Tryptophan, L-isoleucyl-D-.gamma.-glutamyl- (9CI) (CA INDEX NAME)  
 FS STEREOSEARCH  
 MF C22 H30 N4 O6  
 SR CA  
 LC STN Files: CA, CAPLUS

Absolute stereochemistry.



1 REFERENCES IN FILE CA (1967 TO DATE)  
 1 REFERENCES IN FILE CAPLUS (1967 TO DATE)

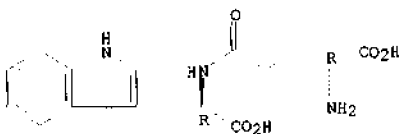
REFERENCE 1: 126:118206 Method for the preparation of immunoregulatory peptides. Deigin, Vladislav Isakovich; Korotkov, Andrey Markovich (Deigin, Vladislav Isakovich, Russia; Korotkov, Andrey Markovich). PCT Int. Appl. WO 96/0740 A1 19961219, 9 pp. DESIGNATED STATES: W: AU, BR, BY, CA, CN, CZ, HU, JP, KG, KP, KZ, LT, LV, MN, SK, UA, US, UZ; RW: AT, BE, CH, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE. (Russian). CODEN: PIXXD2. APPLICATION: WO 96-RU116 19960506. PRIORITY: RU 95-95108559 19950607.

AB Immunoregulatory peptides X-A-D-Trp-Y (A = D-Glu, iD-Glu; X = H, Gly, Ala, Leu, Ile, Val, Nval, Pro, Tyr, Phe, Trp, D-Ala, D-Leu, D-Ile, D-Val, D-Nval, D-Pro, D-Tyr, D-Phe, D-Trp, .gamma.-aminobutyric acid, .xi.-aminocaproic acid; Y = Gly, Ala, Leu, Ile, Val, Nval, Pro, Tyr, Phe, Trp, D-Ala, D-Leu, D-Ile, D-Val, D-Nval, D-Pro, D-Tyr, D-Phe, D-Trp, .gamma.-aminobutyric acid, .xi.-aminocaproic acid, -OH or substituted amide) were prepd. by coupling of an internal anhydride of tert-butoxycarbonylglutamic acid with K salts of D-Trp-Y, followed by chromatog. sepn. of the .alpha.- and .gamma.-isomers. Further coupling was carried out by using activated esters of tert-butoxycarbonyl amino acids. Thus, the reaction of Boc-D-Glu-OH with H-D-Trp-OK in DMF in the presence of DCC, followed by deprotection and chromatog., afforded 35% each H-D-Glu-D-Trp-OH and H-iD-Glu-D-Trp-OH. The latter dipeptide inhibited proliferation of spleen cells in mice (data tabulated).

L10 ANSWER 15 OF 39 REGISTRY COPYRIGHT 1998 ACS  
 RN 186087-26-3 REGISTRY  
 CN D-Tryptophan, D-.gamma.-glutamyl- (9CI) (CA INDEX NAME)

FS STEREOSEARCH  
 MF C16 H19 N3 O5  
 SR CA  
 LC STN Files: CA, CAPLUS, TOXLIT, USPATEFULL

Absolute stereochemistry.



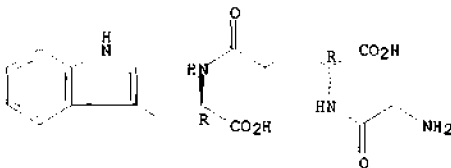
2 REFERENCES IN FILE CA (1967 TO DATE)  
 2 REFERENCES IN FILE CAPLUS (1967 TO DATE)

- REFERENCE 1: 129:267791 Peptide, preparation method, pharmaceutical composition, and use in reconstitution of hematopoietic and immune system cells after radio- or chemotherapy. Deigin, Vladislav I.; Korotkov, Andrei Marxovich (Can.). U.S. US 5736519 A 19980407, 6 pp. (English). CODEN: USXXAM. APPLICATION: US 96-657888 19960607.
- AB Peptides X-A-D-Trp-Y (X = H, glycine, alanine, leucine, isoleucine, valine, N-valine, proline, tyrosine, phenylalanine, tryptophan, D-alanine, D-leucine, D-isoleucine, D-valine, D-N-valine, D-proline, D-tyrosine, D-phenylalanine, D-tryptophan, .alpha.-aminobutyric acid, .xi.-aminocaproic acid; A = D-glutamic acid, iD-glutamic acid; Y = glycine, alanine, leucine, isoleucine, valine, N-valine, proline, tyrosine, phenylalanine, tryptophan, D-alanine, D-leucine, D-isoleucine, D-valine, D-N-valine, D-proline, D-tyrosine, D-phenylalanine, D-tryptophan, .alpha.-aminobutyric acid, .xi.-aminocaproic acid, OH, Cl-3 substituted amide) are disclosed. Also disclosed are pharmaceutical compns. conrg. the peptides. The peptides are useful for reconstitution of cells of the hemopoietic and immune systems in a subject following radiation-or chemotherapy-induced suppression of the cells. Prepn. and biol. activity of H-iD-Glu-D-Trp-OH is described.
- REFERENCE 2: 126:118206 Method for the preparation of immunoregulatory peptides. Deigin, Vladislav Isakovich; Korotkov, Andrey Marxovich (Deigin, Vladislav Isakovich, Russia; Korotkov, Andrey Marxovich). PCT Int. Appl. WO 9640740 A1 19961219, 9 pp. DESIGNATED STATES: W: AU, BR, BY, CA, CN, CZ, HU, JP, KG, KP, KZ, LT, LV, MN, SK, UA, US, UZ; RW: AT, BE, CH, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE. (Russian). CODEN: PIXXD2. APPLICATION: WO 96-RU116 19960506. PRIORITY: RU 95-95108559 19950607.
- AB Immunoregulatory peptides X-A-D-Trp-Y (A = D-Glu, iD-Glu; X = H, Gly, Ala, Leu, Ile, Val, Nval, Pro, Tyr, Phe, Trp, D-Ala, D-Leu, D-Ile, D-Val, D-NVal, D-Pro, D-Tyr, D-Phe, D-Trp, .gamma.-aminobutyric acid, .xi.-aminocaproic acid; Y = Gly, Ala, Leu, Ile, Val, Nval, Pro, Tyr, Phe, Trp, D-Ala, D-Leu, D-Ile, D-Val, D-NVal, D-Pro, D-Tyr, D-Phe, D-Trp, .gamma.-aminobutyric acid, .xi.-aminocaproic acid, -OH or substituted amide) were prepd. by coupling of an internal anhydride of tert-butoxycarbonylglutamic acid with K salts of D-Trp-Y, followed by chromatog. sepn. of the .alpha.- and .gamma.-isomers. Further coupling was carried out by using activated esters of tert-butoxycarbonyl amino acids. Thus, the reaction of Boc-D-Glu-OH with H-D-Trp-OR in DMF in the presence of DCC, followed by deprotection and chromatog., afforded 35% each

H-D-Glu-D-Trp-OH and H-ID-Glu-D-Trp-OH. The latter dipeptide inhibited proliferation of spleen cells in mice (data tabulated).

L10 ANSWER 16 OF 39 REGISTRY COPYRIGHT 1998 ACS  
RN 186087-04-7 REGISTRY  
CN D-Tryptophan, glycyL-D-.gamma.-glutamyl- (9CI) (CA INDEX NAME)  
FS STEREOSEARCH  
MF C18 H22 N4 O6.  
SR CA  
LC STN Files: CA, CAPLUS

Absolute stereochemistry.



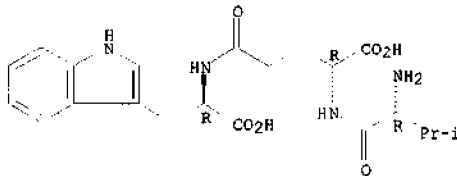
1 REFERENCES IN FILE CA (1967 TO DATE)  
1 REFERENCES IN FILE CAPLUS (1967 TO DATE)

REFERENCE 1: 126:118206 Method for the preparation of immunoregulatory peptides. Deigin, Vladislav Isakovich; Korotkov, Andrey Marxovich (Deigin, Vladislav Isakovich, Russia; Korotkov, Andrey Marxovich). PCT Int. Appl. WO 9640740 A1 19961219, 9 pp. DESIGNATED STATES: W: AU, BR, BY, CA, CN, CZ, HU, JP, KG, KP, KZ, LI, LV, MN, SK, UA, US, UZ; RW: AT, BE, CH, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE. (Russian). CODEN: PIXXD2. APPLICATION: WO 96-RU116 19960506. PRIORITY: RU 95-95108559 19950607.

AB Immunoregulatory peptides X-A-D-Trp-Y (A = D-Glu, ID-Glu; X = H, Gly, Ala, Leu, Ile, Val, Nval, Pro, Tyr, Phe, Trp, D-Ala, D-Leu, D-Ile, D-Val, D-NVal, D-Pro, D-Tyr, D-Phe, D-Trp, .gamma.-aminobutyric acid, .xi.-aminocaproic acid; Y = Gly, Ala, Leu, Ile, Val, Nval, Pro, Tyr, Phe, Trp, D-Ala, D-Leu, D-Ile, D-Val, D-NVal, D-Pro, D-Tyr, D-Phe, D-Trp, .gamma.-aminobutyric acid, .xi.-aminocaproic acid, -OH or substituted amide) were prepd. by coupling of an internal anhydride of tert-butoxycarbonylglutamic acid with K salts of D-Trp-Y, followed by chromatog. sepn. of the .alpha.- and .gamma.-isomers. Further coupling was carried out by using activated esters of tert-butoxycarbonyl amino acids. Thus, the reaction of Boc-D-Glu-OH with H-D-Trp-OK in DMF in the presence of DCC, followed by deprotection and chromatog., afforded 35% each H-D-Glu-D-Trp-OH and H-ID-Glu-D-Trp-OH. The latter dipeptide inhibited proliferation of spleen cells in mice (data tabulated).

L10 ANSWER 17 OF 39 REGISTRY COPYRIGHT 1998 ACS  
RN 186087-00-3 REGISTRY  
CN D-Tryptophan, D-valyl-D-.gamma.-glutamyl- (9CI) (CA INDEX NAME)  
FS STEREOSEARCH  
MF C21 H28 N4 O6  
SR CA  
LC STN Files: CA, CAPLUS

Absolute stereochemistry.



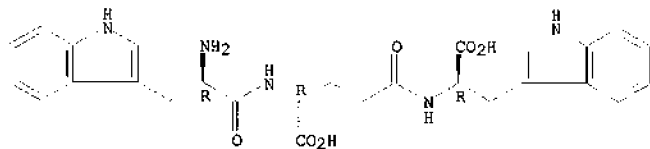
1 REFERENCES IN FILE CA (1967 TO DATE)  
 1 REFERENCES IN FILE CAPLUS (1967 TO DATE)

REFERENCE 1: 126:118206 Method for the preparation of immunoregulatory peptides. Deigin, Vladislav Isakovich; Korotkov, Andrey Marxovich (Deigin, Vladislav Isakovich, Russia; Korotkov, Andrey Marxovich). PCT Int. Appl. WO 9640740 A1 19961219, 9 pp. DESIGNATED STATES: W: AU, BR, BY, CA, CN, CZ, HU, JP, KG, KP, KZ, LT, LV, MN, SK, UA, US, UZ; RW: AT, BE, CH, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE. (Russian). CODEN: PIXXD2. APPLICATION: WO 96-RU116 19960506. PRIORITY: RU 95-95108559 19950607.

AB Immunoregulatory peptides X-A-D-Trp-Y (A = D-Glu, LD-Glu; X = H, Gly, Ala, Leu, Ile, Val, Nval, Pro, Tyr, Phe, Trp, D-Ala, D-Leu, D-Ile, D-Val, D-Nval, D-Pro, D-Tyr, D-Phe, D-Trp, .gamma.-aminobutyric acid, .xi.-aminocaproic acid; Y = Gly, Ala, Leu, Ile, Val, Nval, Pro, Tyr, Phe, Trp, D-Ala, D-Leu, D-Ile, D-Val, D-Nval, D-Pro, D-Tyr, D-Phe, D-Trp, .gamma.-aminobutyric acid, .xi.-aminocaproic acid, -OH or substituted amide) were prepd. by coupling of an internal anhydride of tert-butoxycarbonylglutamic acid with K salts of D-Trp-Y, followed by chromatog. sepn. of the .alpha.- and .gamma.-isomers. Further coupling was carried out by using activated esters of tert-butoxycarbonyl amino acids. Thus, the reaction of Boc-D-Glu-OH with H-D-Trp-OK in DMF in the presence of DCC, followed by deprotection and chromatog., afforded 35% each H-D-Glu-D-Trp-OH and H-iD-Glu-D-Trp-OH. The latter dipeptide inhibited proliferation of spleen cells in mice (data tabulated).

L10 ANSWER 18 OF 39 REGISTRY COPYRIGHT 1998 ACS  
 RN 186086-96-4 REGISTRY  
 CN D-Tryptophan, D-tryptophyl-D-.gamma.-glutamyl- (SCI) (CA INDEX NAME)  
 FS STEREOSEARCH  
 MF C27 H29 N5 O6  
 SR CA  
 LC STN Files: CA, CAPLUS

Absolute stereochemistry.



1 REFERENCES IN FILE CA (1967 TO DATE)  
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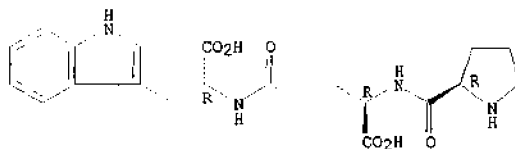


REFERENCE 1: 126:118206 Method for the preparation of immunoregulatory peptides. Deigin, Vladislav Isakovich; Korotkov, Andrey Markovich (Deigin, Vladislav Isakovich, Russia; Korotkov, Andrey Markovich). PCT Int. Appl. WO 9640740 A1 19961219, 9 pp. DESIGNATED STATES: W: AU, BR, BY, CA, CN, CZ, HU, JP, KG, KP, KZ, LT, LV, MN, SK, UA, US, UZ; RW: AT, BE, CH, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE. (Russian). CODEN: PIXXD2. APPLICATION: WO 96-RU116 19960506. PRIORITY: RU 95-95108559 19950607.

AB Immunoregulatory peptides X-A-D-Trp-Y (A = D-Glu, 1D-Glu; X = H, Gly, Ala, Leu, Ile, Val, Nval, Pro, Tyr, Phe, Trp, D-Ala, D-Leu, D-Ile, D-Val, D-NVal, D-Pro, D-Tyr, D-Phe, D-Trp, .gamma.-aminobutyric acid, .xi.-aminocaproic acid; Y = Gly, Ala, Leu, Ile, Val, Nval, Pro, Tyr, Phe, Trp, D-Ala, D-Leu, D-Ile, D-Val, D-NVal, D-Pro, D-Tyr, D-Phe, D-Trp, .gamma.-aminobutyric acid, .xi.-aminocaproic acid, -OH or substituted amide) were prepd. by coupling of an internal anhydride of tert-butoxycarbonylglutamic acid with K salts of D-Trp-Y, followed by chromatog. sepn. of the .alpha.- and .gamma.-isomers. Further coupling was carried out by using activated esters of tert-butoxycarbonyl amino acids. Thus, the reaction of Boc-D-Glu-OH with H-D-Trp-OK in DMF in the presence of DCC, followed by deprotection and chromatog., afforded 35% each H-D-Glu-D-Trp-OH and H-1D-Glu-D-Trp-OH. The latter dipeptide inhibited proliferation of spleen cells in mice (data tabulated).

L10 ANSWER 19 OF 39 REGISTRY COPYRIGHT 1998 ACS  
 RN 186086-94-2 REGISTRY  
 CN D-Tryptophan, D-prolyl-D-.gamma.-glutamyl- (9CI) (CA INDEX NAME)  
 FS STEREOSEARCH  
 MF C21 H26 N4 O6  
 SR CA  
 LC STN Files: CA, CAPLUS

Absolute stereochemistry.



1 REFERENCES IN FILE CA (1967 TO DATE)  
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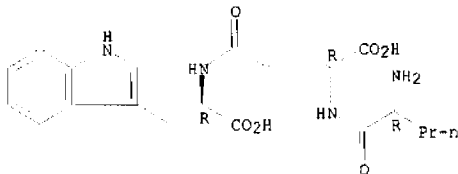
REFERENCE 1: 126:118206 Method for the preparation of immunoregulatory peptides. Deigin, Vladislav Isakovich; Korotkov, Andrey Markovich (Deigin, Vladislav Isakovich, Russia; Korotkov, Andrey Markovich). PCT Int. Appl. WO 9640740 A1 19961219, 9 pp. DESIGNATED STATES: W: AU, BR, BY, CA, CN, CZ, HU, JP, KG, KP, KZ, LT, LV, MN, SK, UA, US, UZ; RW: AT, BE, CH, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE. (Russian). CODEN: PIXXD2. APPLICATION: WO 96-RU116 19960506. PRIORITY: RU 95-95108559 19950607.

AB Immunoregulatory peptides X-A-D-Trp-Y (A = D-Glu, 1D-Glu; X = H, Gly, Ala, Leu, Ile, Val, Nval, Pro, Tyr, Phe, Trp, D-Ala, D-Leu, D-Ile, D-Val, D-NVal, D-Pro, D-Tyr, D-Phe, D-Trp, .gamma.-aminobutyric acid, .xi.-aminocaproic acid; Y = Gly, Ala, Leu, Ile, Val, Nval, Pro, Tyr, Phe, Trp, D-Ala, D-Leu, D-Ile, D-Val,

D-NVal, D-Pro, D-Tyr, D-Phe, D-Trp, .gamma.-aminobutyric acid, .xi.-aminocaproic acid, -OH or substituted amide) were prepd. by coupling of an internal anhydride of tert-butoxycarbonylglutamic acid with K salts of D-Trp-Y, followed by chromatog. sepn. of the .alpha.- and .gamma.-isomers. Further coupling was carried out by using activated esters of tert-butoxycarbonyl amino acids. Thus, the reaction of Boc-D-Glu-OH with H-D-Trp-OK in DMF in the presence of DCC, followed by deprotection and chromatog., afforded 35% each H-D-Glu-D-Trp-OH and H-ID-Glu-D-Trp-OH. The latter dipeptide inhibited proliferation of spleen cells in mice (data tabulated).

L10 ANSWER 20 OF 39 REGISTRY COPYRIGHT 1998 ACS  
 RN 186086-90-8 REGISTRY  
 CN D-Tryptophan, D-norvalyl-D-.gamma.-glutamyl- (9CI) (CA INDEX NAME)  
 FS STEREOSEARCH  
 MF C21 H28 N4 O6  
 SR CA  
 LC STN Files: CA, CAPLUS

Absolute stereochemistry.



1 REFERENCES IN FILE CA (1967 TO DATE)  
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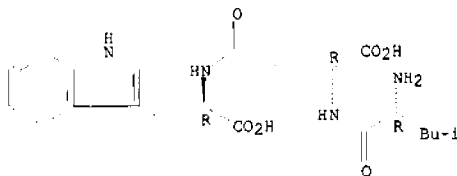
REFERENCE 1: 126:118206 Method for the preparation of immunoregulatory peptides. Deigin, Vladislav Isakovich; Korotkov, Andrey Marxovich [Deigin, Vladislav Isakovich, Russia; Korotkov, Andrey Marxovich]. PCT Int. Appl. WO 96/4740 A1 19961219, 9 pp. DESIGNATED STATES: W: AU, BR, BY, CA, CN, CZ, HU, JP, KG, KP, KZ, LT, LV, MN, SK, UA, US, UZ; RW: AT, BE, CH, DE, DK, ES, FI, FR, GE, GR, IE, IT, LU, MC, NL, PT, SE. (Russian). CODEN: PIXXD2. APPLICATION: WO 96-RU116 19960506. PRIORITY: RU 95-95108559 19950607.

AB Immunoregulatory peptides X-A-D-Trp-Y (A = D-Glu, ID-Glu; X = H, Gly, Ala, Leu, Ile, Val, Nval, Pro, Tyr, Phe, Trp, D-Ala, D-Leu, D-Ile, D-Val, D-NVal, D-Pro, D-Tyr, D-Phe, D-Trp, .gamma.-aminobutyric acid, .xi.-aminocaproic acid; Y = Gly, Ala, Leu, Ile, Val, Nval, Pro, Tyr, Phe, Trp, D-Ala, D-Leu, D-Ile, D-Val, D-NVal, D-Pro, D-Tyr, D-Phe, D-Trp, .gamma.-aminobutyric acid, .xi.-aminocaproic acid, -OH or substituted amide) were prepd. by coupling of an internal anhydride of tert-butoxycarbonylglutamic acid with K salts of D-Trp-Y, followed by chromatog. sepn. of the .alpha.- and .gamma.-isomers. Further coupling was carried out by using activated esters of tert-butoxycarbonyl amino acids. Thus, the reaction of Boc-D-Glu-OH with H-D-Trp-OK in DMF in the presence of DCC, followed by deprotection and chromatog., afforded 35% each H-D-Glu-D-Trp-OH and H-ID-Glu-D-Trp-OH. The latter dipeptide inhibited proliferation of spleen cells in mice (data tabulated).

L10 ANSWER 21 OF 39 REGISTRY COPYRIGHT 1998 ACS  
 RN 186086-88-4 REGISTRY

CN D-Tryptophan, D-leucyl-D-.gamma.-glutamyl- (9CI) (CA INDEX NAME)  
FS STEREOSEARCH  
MF C22 H30 N4 O6  
SR CA  
LC STN Files: CA, CAPLUS

Absolute stereochemistry.



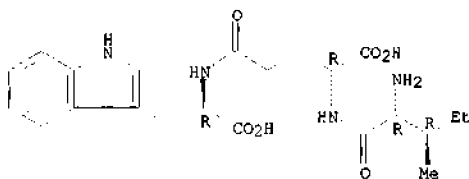
1 REFERENCES IN FILE CA (1967 TO DATE)  
1 REFERENCES IN FILE CAPLUS (1967 TO DATE)

REFERENCE 1: 126:118206 Method for the preparation of immunoregulatory peptides. Deigin, Vladislav Isakovich; Korotkov, Andrey Markovich (Deigin, Vladislav Isakovich, Russia; Korotkov, Andrey Markovich). PCI Int. Appl. WO 9640740 A1 19961219, 9 pp. DESIGNATED STATES: W: AU, BR, BY, CA, CN, CZ, HU, JP, KG, KP, KZ, LT, LV, MN, SK, UA, US, UZ; RW: AT, BE, CH, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE. (Russian). CODEN: PIXXD2. APPLICATION: WO 96-RU116 19960506. PRIORITY: RU 95-95108559 19950607.

AB Immunoregulatory peptides X-A-D-Trp-Y (A = D-Glu, iD-Glu; X = H, Gly, Ala, Leu, Ile, Val, Nval, Pro, Tyr, Phe, Trp, D-Ala, D-Leu, D-Ile, D-Val, D-NVal, D-Pro, D-Tyr, D-Phe, D-Trp, .gamma.-aminobutyric acid, .xi.-aminocaproic acid; Y = Gly, Ala, Leu, Ile, Val, Nval, Pro, Tyr, Phe, Trp, D-Ala, D-Leu, D-Ile, D-Val, D-NVal, D-Pro, D-Tyr, D-Phe, D-Trp, .gamma.-aminobutyric acid, .xi.-aminocaproic acid, -OH or substituted amide) were prepd. by coupling of an internal anhydride of tert-butoxycarbonylglutamic acid with K salts of D-Trp-Y, followed by chromatog. sepn. of the .alpha.- and .gamma.-isomers. Further coupling was carried out by using activated esters of tert-butoxycarbonyl amino acids. Thus, the reaction of Boc-D-Glu-OH with H-D-Trp-OK in DMF in the presence of DCC, followed by deprotection and chromatog., afforded 35% each H-D-Glu-D-Trp-OH and H-iD-Glu-D-Trp-OH. The latter dipeptide inhibited proliferation of spleen cells in mice (data tabulated).

L10 ANSWER 22 OF 39 REGISTRY COPYRIGHT 1998 ACS  
RN 186086-86-2 REGISTRY  
CN D-Tryptophan, D-isoleucyl-D-.gamma.-glutamyl- (9CI) (CA INDEX NAME)  
FS STEREOSEARCH  
MF C22 H30 N4 O6  
SR CA  
LC STN Files: CA, CAPLUS

Absolute stereochemistry.



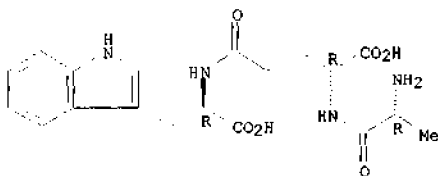
1 REFERENCES IN FILE CA (1967 TO DATE)  
 1 REFERENCES IN FILE CAPLUS (1967 TO DATE)

REFERENCE 1: 126:118206 Method for the preparation of immunoregulatory peptides. Deigin, Vladislav Isakovich; Korotkov, Andrey Markovich (Deigin, Vladislav Isakovich, Russia; Korotkov, Andrey Markovich). PCT Int. Appl. WO 964740 A1 19961219, 9 pp. DESIGNATED STATES: W: AU, BR, BY, CA, CN, CZ, HU, JP, KG, KP, KZ, LT, LV, MN, SK, UA, US, UZ; RW: AT, BE, CH, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE. (Russian). CODEN: PIXXD2. APPLICATION: WO 96-RU116 19960506. PRIORITY: RU 95-95108559 19950607.

AB Immunoregulatory peptides X-A-D-Trp-Y (A = D-Glu, id-Glu; X = H, Gly, Ala, Leu, Ile, Val, Nval, Pro, Tyr, Phe, Trp, D-Ala, D-Leu, D-Ile, D-Val, D-Nval, D-Pro, D-Tyr, D-Phe, D-Trp, .gamma.-aminobutyric acid, .xi.-aminocaproic acid; Y = Gly, Ala, Leu, Ile, Val, Nval, Pro, Tyr, Phe, Trp, D-Ala, D-Leu, D-Ile, D-Val, D-Nval, D-Pro, D-Tyr, D-Phe, D-Trp, .gamma.-aminobutyric acid, .xi.-aminocaproic acid, -OH or substituted amide) were prepd. by coupling of an internal anhydride of tert-butoxycarbonylglutamic acid with K salts of D-Trp-Y, followed by chromatog. sepn. of the .alpha.- and .gamma.-isomers. Further coupling was carried out by using activated esters of tert-butoxycarbonyl amino acids. Thus, the reaction of Boc-D-Glu-OH with H-D-Trp-OK in DMF in the presence of DCC, followed by deprotection and chromatog., afforded 35% each H-D-Glu-D-Trp-OH and H-id-Glu-D-Trp-OH. The latter dipeptide inhibited proliferation of spleen cells in mice (data tabulated).

L10 ANSWER 23 OF 39 REGISTRY COPYRIGHT 1998 ACS  
 RN 186086-82-8 REGISTRY  
 CN D-Tryptophan, D-alanyl-D-.gamma.-glutamyl- (9CI) (CA INDEX NAME)  
 FS STEREOSEARCH  
 MF C19 H24 N4 O6  
 SR CA  
 LC STN Files: CA, CAPLUS

Absolute stereochemistry.



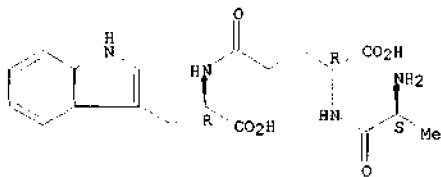
1 REFERENCES IN FILE CA (1967 TO DATE)

1 REFERENCES IN FILE CAPLUS (1967 TO DATE)

- REFERENCE 1: 126:118206 Method for the preparation of immunoregulatory peptides. Deigin, Vladislav Isakovich; Korotkov, Andrey Marxovich (Deigin, Vladislav Isakovich, Russia; Korotkov, Andrey Marxovich). PCT Int. Appl. WO 9640740 A1 19961219, 9 pp. DESIGNATED STATES: W; AU, BR, BY, CA, CN, CZ, HU, JP, KG, KP, KZ, LT, LV, MN, SK, UA, US, UZ; RW: AT, BE, CH, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE. (Russian). CODEN: PIXXD2. APPLICATION: WO 96-RU116 19960506. PRIORITY: RU 95-95108559 19950607.
- AB Immunoregulatory peptides X-A-D-Trp-Y (A = D-Glu, D-Glu; X = H, Gly, Ala, Leu, Ile, Val, Nval, Pro, Tyr, Phe, Trp, D-Ala, D-Leu, D-Ile, D-Val, D-NVal, D-Pro, D-Tyr, D-Phe, D-Trp, .gamma.-aminobutyric acid, .xi.-aminocaproic acid; Y = Gly, Ala, Leu, Ile, Val, Nval, Pro, Tyr, Phe, Trp, D-Ala, D-Leu, D-Ile, D-Val, D-NVal, D-Pro, D-Tyr, D-Phe, D-Trp, .gamma.-aminobutyric acid, .xi.-aminocaproic acid, -OH or substituted amide) were prep'd. by coupling of an internal anhydride of tert-butoxycarbonylglutamic acid with K salts of D-Trp-Y, followed by chromatog. sepn. of the .alpha.- and .gamma.-isomers. Further coupling was carried out by using activated esters of tert-butoxycarbonyl amino acids. Thus, the reaction of Boc-D-Glu-OH with H-D-Trp-OK in DMF in the presence of DCC, followed by deprotection and chromatog., afforded 35% each H-D-Glu-D-Trp-OH and H-D-Glu-D-Trp-OH. The latter dipeptide inhibited proliferation of spleen cells in mice (data tabulated).

L10 ANSWER 24 OF 39 REGISTRY COPYRIGHT 1998 ACS  
 RN 186086-78-2 REGISTRY  
 CN D-Tryptophan, L-alanyl-D-.gamma.-glutamyl- (9Cl) (CA INDEX NAME)  
 ES STEREOSEARCH  
 MF C19 H24 N4 O6  
 SR CA  
 LC STN Files: CA, CAPLUS, TOXLIT, USPATFULL

Absolute stereochemistry.



2 REFERENCES IN FILE CA (1967 TO DATE)  
 2 REFERENCES IN FILE CAPLUS (1967 TO DATE)

- REFERENCE 1: 128:267791 Peptide, preparation method, pharmaceutical composition, and use in reconstitution of hematopoietic and immune system cells after radio- or chemotherapy. Deigin, Vladislav I.; Korotkov, Andrei Marxovich (Can.). U.S. US 5736519 A 19980407, 6 pp. (English). CODEN: USXXAM. APPLICATION: US 96-657888 19960607.
- AB Peptides X-A-D-Trp-Y (X = H, glycine, alanine, leucine, isoleucine, valine, N-valine, proline, tyrosine, phenylalanine, tryptophan, D-alanine, D-leucine, D-isoleucine, D-valine, D-N-valine, D-proline, D-tyrosine, D-phenylalanine, D-tryptophan, .alpha.-aminobutyric acid, .xi.-aminocaproic acid; A = D-glutamic acid, D-glutamic acid; Y = glycine, alanine, leucine, isoleucine, valine, N-valine,

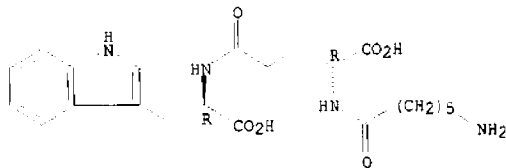
proline, tyrosine, phenylalanine, tryptophan, D-alanine, D-leucine, D-isoleucine, D-valine, D-N-valine, D-proline, D-tyrosine, D-phenylalanine, D-tryptophan, .alpha.-aminobutyric acid, .xi.-aminocaproic acid, OH, Cl-3 substituted amide) are disclosed. Also disclosed are pharmaceutical comps. contg. the peptides. The peptides are useful for reconstitution of cells of the hemopoietic and immune systems in a subject following radiation-or chemotherapy-induced suppression of the cells. Prepn. and biol. activity of H-ID-Glu-D-Trp-OH is described.

REFERENCE 2: 126:118206 Method for the preparation of immunoregulatory peptides. Deigin, Vladislav Isakovich; Korotkov, Andrey Markovich (Deigin, Vladislav Isakovich, Russia; Korotkov, Andrey Markovich). PCT Int. Appl. WO 9640740 A1 19961219, 9 pp. DESIGNATED STATES: W: AU, BR, BY, CA, CN, CZ, HU, JP, KG, KP, KZ, LT, LV, MN, SK, UA, US, UZ; RW: AT, BE, CH, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE. (Russian). CODEN: PIXXD2. APPLICATION: WO 96-RU116 19960506. PRIORITY: RU 95-95108559 19950607.

AB Immunoregulatory peptides X-A-D-Trp-Y (A = D-Glu, ID-Glu; X = H, Gly, Ala, Leu, Ile, Val, Nval, Pro, Tyr, Phe, Trp, D-Ala, D-Leu, D-Ile, D-Val, D-NVal, D-Pro, D-Tyr, D-Phe, D-Trp, .gamma.-aminobutyric acid, .xi.-aminocaproic acid; Y = Gly, Ala, Leu, Ile, Val, Nval, Pro, Tyr, Phe, Trp, D-Ala, D-Leu, D-Ile, D-Val, D-NVal, D-Pro, D-Tyr, D-Phe, D-Trp, .gamma.-aminobutyric acid, .xi.-aminocaproic acid, -OH or substituted amide) were prepd. by coupling of an internal anhydride of tert-butoxycarbonylglutamic acid with K salts of D-Trp-Y, followed by chromatog. sepn. of the .alpha.- and .gamma.-isomers. Further coupling was carried out by using activated esters of tert-butoxycarbonyl amino acids. Thus, the reaction of Boc-D-Glu-OH with H-D-Trp-OK in DMF in the presence of DCC, followed by deprotection and chromatog., afforded 35% each H-D-Glu-D-Trp-OH and H-ID-Glu-D-Trp-OH. The latter dipeptide inhibited proliferation of spleen cells in mice (data tabulated).

L10 ANSWER 25 OF 39 REGISTRY COPYRIGHT 1998 ACS  
 RN 186086-75-9 REGISTRY  
 CN D-Tryptophan, N-(6-amino-1-oxohexyl)-D-.gamma.-glutamyl- (9CI) (CA INDEX NAME)  
 FS STEREOSEARCH  
 MF C22 H30 N4 O6  
 SR CA  
 LC STN Files: CA, CAPLUS, TOXLIT, USPATFULL

Absolute stereochemistry.



2 REFERENCES IN FILE CA (1967 TO DATE)  
 2 REFERENCES IN FILE CAPLUS (1967 TO DATE)

REFERENCE 1: 128:267791 Peptide, preparation method, pharmaceutical composition, and use in reconstitution of hematopoietic and immune

system cells after radio- or chemotherapy. Deigin, Vladislav I.; Korotkov, Andrei Marxovich (Can.). U.S. US 5736519 A 19980407, 6 pp. (English). CODEN: USXXAM. APPLICATION: US 96-657888 19960607.

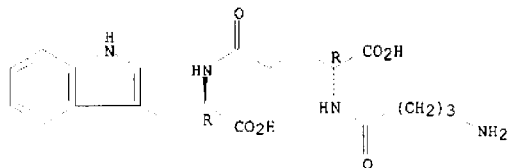
AB Peptides X-A-D-Trp-Y (X = H, glycine, alanine, leucine, isoleucine, valine, N-valine, proline, tyrosine, phenylalanine, tryptophan, D-alanine, D-leucine, D-isoleucine, D-valine, D-N-valine, D-proline, D-tyrosine, D-phenylalanine, D-tryptophan, .alpha.-aminobutyric acid, .xi.-aminocaproic acid; A = D-glutamic acid, iD-glutamic acid; Y = glycine, alanine, leucine, isoleucine, valine, N-valine, proline, tyrosine, phenylalanine, tryptophan, D-alanine, D-leucine, D-isoleucine, D-valine, D-N-valine, D-proline, D-tyrosine, D-phenylalanine, D-tryptophan, .alpha.-aminobutyric acid, .xi.-aminocaproic acid, OH, Cl-3 substituted amide) are disclosed. Also disclosed are pharmaceutical compns. contg. the peptides. The peptides are useful for reconstitution of cells of the hemopoietic and immune systems in a subject following radiation-or chemotherapy-induced suppression of the cells. Prepn. and biol. activity of H-iD-Glu-D-Trp-OH is described.

REFERENCE 2: 126:118206 Method for the preparation of immunoregulatory peptides. Deigin, Vladislav Isakovich; Korotkov, Andrey Marxovich (Deigin, Vladislav Isakovich, Russia; Korotkov, Andrey Marxovich). PCT Int. Appl. WO 9640740 A1 19961219, 9 pp. DESIGNATED STATES: W: AU, BR, BY, CA, CN, CZ, HU, JP, KG, KP, KZ, LT, LV, MN, SK, UA, US, UZ; RW: AT, BE, CH, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE. (Russian). CODEN: PIXXD2. APPLICATION: WO 96-RU116 19960506. PRIORITY: RU 95-95108559 19950607.

AB Immunoregulatory peptides X-A-D-Trp-Y (A = D-Glu, iD-Glu; X = H, Gly, Ala, Leu, Ile, Val, Nval, Pro, Tyr, Phe, Trp, D-Ala, D-Leu, D-Ile, D-Val, D-NVal, D-Pro, D-Tyr, D-Phe, D-Trp, .gamma.-aminobutyric acid, .xi.-aminocaproic acid; Y = Gly, Ala, Leu, Ile, Val, Nval, Pro, Tyr, Phe, Trp, D-Ala, D-Leu, D-Ile, D-Val, D-NVal, D-Pro, D-Tyr, D-Phe, D-Trp, .gamma.-aminobutyric acid, .xi.-aminocaproic acid, -OH or substituted amide) were prepd. by coupling of an internal anhydride of tert-butoxycarbonylglutamic acid with K salts of D-Trp-Y, followed by chromatog. sepn. of the .alpha.- and .gamma.-isomers. Further coupling was carried out by using activated esters of tert-butoxycarbonyl amino acids. Thus, the reaction of Boc-D-Glu-OH with H-D-Trp-OK in DMF in the presence of DCC, followed by deprotection and chromatog., afforded 35% each H-D-Glu-D-Trp-OH and H-iD-Glu-D-Trp-OH. The latter dipeptide inhibited proliferation of spleen cells in mice (data tabulated).

L10 ANSWER 26 OF 39 REGISTRY COPYRIGHT 1998 ACS  
RN 186086-73-7 REGISTRY  
CN D-Tryptophan, N-(4-amino-1-oxobutyl)-D-.gamma.-glutamyl- (9CI) (CA INDEX NAME)  
FS STEREOSEARCH  
MF C20 H26 N4 O6  
SR CA  
LC STN Files: CA, CAPLUS

Absolute stereochemistry.



1 REFERENCES IN FILE CA (1967 TO DATE)  
 1 REFERENCES IN FILE CAPLUS (1967 TO DATE)

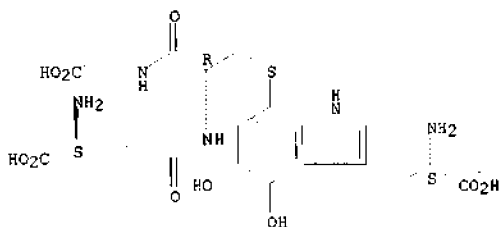
REFERENCE 1: 126:118206 Method for the preparation of immunoregulatory peptides. Delgin, Vladislav Isakovich; Korotkov, Andrey Markovich (Delgin, Vladislav Isakovich, Russia; Korotkov, Andrey Markovich). PCT Int. Appl. WO 9640740 A1 19961219, 9 pp. DESIGNATED STATES: W: AU, BR, BY, CA, CN, CZ, HU, JP, KG, KP, KZ, LT, LV, MN, SK, UA, US, UZ; RW: AT, BE, CH, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE. (Russian). CODEN: PIXXD2. APPLICATION: WO 96-RU116 19960506. PRIORITY: RU 95-95108559 19950607.

AB Immunoregulatory peptides X-A-D-Trp-Y (A = D-Glu, D-Glu; X = H, Gly, Ala, Leu, Ile, Val, Nval, Pro, Tyr, Phe, Trp, D-Ala, D-Leu, D-Ile, D-Val, D-Nval, D-Pro, D-Tyr, D-Phe, D-Trp, .gamma.-aminobutyric acid, .xi.-aminocaproic acid; Y = Gly, Ala, Leu, Ile, Val, Nval, Pro, Tyr, Phe, Trp, D-Ala, D-Leu, D-Ile, D-Val, D-Nval, D-Pro, D-Tyr, D-Phe, D-Trp, .gamma.-aminobutyric acid, .xi.-aminocaproic acid, -OH or substituted amide) were prepd. by coupling of an internal anhydride of tert-butoxycarbonylglutamic acid with K salts of D-Trp-Y, followed by chromatog. sepn. of the .alpha.- and .gamma.-isomers. Further coupling was carried out by using activated esters of tert-butoxycarbonyl amino acids. Thus, the reaction of Boc-D-Glu-OH with H-D-Trp-OK in DMF in the presence of DCC, followed by deprotection and chromatog., afforded 35% each H-D-Glu-D-Trp-OH and H-D-Glu-D-Trp-OH. The latter dipeptide inhibited proliferation of spleen cells in mice (data tabulated).

L10 ANSWER 27 OF 39 REGISTRY COPYRIGHT 1998 ACS  
 RN 182007-52-9 REGISTRY  
 CN Glycine, L-.gamma.-glutamyl-L-cysteinyl-, (2.fwdarw.1')-sulfide with 4,5-dihydroxy-7-mercapto-L-tryptophan (9CI) (CA INDEX NAME)  
 FS STEREOSEARCH  
 MF C21 H27 N5 O10 S  
 SR CA  
 LC STN Files: CA, CAPLUS

Absolute stereochemistry.

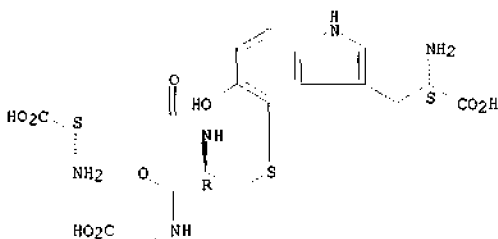




1 REFERENCES IN FILE CA (1967 TO DATE)  
 1 REFERENCES IN FILE CAPLUS (1967 TO DATE)

- REFERENCE 1: 125:276503 7-S-Glutathionyltryptophan-4,5-dione: formation from 5-hydroxytryptophan and reactions with glutathione. Wu, Zheng; Dryhurst, Glenn (Dep. Chem. Biochem., Univ. Oklahoma, Norman, OK, 73019, USA). *Bioorg. Chem.*, 24(2), 127-149 (English) 1996. CODEN: BOCMBM. ISSN: 0045-2068.
- AB The electrochem. driven oxidn. of 5-hydroxytryptophan (5-HTPP) in the presence of free glutathione (GSH) yields 4-S-glutathionyl-5-hydroxytryptophan (5) and 7-S-glutathionyl-tryptophan-4,5-dione (7). The latter glutathionyl conjugate is formed both by nucleophilic addn. of GSH to tryptophan-4,5-dione (4), a normal product of the oxidn. of 5-HTPP, and by oxidn. of 5 in a reaction where the glutathionyl residue migrates from the C(4)- to the C(7)-position. In the presence of free GSH, 7 reacts to give the 3,7- and 6,7-bi-S-glutathionyl conjugates of 4 and, as a result of intramol. cyclization reactions, a no. of glutathionyl conjugates of an unusual tricyclic pyrroloquinoline. It is speculated that one or more of these products might represent aberrant oxidative metabolites that have been detected in the cerebrospinal fluid of patients with Alzheimer's disease.
- L10 ANSWER 28 OF 39 REGISTRY COPYRIGHT 1998 ACS  
 RN 182007-51-8 REGISTRY  
 CN Glycine, L-gamma.-glutamyl-L-cysteinyl-, (2.fwdarw.1')-sulfide with 5-hydroxy-4-mercapto-L-tryptophan (9CI) (CA INDEX NAME)  
 FE STEREOSEARCH  
 MF C21 H27 N5 O9 S  
 SR CA  
 LC STN Files: CA, CAPLUS

Absolute stereochemistry.



1 REFERENCES IN FILE CA (1967 TO DATE)

1 REFERENCES IN FILE CAPLUS (1967 TO DATE)

- REFERENCE 1: 125:276503 7-S-Glutathionyltryptophan-4,5-dione: formation from 5-hydroxytryptophan and reactions with glutathione. Wu, Zheng; Dryhurst, Glenn (Dep. Chem. Biochem., Univ. Oklahoma, Norman, OK, 73019, USA). *Bioorg. Chem.*, 24(2), 127-149 (English) 1996. CODEN: BOCMBM. ISSN: 0045-2068.
- AB The electrochem. driven oxidn. of 5-hydroxytryptophan (5-HTPP) in the presence of free glutathione (GSH) yields 4-S-glutathionyl-5-hydroxytryptophan (5) and 7-S-glutathionyl-tryptophan-4,5-dione (7). The latter glutathionyl conjugate is formed both by nucleophilic addn. of GSH to tryptophan-4,5-dione (4), a normal product of the oxidn. of 5-HTPP, and by oxidn. of 5 in a reaction where the glutathionyl residue migrates from the C(4)- to the C(7)-position. In the presence of free GSH, 7 reacts to give the 3,7- and 6,7-bi-S-glutathionyl conjugates of 4 and, as a result of intramol. cyclization reactions, a no. of glutathionyl conjugates of an unusual tricyclic pyrroloquinoline. It is speculated that one or more of these products might represent aberrant oxidative metabolites that have been detected in the cerebrospinal fluid of patients with Alzheimer's disease.

L10 ANSWER 29 OF 39 REGISTRY COPYRIGHT 1998 ACS

RN 178918-01-9 REGISTRY

CN L-Glutamic acid, N-[[5-[[[1-carboxy-2-(1H-indol-3-yl)ethylamino]carbonyl]-9,9-dimethyl-9H-xanthen-4-yl]carbonyl]-, (S)- (9CI) (CA INDEX NAME)

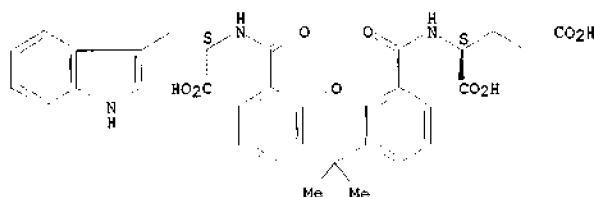
FS STEREOSEARCH

MF C33 H31 N3 O9

SR CA

LC STN Files: CA, CAPLUS

Absolute stereochemistry.



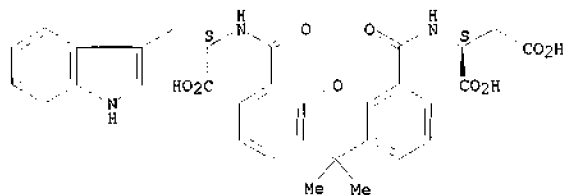
1 REFERENCES IN FILE CA (1967 TO DATE)  
 1 REFERENCES IN FILE CAPLUS (1967 TO DATE)

REFERENCE 1: 125:81189 Application of capillary electrophoresis-electrospray ionization mass spectrometry in the determination of molecular diversity. Dunayevskiy, Yuriy M.; Vouros, Paul; Wintner, Edward A.; Shipps, Gerald W.; Carell, Thomas; Rebek, Julius, Jr. (Dep. Chem., Northeastern Univ., Boston, MA, 02115, USA). Proc. Natl. Acad. Sci. U. S. A., 93(12), 6152-6157 (English) 1996. CODEN: PNASA6. ISSN: 0027-8424.

AB By capillary electrophoresis coupled online to electrospray ionization MS, a library of theor. 171 distributed xanthene derivs. was analyzed. The method allowed the purity and makeup of the library to be detd.: 160 of the expected compds. were found to be present, and 12 side-products were also detected in the mixt. Due to the ability of capillary electrophoresis to sep. analytes on the basis of charge, most of the xanthene derivs. could be resolved by simple capillary electrophoresis-MS procedures even though 124 of the 171 theor. compds. were isobaric with .gtoreq.1 other mol. in the mixt. Any remaining unresolved peaks were resolved by MS/MS expts. The method shows promise for the anal. of small combinatorial libraries with <1000 components.

L10 ANSWER 30 OF 39 REGISTRY COPYRIGHT 1998 ACS  
 RN 178918-00-8 REGISTRY  
 CN L-Aspartic acid, N-[[5-[[[1-carboxy-2-(1H-indol-3-yl)ethyl]amino]carbonyl]-9,9-dimethyl-9H-xanthen-4-yl]carbonyl]-, (S)- (9CI) (CA INDEX NAME)  
 FS STEREOSEARCH  
 MF C32 H29 N3 O9  
 SR CA  
 LC STN Files: CA, CAPLUS

Absolute stereochemistry.



1 REFERENCES IN FILE CA (1967 TO DATE)

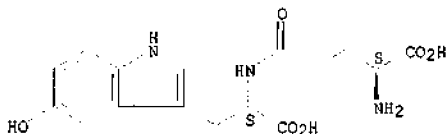
1 REFERENCES IN FILE CAPLUS (1967 TO DATE)

REFERENCE 1: 125:81189 Application of capillary electrophoresis-electrospray ionization mass spectrometry in the determination of molecular diversity. Dunayevskiy, Yuriy M.; Vouros, Paul; Wintner, Edward A.; Shipps, Gerald W.; Carell, Thomas; Rebek, Julius, Jr. (Dep. Chem., Northeastern Univ., Boston, MA, 02115, USA). Proc. Natl. Acad. Sci. U. S. A., 93(12), 6152-6157 (English) 1996. CODEN: PNASA6. ISSN: 0027-8424.

AB By capillary electrophoresis coupled online to electrospray ionization MS, a library of theor. 171 distributed xanthene derivs. was analyzed. The method allowed the purity and makeup of the library to be detd.: 160 of the expected compds. were found to be present, and 12 side-products were also detected in the mixt. Due to the ability of capillary electrophoresis to sep. analytes on the basis of charge, most of the xanthene derivs. could be resolved by simple capillary electrophoresis-MS procedures even though 124 of the 171 theor. compds. were isobaric with .gtoreq.1 other mol. in the mixt. Any remaining unresolved peaks were resolved by MS/MS expts. The method shows promise for the anal. of small combinatorial libraries with <1000 components.

L10 ANSWER 31 OF 39 REGISTRY COPYRIGHT 1998 ACS  
RN 150242-19-6 REGISTRY  
CN L-Tryptophan, N-L-.gamma.-glutamyl-5-hydroxy- (9CI) (CA INDEX NAME)  
OTHER NAMES:  
CN .gamma.-L-Glutamyl-5-hydroxy-L-tryptophan  
FS STEREOSEARCH  
MF C16 H19 N3 O6  
SR CA  
LC STN Files: CA, CAPLUS, IPA, MEDLINE, TOXLINE, TOXLI?

Absolute stereochemistry.



6 REFERENCES IN FILE CA (1967 TO DATE)  
6 REFERENCES IN FILE CAPLUS (1967 TO DATE)

REFERENCE 1: 125:265636 .gamma.-L-glutamyl-5-hydroxy-L-tryptophan, but not .gamma.-L-glutamyl-L-tryptophan, causes sodium retention in normal man. Wa, T. C. Li Kam; Freestone, S.; Samson, R. R.; Johnson, N. R.; Lee, M. R. (Department Medicine, Royal Infirmary, Edinburgh, UK). Br. J. Clin. Pharmacol., 42(3), 365-370 (English) 1996. CODEN: BCPHEM. ISSN: 0306-5251.

AB This randomized, placebo-controlled, cross-over study compared the relative effectiveness of .gamma.-L-glutamyl-5-hydroxy-L-tryptophan (glu-5-HTP) and .gamma.-L-glutamyl-L-tryptophan (glu-TRP) in terms of their ability to act as substrates for renal 5-hydroxytryptamine (5-HT) synthesis and their actions on urinary sodium excretion. Urinary excretion of 5-HT and sodium were detd. before, during and after 1 h i.v. infusion of an equimolar amt. (45 nmol kg<sup>-1</sup> min<sup>-1</sup>) of glu-5-HTP or glu-TRP or placebo in nine healthy male subjects. Cumulative urinary 5-HT excretion over the 4 h after the start of

glu-5-HTP infusion was 350-fold greater than that after placebo, and this was assocd. with a redn. in the urinary excretion of sodium. In contrast, the urinary excretion values of 5-HT and sodium after administration of glu-TRP were not significantly different from those obsd. on the placebo day. The marked increase in urinary 5-HT excretion and the retention of sodium after administration of glu-5-HTP have been demonstrated in previous studies and result from increased intrarenal generation of 5-HT. The absence of a rise in urinary excretion of 5-HT after glu-TRP infusion suggests that there was no significant conversion of this glutamyl compd. to 5-HT within the kidney. As a result, there was no effect on urinary sodium excretion.

- REFERENCE 2: 125:212227 Renal metabolism and effects of the glutamyl derivatives of L-dopa and 5-hydroxytryptophan in man. Li Kam Wa, T. C.; Freestone, S.; Samson, R. R.; Johnston, N. R.; Lee, M. R. (Department Medicine, Royal Infirmary, Edinburgh, UK). Clin. Sci., 91(2), 177-185 (English) 1996. CODEN: CSCIAE. ISSN: 0143-5221.
- AB Equimolar amts. of .gamma.-L-glutamyl-L-3,4-dihydroxyphenylalanine (gludopa) and .gamma.-L-glutamyl-5-hydroxy-L-tryptophan were infused sep. and together in eight healthy, salt-replete male subjects in a placebo-controlled, cross-over study to investigate whether the administration of one amine precursor affects the renal metab. of the other and to det. whether dopamine or 5-hydroxytryptamine would be generated preferentially. The overall effect on sodium excretion was also measured when both precursors were administered simultaneously. Administration of gludopa was assocd. with marked increases in the urinary excretion of L-dopa, dopamine and 3,4-dihydroxyphenylacetic acid, together with a rise in the urinary excretion of sodium. .gamma.-L-Glutamyl-5-hydroxy-L-tryptophan, produced marked increases in the urinary excretion of 5-hydroxy-L-tryptophan, 5-hydroxytryptamine and 5-hydroxyindoleacetic acid, and this was accompanied by a slight, but non-significant, redn. in sodium excretion. About 27% of the infused dose of gludopa (on a molar basis) was recovered in the urine as dopamine whereas 15% of the given dose of .gamma.-L-glutamyl-5-hydroxy-L-tryptophan was excreted as 5-hydroxytryptamine. The urinary excretion values of L-dopa, dopamine and 3,4-dihydroxyphenylacetic acid after the simultaneous infusion of gludopa and .gamma.-L-glutamyl-5-hydroxy-L-tryptophan were not significantly different from those obsd. after infusion of gludopa only. Similarly, the urinary excretion values of 5-hydroxy-L-tryptophan, 5-hydroxytryptamine and 5-hydroxyindoleacetic acid during the co-infusion were similar to those measured after administration of .gamma.-L-glutamyl-5-hydroxy-L-tryptophan only. The net effect of the concomitant infusion of both glutamyl derivs. was an increase in urinary sodium excretion. The authors' study in salt-replete individuals suggests that dopamine rather than 5-hydroxytryptamine was preferentially produced when equimolar amts. of their precursors were provided and that the natriuretic effect of dopamine, generated intrarenally from gludopa, was greater than the sodium retaining action of 5-hydroxytryptamine derived from .gamma.-L-glutamyl-5-hydroxy-L-tryptophan. Comparison of the urinary metabolite data after the sep. and concomitant infusion of the two glutamyl compds. provided no evidence of competitive inhibition of synthesis of either amine.
- REFERENCE 3: 122:256126 Blood and urine 5-hydroxytryptophan and 5-hydroxytryptamine levels after administration of two 5-hydroxytryptamine precursors in normal man. Li Kam Wa, T. C.; Burns, N. J. T.; Williams, B. C.; Freestone, S.; Lee, M. R.

(Department of Medicine, Royal Infirmary, Edinburgh, EH3 9YW, UK).  
Br. J. Clin. Pharmacol., 39(3), 327-9 (English) 1995. CODEN:  
BCPHEM. ISSN: 0306-5251.

AB Six healthy male subjects received equimolar amts. of two 5-hydroxytryptamine (5-HT) precursors, 5-hydroxy-L-tryptophan (5-HTP) and .gamma.-L-glutamyl-5-hydroxy-L-tryptophan (glu-5-HTP), on two occasions in a randomized cross-over study. There were marked increases in urinary 5-HTP and 5-HT excretion after infusion of both compds. Mean urinary excretion rate of 5-HT, which was < 0.7 nmol min<sup>-1</sup> before dosing, rose to a peak value of 412 nmol min<sup>-1</sup> at the end of 5-HTP infusion and 303 nmol min<sup>-1</sup> after administration of glu-5-HTP. This occurred without significant changes in blood 5-HT levels measured in platelet-rich plasma. These findings provide further evidence that the increase in urine 5-HT after administration of both 5-HT precursors is largely due to 5-HT synthesized within the kidney.

REFERENCE 4: 121:245778 The antinatriuretic action of .gamma.-L-glutamyl-5-hydroxy-L-tryptophan is dependent on its decarboxylation to 5-hydroxytryptamine in normal man. Wa, T. C. Li Kam; Freestone, S.; Samson, R. R.; Johnston, N. R.; Lee, M. R. (Department of Medicine, University of Edinburgh, Edinburgh, EH3 9YW, UK). Br. J. Clin. Pharmacol., 38(3), 265-9 (English) 1994. CODEN: BCPHEM. ISSN: 0306-5251.

AB The effects of inhibition of peripheral arocm. L-amino acid decarboxylase during infusion of the relatively renally selective 5-hydroxytryptamine (5-HT) prodrug, .gamma.-L-glutamyl-5-hydroxy-L-tryptophan (glu-5-HTP), were examd. in eight healthy male subjects in a randomized, placebo-controlled, cross-over study. Each subject received oral carbidopa (100 mg) or placebo followed, 1 h later, by a 60 min i.v. infusion of glu-5-HTP (16.6 .mu.g kg<sup>-1</sup> min<sup>-1</sup>) or placebo. After administration of glu-5-HTP, cumulative urinary excretion of 5-HT was 430-fold greater than that after placebo, and was assocd. with a period of sodium retention. Pretreatment with carbidopa substantially attenuated the increase in 5-HT excretion after glu-5-HTP and abolished its antinatriuretic effect. These results are in keeping with the proposition that the antinatriuretic action of glu-5-HTP is dependent on its decarboxylation to 5-HT.

REFERENCE 5: 120:153333 A comparison of the renal and neuroendocrine effects of two 5-hydroxytryptamine renal prodrugs in normal man. Li Kam Wa, T. C.; Freestone, S.; Samson, R. R.; Johnson, N. R.; Lee, M. R. (Dep. Med., R. Infir., Edinburgh, EH3 9YW, UK). Clin. Sci., 85(5), 607-14 (English) 1993. CODEN: CSCIAE. ISSN: 0143-5221.

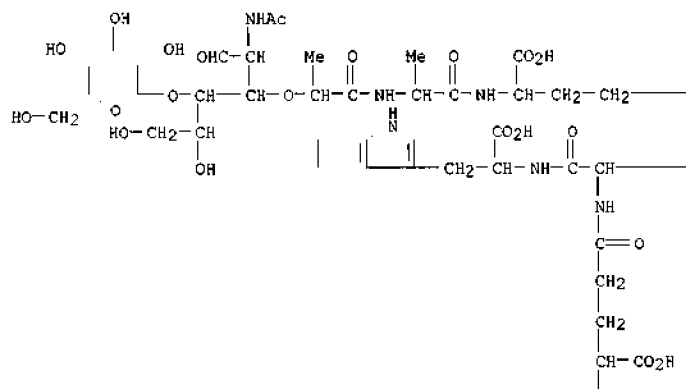
AB The effects of 1-h i.v. infusions of equimolar amts. (45 nmol/min/kg) of 2 putative 5-hydroxytryptamine renal prodrugs, 5-hydroxy-L-tryptophan (I) and .gamma.-L-glutamyl-5-hydroxy-L-tryptophan (II), were investigated in healthy males. Cumulative urinary 5-hydroxytryptamine excretion over the 3-h observation rose by about 370-fold after I and 390-fold after II. Urinary I excretion was 3-fold higher after II infusion than after I infusion. Urinary 5-hydroxyindole-3-acetic acid excretion after I infusion was greater than that after II administration; urinary dopamine excretion was not affected by either compd. I reduced urine flow rate and urinary Na<sup>+</sup> excretion; II was antinatriuretic but did not affect urine output; these changes occurred with altering kidney function. Both prodrugs increased plasma aldosterone concn., without a concomitant rise in plasma renin activity. I, but not II, increased serum growth hormone concn. Diastolic blood pressure was increased by I but not by II. The results show that both prodrugs generate 5-hydroxytryptamine; the antinatriuresis that they cause is

presumably mediated by intrarenally generated 5-hydroxytryptamine, and this appears to be predominantly a tubular effect. II appears to be relatively more selective than I for the kidney.

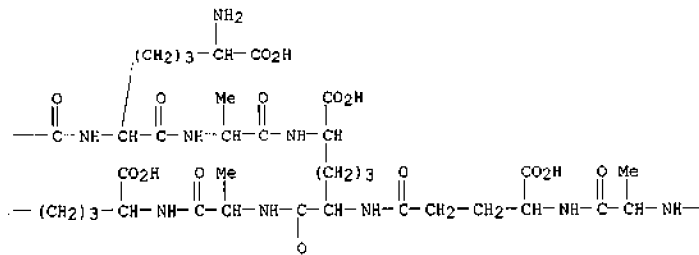
- REFERENCE 6: 119:152622 A comparison of the effects of two putative 5-hydroxytryptamine renal prodrugs in normal man. Wa, T. C. Li Kam; Freestone, S.; Samson, R. R.; Johnston, N. R.; Lee, M. R. (Dep. Med., R. Infirm., Edinburgh, EH3 9YW, UK). Br. J. Clin. Pharmacol., 36(1), 19-23 (English) 1993. CODEN: BCPHBM. ISSN: 0306-5251.
- AB The effects of 1 h i.v. infusions of equimolar amts. of two putative 5-hydroxytryptamine (5-HT) renal prodrugs, 5-hydroxy-L-tryptophan (5-HTP, 10 .mu.g kg-1 min-1) and .gamma.-L-glutamyl-5-hydroxyl-L-tryptophan (glu-5-HTP, 16.6 .mu.g kg-1 min-1) were examd. in five healthy male volunteers in a randomized, placebo-controlled, cross-over study. Both compds. increased urinary excretion of 5-HT and there was greater extrarenal formation of 5-HT following 5-HTP administration than after glu-5-HTP. Glu-5-HTP was significantly antinatriuretic. 5-HTP reduced mean urinary sodium excretion, but this effect was not significant. 5-HTP, but not glu-5-HTP, significantly increased plasma aldosterone. There was no increase in plasma renin activity with either compd. There were no significant changes in pulse rate or blood pressure. Two subjects complained of nausea at the end of 5-HTP infusion but none had any adverse reactions with glu-5-HTP. The results of this study suggest that both prodrugs generate 5-HT in man and that glu-5-HTP is antinatriuretic. The glutamyl deriv. may have greater renal specificity than 5-HTP and, as a result, causes less systemic side effects.

L10 ANSWER 32 OF 39 REGISTRY COPYRIGHT 1998 ACS  
RN 146893-45-0 REGISTRY  
CN D-Tryptophan, N-[N6-[N-[N2-[N-[N-(N-acetyl-4-O-[2-(acetylamino)-2-deoxy-.beta.-D-glucopyranosyl]muramoyl]-L-alanyl]-D-.gamma.-glutamyl]-N6-[N-[N2-[N-[N-(N-acetyl-4-O-.beta.-D-glucopyranosyl]muramoyl)-L-alanyl]-D-.gamma.-glutamyl]- (R)-6-carboxy-L-lysyl]-D-alanyl]- (R)-6-carboxy-L-lysyl]-D-alanyl]-N2-[N-[N-(N-acetyl-4-O-.beta.-D-glucopyranosyl]muramoyl)-L-alanyl]-D-.gamma.-glutamyl]- (R)-6-carboxy-L-lysyl]- (9CI) (CA INDEX NAME)  
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SR CA  
LC STN files: CA, CAPLUS

PAGE 1-A

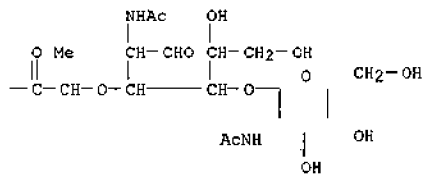


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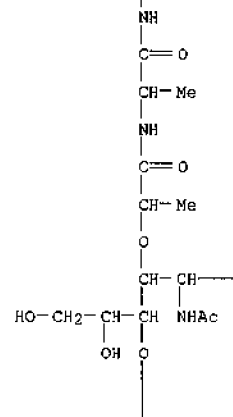




PAGE 1-C



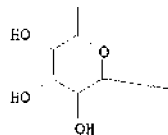
PAGE 2-A



PAGE 2-B

— CHO

PAGE 3-A



PAGE 3-B

— CH<sub>2</sub>-OH

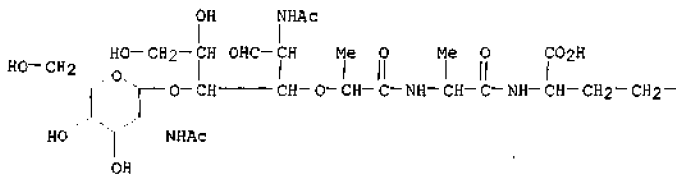
1 REFERENCES IN FILE CA (1967 TO DATE)  
1 REFERENCES IN FILE CAPLUS (1967 TO DATE)

- REFERENCE 1: 118:164504 Molecular weight determination of biosynthetically modified monomeric and oligomeric mucopeptides from *Escherichia coli* by plasma-desorption mass spectrometry. Caparros, Marta; Pittenauer, Ernst; Schmid, Erich R.; de Pedro, Miguel A.; Allmaier, Guenter (Cent. Biol. Mol., Univ. Auton. de Madrid, Campus de Cantoblanco, E-28049, Madrid, Spain). FEBS Lett., 316(2), 181-5 (English) 1993. CODEN: FEBLAL. ISSN: 0014-5793.
- AB The presence of certain D-amino acids in the growth media of *E. coli* results in the accumulation of 2 major and 3-5 minor new mucopeptides in the murein sacculus. Preliminary data suggested that the major mucopeptides correspond to a monomer and a crosslinked dimer with 1 residue of D-amino acid per mol. Several D-amino acid-modified mucopeptides were analyzed by plasma-desorption mass spectrometry. The results confirmed that the general structures of the major modified mucopeptides are:

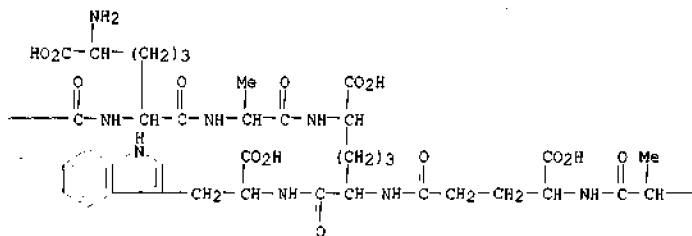
GlucNAc-MurNAc-L-Ala-D-Glu-m-A2pm-D-X, and GlucNAc-MurNAc-L-Ala-D-Glu-m-A2pm-D-Ala; GlucNAc-MurNAc-L-Ala-D-Glu-m-A2pm-D-X, X being a residue of the D-amino acid. These results corroborate the usefulness of this technique for the structural anal. of muropeptides.

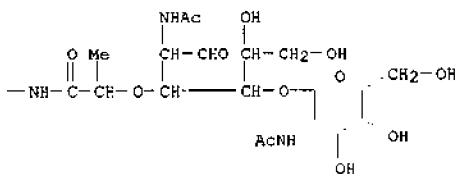
L10 ANSWER 33 OF 39 REGISTRY COPYRIGHT 1998 ACS  
 RN 146893-43-8 REGISTRY  
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 MF C82 H125 N15 O41  
 SR CA  
 LC STN Files: CA, CAPLUS

PAGE 1-A



PAGE 1-B



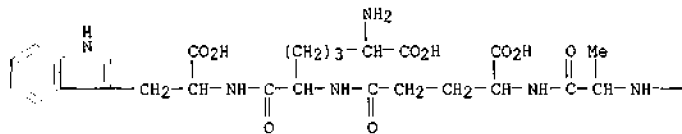


1 REFERENCES IN FILE CA (1967 TO DATE)  
 1 REFERENCES IN FILE CAPLUS (1967 TO DATE)

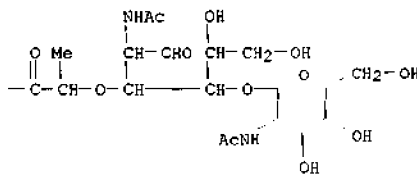
- REFERENCE 1: 118:164504 Molecular weight determination of biosynthetically modified monomeric and oligomeric muropeptides from *Escherichia coli* by plasma-desorption mass spectrometry. Caparros, Marta; Pittenauer, Ernst; Schmid, Erich R.; de Pedro, Miguel A.; Allmaier, Guenter (Cent. Biol. Mol., Univ. Auton. de Madrid, Campus de Cantoblanco, E-28049, Madrid, Spain). FEBS Lett., 316(2), 181-5 (English) 1993. CODEN: FEBLAL. ISSN: 0014-5793.
- AB The presence of certain D-amino acids in the growth media of *E. coli* results in the accumulation of 2 major and 3-5 minor new muropeptides in the murein sacculus. Preliminary data suggested that the major muropeptides correspond to a monomer and a crosslinked dimer with 1 residue of D-amino acid per mol. Several D-amino acid-modified muropeptides were analyzed by plasma-desorption mass spectrometry. The results confirmed that the general structures of the major modified muropeptides are: GlucNAc-MurNAc-L-Ala-D-Glu-m-A2pm-D-X, and GlucNAc-MurNAc-L-Ala-D-Glu-m-A2pm-D-Ala; GlucNAc-MurNAc-L-Ala-D-Glu-m-A2pm-D-X, X being a residue of the D-amino acid. These results corroborate the usefulness of this technique for the structural anal. of muropeptides.

L10 ANSWER 34 OF 39 REGISTRY COPYRIGHT 1998 ACS  
 RN 146845-23-0 REGISTRY  
 CN D-Tryptophan, N-[N2-[N-[N-[N-acetyl-4-O-(2-(acetylamino)-2-deoxy-.beta.-D-glucopyranosyl)muramoyl]-L-alanyl]-D-.gamma.-glutamyl]-(R)-6-carboxy-L-lysyl]- (9CI) (CA INDEX NAME)  
 MF C45 H66 N8 O21  
 SR CA  
 LC STN Files: CA, CAPLUS

PAGE 1-A



PAGE 1-B



1 REFERENCES IN FILE CA (1967 TO DATE)  
1 REFERENCES IN FILE CAPLUS (1967 TO DATE)

REFERENCE 1: 118:164504 Molecular weight determination of biosynthetically modified monomeric and oligomeric muropeptides from *Escherichia coli* by plasma-desorption mass spectrometry. Caparros, Marta; Pittenauer, Ernst; Schmid, Erich R.; de Pedro, Miguel A.; Allmaier, Guenter (Cent. Biol. Mol., Univ. Auton. de Madrid, Campus de Cantoblanco, E-28049, Madrid, Spain). FEBS Lett., 316(2), 181-5 (English) 1993. CODEN: FEBLAL. ISSN: 0014-5793.

AB The presence of certain D-amino acids in the growth media of *E. coli* results in the accumulation of 2 major and 3-5 minor new muropeptides in the murein sacculus. Preliminary data suggested that the major muropeptides correspond to a monomer and a crosslinked dimer with 1 residue of D-amino acid per mol. Several D-amino acid-modified muropeptides were analyzed by plasma-desorption mass spectrometry. The results confirmed that the general structures of the major modified muropeptides are: GlucNAc-MurNAc-L-Ala-D-Glu-m-A2pm-D-X, and GlucNAc-MurNAc-L-Ala-D-Glu-m-A2pm-D-Ala; GlucNAc-MurNAc-L-Ala-D-Glu-m-A2pm-D-X, X being a residue of the D-amino acid. These results corroborate the usefulness of this technique for the structural anal. of muropeptides.

L10 ANSWER 35 OF 39 REGISTRY COPYRIGHT 1998 ACS

RN 141044-28-2 REGISTRY

CN D-Tryptophan, N-[(5S)-5-amino-5-carboxy-1-oxopentyl]-L-cysteinyl-, bimol. (1.fwdarw.1')-disulfide (9CI) (CA INDEX NAME)

OTHER CA INDEX NAMES:

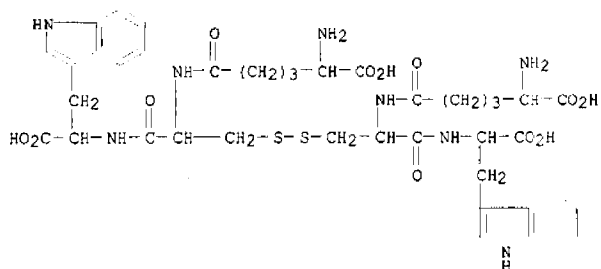
CN D-Tryptophan, N-(5-amino-5-carboxy-1-oxopentyl)-L-cysteinyl-, bimol. (1.fwdarw.1')-disulfide, [S-(R\*,R\*)]-

MF C40 H50 N8 O12 S2

SR CA

LC STN Files: BEILSTEIN\*, CA, CAPLUS

(\*File contains numerically searchable property data)

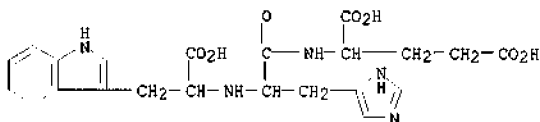


1 REFERENCES IN FILE CA (1967 TO DATE)  
1 REFERENCES IN FILE CAPLUS (1967 TO DATE)

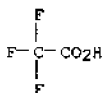
- REFERENCE 1: 117:65338 Substrate specificity of isopenicillin N synthase. Huffman, George W.; Gesellchen, Paul D.; Turner, Jan R.; Rothenberger, Robert B.; Osborne, Harold E.; Miller, F. Dean; Chapman, Jerry L.; Queener, Stephen W. (Lilly Res. Lab., Eli Lilly and Co., Indianapolis, IN, 46285, USA). J. Med. Chem., 35(10), 1897-914 (English) 1992. CODEN: JMCMAR. ISSN: 0022-2623.
- AB Highly purified isopenicillin N synthase (IPNS) from 2 sources (naturally occurring in *Penicillium chrysogenum* and that expressed in *Escherichia coli* via a cloned gene derived from *Cephalosporium acremonium*) were isolated and utilized in vitro to test synthetic modifications of the natural substrate, (L-.alpha.-amino-.delta.-adipyl)-L-cysteinyl-D-valine (ACV). A very sensitive procedure utilizing the ability of .beta.-lactams to induce the synthesis of .beta.-lactamase was employed to det. whether an ACV analog could serve as a substrate for IPNS. A wide variety of N- and C-terminal tripeptide substitutions were examd. and found to elicit pos. .beta.-lactamase induction profiles. However, none of these modifications were found to function as efficiently as a substrate as ACV. One of the .beta.-lactam products which was formed from the reaction of IPNS and the tripeptide analog was independently synthesized and evaluated for antibacterial activity. The modification of the L-cysteine residue in the 2nd position of ACV resulted in tripeptides that were unable to serve as substrates. Conversion of the D-valine residue in the 3rd position of ACV to an arom. amino acid or to a highly electroneg. residue, such as trifluorovaline, resulted in elimination of substrate activity and creation of an inhibitor of the enzyme.
- L10 ANSWER 36 OF 39 REGISTRY COPYRIGHT 1998 ACS  
RN 136308-67-3 REGISTRY  
CN L-Glutamic acid, N-[N-(1-carboxy-2-(1H-indol-3-yl)ethyl)-L-histidyl]-, (S)-, bis(trifluoroacetate) (9CI) (CA INDEX NAME)  
MF C22 H25 N5 O7 . 2 C2 H F3 O2  
SR CA  
LC STN Files: CA, CAPLUS, USPATFULL

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CRN 136308-66-2  
CMF C22 H25 N5 O7

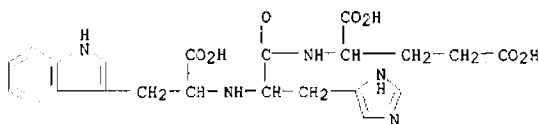


CM 2  
 CRN 76-05-1  
 CMF C2 H F3 O2



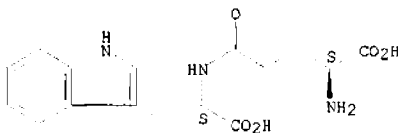
1 REFERENCES IN FILE CA (1967 TO DATE)  
 1 REFERENCES IN FILE CAPLUS (1967 TO DATE)

- REFERENCE 1: 115:159805 Preparation of N-carboxyalkyl dipeptides as antivirals. Tolman, Richard L.; Ashton, Wallace T.; Wu, Mu Tsu (Merck and Co., Inc., USA). Eur. Pat. Appl. EP 412595 A1 19910213, 16 pp. DESIGNATED STATES: R: CH, DE, FR, GB, IT, LI, NL. (English). CODEN: EPXXDW. APPLICATION: EP 90-202029 19900725. PRIORITY: US 89-386071 19890728.
- AB R4O2CCR2R3(A)nNR6CHR1R5 [R1 = H, alkenyl, alkynyl, cycloalkyl, cycloalkenyl, Ph, alkyl, etc.; R2, R3 = H, alkenyl, alkynyl, cycloalkyl, cycloalkenyl, C1-6 alkyl, etc.; R4 = H, cycloalkyl, alkyl, etc.; R5 = CO2R4, CH2CO2R4, PO3R4, etc.; R6 = H, Me; or R1R6 C2-4 alkylene; n = 0, 1; A = His, Asp, etc.] useful as antivirals (no data) and esp. useful for treatment of herpes infection (no data), were prepd. Stirring a mixt. of BOC-His(Dnp)-OH (Dnp = 2,4-dinitrophenyl) with H-Leu-O-bzl (bzl = benzyl), DCC, and HOBT at ambient temp. for 41 h followed by sequential treatment with CF3CO2H and thiophenol gave N.alpha.-carboxymethylhistidylleucine.
- L10 ANSWER 37 OF 39 REGISTRY COPYRIGHT 1998 ACS  
 RN 136308-66-2 REGISTRY  
 CN L-Glutamic acid, N-[N-[1-carboxy-2-(1H-indol-3-yl)ethyl]-L-histidyl]-, (S)- (9CI) (CA INDEX NAME)  
 MF C22 H25 N5 O7  
 CI COM  
 SR CA



L10 ANSWER 38 OF 39 REGISTRY COPYRIGHT 1998 ACS  
 RN 66471-20-3 REGISTRY  
 CN L-Tryptophan, L-.gamma.-glutamyl- (9CI) (CA INDEX NAME)  
 OTHER CA INDEX NAMES:  
 CN L-Tryptophan, N-L-.gamma.-glutamyl-  
 OTHER NAMES:  
 CN Bestim  
 FS STEREOSEARCH  
 MF C16 H19 N3 O5  
 LC STN Files: CA, CAPLUS, CHEMCATS, CSCHEM, TOXLIT, USPATFULL

Absolute stereochemistry.



6 REFERENCES IN FILE CA (1967 TO DATE)  
 6 REFERENCES IN FILE CAPLUS (1967 TO DATE)

REFERENCE 1: 127:76011 .gamma.-L-Glutamyl-containing immunomodulator compounds and therapeutic methods using them. Kolobov, Alexander A.; Simbirtsev, Andrey S.; Kulikov, Sergey V.; Prusakov, Alexey N.; Kalinina, Natalia M.; Pigareva, Natalia V.; Kotov, Alexander U.; Shpen, Vladimir M.; Kaurov, Oleg A.; Ketlinsky, Sergey A. (Wei, Edward, T., USA). PCT Int. Appl. WO 9719691 A1 19970605, 40 pp. DESIGNATED STATES: W: CN, JP, KR, SG; RW: AT, BE, CH, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE. (English). CODEN: PIXXD2. APPLICATION: WO 96-US17913 19961113. PRIORITY: RU 95-95119704 19951128; RU 95-95120266 19951128; US 96-634718 19960418.

AB Synthetic immunomodulatory mols. having a .gamma.-L-glutamyl moiety at the amino terminus and a formula R-NH-CH(COOH)CH2CH2C(O)X (R = H, acyl, alkyl; X = arom. or heterocyclic amino acid or deriv.) are provided. Included are those compds. where R = H and X = L-tryptophan, e.g. .gamma.-L-glutamyl-Nin-formyl-L-tryptophan, N-methyl-.gamma.-L-glutamyl-L-tryptophan, N-acethyl-.gamma.-L-glutamyl-L-tryptophan, and .gamma.-L-glutamyl-.beta.-thienyl-D-alanylamide. A preferred embodiment is Bestim (.gamma.-L-glutamyl-L-tryptophan). The results from studies of the immunostimulating activities of the .gamma.-L-glutamyl substituted dipeptides in humans with immunodeficiencies are provided.

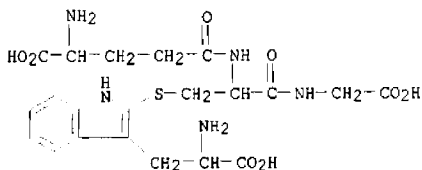
REFERENCE 2: 125:265636 .gamma.-L-glutamyl-5-hydroxy-L-tryptophan, but not .gamma.-L-glutamyl-L-tryptophan, causes sodium retention in



- normal man. Wa, T. C. Li Kam; Freestone, S.; Samson, R. R.; Johnson, N. R.; Lee, M. R. (Department Medicine, Royal Infirmary, Edinburgh, UK). *Br. J. Clin. Pharmacol.*, 42(3), 365-370 (English) 1996. CODEN: BCPHBM. ISSN: 0306-5251.
- AB This randomized, placebo-controlled, cross-over study compared the relative effectiveness of .gamma.-L-glutamyl-5-hydroxy-L-tryptophan (glu-5-HTP) and .gamma.-L-glutamyl-L-tryptophan (glu-TRP) in terms of their ability to act as substrates for renal 5-hydroxytryptamine (5-HT) synthesis and their actions on urinary sodium excretion. Urinary excretion of 5-HT and sodium were detd. before, during and after 1 h i.v. infusion of an equimolar amt. (45 nmol kg<sup>-1</sup> min<sup>-1</sup>) of glu-5-HTP or glu-TRP or placebo in nine healthy male subjects. Cumulative urinary 5-HT excretion over the 4 h after the start of glu-5-HTP infusion was 350-fold greater than that after placebo, and this was assocd. with a redn. in the urinary excretion of sodium. In contrast, the urinary excretion values of 5-HT and sodium after administration of glu-TRP were not significantly different from those obsd. on the placebo day. The marked increase in urinary 5-HT excretion and the retention of sodium after administration of glu-5-HTP have been demonstrated in previous studies and result from increased intrarenal generation of 5-HT. The absence of a rise in urinary excretion of 5-HT after glu-TRP infusion suggests that there was no significant conversion of this glutamyl compd. to 5-HT within the kidney. As a result, there was no effect on urinary sodium excretion.
- REFERENCE 3: 104:125886 Separation of .gamma.-glutamyl amino acids by ion-exchange chromatography. Wellner, Daniel (Med. Coll., Cornell Univ., New York, NY, 10021, USA). *Methods Enzymol.*, 113(Glutamate, Glutamine, Glutathione, Relat. Compd.), 564-6 (English) 1985. CODEN: MENZAU. ISSN: 0076-6879.
- AB The title compds. were sepd. by a method suitable for the anal. of body fluids (e.g., blood and urine) which involves sepn. of 10-nmol samples on a com. amino acid analyzer with a 0.175 .times. 4.8-cm ion-exchange column of sulfonated polystyrene resin. Elution was done at 30.degree. with Na citrate buffer (pH 3.25) at 7 mL/h. The column effluent was treated with ninhydrin and analyzed spectrophotometrically at 590 nm. Data are presented for the elution times of 26 .gamma.-glutamyl peptides compared to std. amino acids sepd. under the same conditions.
- REFERENCE 4: 100:175260 Transformation of glutamyl dipeptides by heating in aqueous solution. Kasai, Takanori; Nishitoba, Tsuyoshi; Sakamura, Sadao (Fac. Agric., Hokkaido Univ., Sapporo, 060, Japan). *Agric. Biol. Chem.*, 47(11), 2647-9 (English) 1983. CODEN: ABCRA6. ISSN: 0002-1369.
- AB Heating .gamma.-glutamyl dipeptides in aq. soln. at 110.degree. for 5 h gave pyroglutamic acid and the C-terminal amino acid, whereas the above heating of .alpha.-glutamyl dipeptides generally gave the corresponding pyroglutamic acid dipeptide. Diketopiperazines were also formed during the heating of H-Glu-NHMe<sub>2</sub>CO<sub>2</sub>H and H-Glu-Asn-OR. The transformations of .alpha.- and .gamma.-glutamyl peptides during autoclaving are also described.
- REFERENCE 5: 90:183149 Free amino acids and .gamma.-glutamyl peptides in Fagaceae. Kasai, Takanori; Larsen, Peder Olesen; Sorensen, Hilmer (Chem. Dep., Royal Vet. Agric. Univ., Copenhagen, Den.). *Phytochemistry*, 17(11), 1911-15 (English) 1978. CODEN: PYTCAS. ISSN: 0031-9422.
- AB Seeds from *Fagus* contained willardiine, 5-hydroxy-6-methylpipercolic acids, N-[N-(3-amino-3-carboxypropyl)-3-amino-3-

carboxypropylazetidine-2-carboxylic acid and .gamma.-glutamyl peptides, mainly .gamma.-glutamylphenylalanine. These compds. were nearly or totally absent from leaves of *F. silvatica* and from seedlings and immature seeds of *F. silvatica* var. *purpurea*; the seedlings contained .gamma.-glutamylisoleucine and .gamma.-glutamylleucine. Seeds of the *purpurea* variety contained .gamma.-glutamyltryptophan and .gamma.-glutamyl-.gamma.-glutamylphenylalanine. *F. japonica* and *F. sieboldii* seeds contained trans-4-hydroxyproline. None of these compds. were obsd. in *Quercus* or *Castanea* species, whereas argininosuccinic acid was obsd. in *C. sativa*.

- REFERENCE 6: 88:185903 Studies on the .gamma.-glutamylpeptides in L-glutamic acid fermentation broths. Part II. .gamma.-Glutamylpeptide formative activity of *Corynebacterium glutamicum* by the reverse reaction of the .gamma.-glutamylpeptide hydrolytic enzyme. Hasegawa, Mamoru; Matsubara, Isao (Tokyo Res. Lab., Kyowa Hakko Kogyo Co., Ltd., Machida, Japan). *Agric. Biol. Chem.*, 42(2), 371-81 (English) 1978. CODEN: ABCHA6. ISSN: 0002-1369.
- AB To clarify the mechanism of the .gamma.-L-glutamylpeptide formation in L-glutamic acid fermn. with *C. glutamicum*, .gamma.-glutamylpeptide synthetic activity of the intact cells and the cell exts. of the bacteria was studied. .gamma.-L-Glu-L-Glu and other various .gamma.-glutamylpeptides were formed by these crude preps. under high substrate amino acid concns. without direct or indirect biol. energy supplying systems. These enzyme preps. possessed strong hydrolytic activity to .gamma.-glutamylpeptides, and significant amts. of these peptides could be formed by the reverse reaction of the hydrolysis. These reactions were catalyzed by an enzyme. The mechanism was thought to contribute to the .gamma.-L-Glu-L-Glu formation in the fermn.
- L10 ANSWER 39 OF 39 REGISTRY COPYRIGHT 1998 ACS  
 RN 61316-69-6 REGISTRY  
 CN Glycine, N-(S-[3-(2-amino-2-carboxyethyl)-1H-indol-2-yl]-N-L-.gamma.-glutamyl-L-cysteinyl)- (9CI) (CA INDEX NAME)  
 MF C21 H27 N5 O8 S  
 LC STN Files: BELLSTEIN\*, CA, CAPLUS  
 (\*File contains numerically searchable property data)



2 REFERENCES IN FILE CA (1967 TO DATE)  
 2 REFERENCES IN FILE CAPLUS (1967 TO DATE)

- REFERENCE 1: 93:47167 A novel synthesis of 2-thioether derivatives of tryptophan. Covalent binding of tryptophan to cysteine sulfhydryl groups in peptides and proteins. Savige, Walter E.; Fontana, Angelo (Div. Protein Chem., CSIRO, Parkville, Australia). *Int. J. Pept. Protein Res.*, 15(2), 102-12 (English) 1980. CODEN: IJPPC3. ISSN: 0367-8377.

=&gt; d his 12-

(FILE 'MEDLINE' ENTERED AT 12:25:34 ON 15 MAR 94)

L2 88 S L1  
 L3 168 S CURCUMIN OR TURMERIC OR DIFERULOYLMETHANE OR (C OR CURC  
 L4 168 S L2 OR L3  
 L5 63462 S ULCER#  
 L6 10637 S SKIN ULCER+NT/CT  
 L7 1855 S APHTHA# OR APHTHOUS OR CANKER# OR PERIADENITIS  
 L8 7069 S CICATRIX+NT/CT  
 L9 25408 S WOUND HEALING+NT/CT

L10 254151 S C21.866./CT  
 L11 335572 S L5 OR L6 OR L7 OR L8 OR L9 OR L10  
 L12 7 S L4 AND L11  
 L13 42626 S (PEPTIC ULCER+NT)/CT  
 L14 2 S L4 AND L13  
 L15 1 S (ANTI-ULCER AGENTS+NT)/CT AND L4  
 L16 18 S L4 (L) TU./CT  
 L17 155449 S POSTOPERATIVE COMPLICATIONS+NT/CT  
 L18 1 S L4 AND L17  
 L19 8 S L12 OR L14 OR L15 OR L18

FILE 'EMBASE' ENTERED AT 12:38:46 ON 15 MAR 94

L20 95 S L1  
 L21 203 S CURCUMIN OR (C OR CURCUMA) (W) LONGA OR TURMERIC OR DIF  
 L22 203 S L20 OR L21  
 L23 27131 S ULCER+NT/CT  
 L24 5 S L22 AND L23  
 L25 7684 S WOUND HEALING+NT/CT  
 L26 2 S L22 AND L25  
 L27 13451 S WOUND+NT/CT OR INCISION+NT/CT OR WOUND CARE+NT/CT OR SU  
 L28 0 S L22 AND L27  
 L29 0 S WOUND HEALING PROMOTING AGENT+NT/CT AND L22  
 L30 23858 S WOUND#  
 L31 2 S L22 AND L30  
 L32 166722 S INJURY OR INJURIES  
 L33 4 S L22 AND L32  
 L34 13570 S CUT OR CUTS OR ABRASION#  
 L35 1 S L22 AND L34  
 L36 10 S L24 OR L26 OR L31 OR L33 OR L35  
 L37 603 S APHTHA# OR APHTHOUS OR CANKER# OR PERIADENITIS  
 L38 0 S L22 AND L37

FILE 'HCA' ENTERED AT 12:43:29 ON 15 MAR 94

L39 413 S L1 OR L1/D  
 L40 753 S (CURCUMIN OR (C OR CURCUMA) (W) LONGA OR TURMERIC OR DIFE  
 L41 804 S L39 OR L40

L42 8 S ULCER?/IA AND L41  
 L43 2 S ANTIULCER?/IA AND L41  
 L44 15429 S WOUND#/IA  
 L45 1 S L41 AND L44  
 L46 4 S (INJURIES OR INJURY)/IA AND L41

L47 3 S (INCISION# OR CUT OR CUTS)/IA AND L41  
L48 0 S (APHTHA# OR APHTHOUS OR CANKER# OR PERIADENITIS)/IA AND  
L49 16 S L42 OR L43 OR L45 OR L46 OR L47

FILE 'HCAPREVIEWS' ENTERED AT 12:48:11 ON 15 MAR 94  
L50 14 S L41

*unrelated*

FILE 'MEDLINE, EMBASE, HCA' ENTERED AT 12:49:20 ON 15 MAR 94  
L51 27 DUP REMOVE L19 L36 L49 (7 DUPLICATES REMOVED)

=>

=>

=> fil reg

FILE 'REGISTRY' ENTERED AT 12:50:42 ON 15 MAR 94  
USE IS SUBJECT TO THE TERMS OF YOUR CUSTOMER AGREEMENT  
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STRUCTURE FILE UPDATES: 12 MAR 94 HIGHEST RN 153608-97-0  
DICTIONARY FILE UPDATES: 15 MAR 94 HIGHEST RN 153608-97-0

TSCA INFORMATION NOW CURRENT THROUGH 30 JUNE 1993

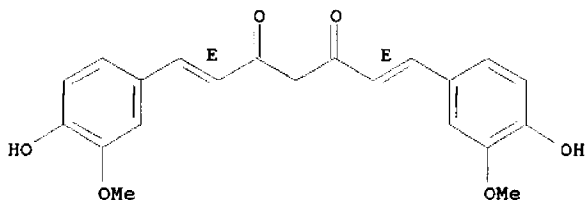
=> d ide can 11

L1 ANSWER 1 OF 1 COPYRIGHT 1994 ACS  
RN 458-37-7 REGISTRY  
CN 1,6-Heptadiene-3,5-dione, 1,7-bis(4-hydroxy-3-methoxyphenyl)-,  
(E,E)- (8CI, 9CI) (CA INDEX NAME)  
OTHER CA INDEX NAMES:  
CN Curcumin (6CI)  
OTHER NAMES:  
CN (E,E)-1,7-Bis(4-hydroxy-3-methoxyphenyl)-1,6-heptadiene-3,5-dione  
CN C Yellow 15  
CN C.I. 75300  
CN C.I. Natural Yellow 3  
CN Curcuma  
CN Diferuloylmethane  
CN E 100  
CN E 100 (dye)  
CN Haidr  
CN Halad  
CN Haldar  
CN Halud  
CN Indian Saffron  
CN Kacha Haldi  
CN Merita Earth  
CN Natural Yellow 3  
CN Souchet  
CN Terra Merita  
CN trans,trans-Curcumin  
CN **Turmeric**  
CN Turmeric (dye)  
CN Turmeric yellow  
CN Ukon

CN Ukon (dye)  
 CN Yellow Ginger  
 CN Yellow Root  
 CN Yo-Kin  
 FS STEREOSEARCH  
 DR 33171-04-9, 79257-48-0, 73729-23-4, 15845-47-3  
 MF C21 H20 O6  
 CI COM  
 LC STN Files: ANABSTR, BEILSTEIN\*, BIOBUSINESS, BIOSIS, CA, CAOLD,  
 CAPREVIEWS, CASREACT, CEN, CHEMLIST, CIN, CJACS, CSCHEM, EMBASE,  
 HODOC\*, HSDB\*, IFICDB, IFIPAT, IFIUDB, IPA, MEDLINE, MSDS-OHS,  
 MSDS-SUM, NAPRALERT, PIRA, PHAR, PNI, RTECS\*, SPECINFO  
 (\*File contains numerically searchable property data)  
 Other Sources: DSL\*\*, EINECS\*\*, TSCA\*\*  
 (\*\*Enter CHEMLIST File for up-to-date regulatory information)

DES 2:E,E

Double bond geometry as shown.



6 REFERENCES IN FILE CAPREVIEWS  
 400 REFERENCES IN FILE CA (1967 TO DATE)  
 25 REFERENCES TO NON-SPECIFIC DERIVATIVES IN FILE CA  
 21 REFERENCES IN FILE CAOLD (PRIOR TO 1967)

REFERENCE	1:	CA120(9):100645d
REFERENCE	2:	CA120(9):95123a
REFERENCE	3:	CA120(9):95030t
REFERENCE	4:	CA120(9):94526x
REFERENCE	5:	CA120(7):76290m
REFERENCE	6:	CA120(7):75874t
REFERENCE	7:	CA120(6):68233e
REFERENCE	8:	CA120(5):45896j
REFERENCE	9:	CA120(5):45197g

REFERENCE 10: CA120(4):44688f

=>

=> fil medline embase hca  
FILE 'MEDLINE' ENTERED AT 12:50:59 ON 15 MAR 94  
COPYRIGHT (C) 1994 U.S. National Library of Medicine (NLM)

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=> d 151 1-27 all

L51 ANSWER 1 OF 27 COPYRIGHT 1994 ELSEVIER AMS

AN 93323350 EMBASE

TI Protective effects of chlorogenic acid, curcumin and .beta.-carotene against .gamma.-radiation-induced in vivo chromosomal damage

AU Abraham S.K.; Sarma L.; Kesavan P.C.

CS School of Life Sciences, Jawaharlal Nehru University, New Delhi 110067, India

SO (MUTAT. RES. MUTAT. RES. LETT.) 303/3 (109-112) 1993

ISSN: 0165-7992 CODEN: MRLEDH

CY Netherlands

DT Journal

FS 022 Human Genetics

030 Pharmacology

052 Toxicology

LA English

SL English

AB The mouse bone marrow micronucleus test was carried out to evaluate the possible role of the dietary constituents chlorogenic acid (CGA), curcumin (CR) and .beta.-carotene (BC) in modulating the in vivo chromosomal damage induced by .gamma.-radiation. The results obtained suggest that oral administration of CGA (50, 100 and 200 mg/kg b.w.), CR (5, 10 and 20 mg/kg b.w.) and BC (0.5 and 2.5 mg/kg b.w.) to mice can significantly reduce the frequencies of micronucleated polychromatic erythrocytes (Mn PCEs) induced by whole body exposure to .gamma.-radiation (1.15 Gy; 0.05 Gy/s). with CGA and CR, this effect was observed after a single administration either 2 h before or immediately after irradiation. However, with BC a 7-day feeding before irradiation was necessary to obtain a significant reduction in the incidence of Mn PCEs. The protective effects of CGA, CR and BC were observed in bone marrow cells sampled 24, 30 and 48 h after exposure to radiation.

CC 037.00.00.00.00. Drug Literature Index

CT EMTAGS: heredity(0137); injury(0301); therapy(0160); prevention(0165); blood and hemopoietic system(0927); nonhuman(0777); mouse(0727); mammal(0738); animal experiment(0112); controlled study(0197); animal tissue, cells or cell components(0105); priority

journal(0007); article(0060)

Medical Descriptors:

\*chromosome damage  
 \*gamma radiation  
 \*radiation mutagenesis  
 \*radiation protection  
 micronucleus test  
 bone marrow cell  
 nonhuman  
 mouse  
 animal experiment  
 controlled study  
 animal cell  
 priority journal  
 article

Drug Descriptors:

\*curcumin  
 \*chlorogenic acid  
 \*beta carotene  
 unclassified drug  
 antimutagenic agent

RN 458-37-7; 327-97-9; 7235-40-7

CO sigma(US)

L51 ANSWER 2 OF 27 CA COPYRIGHT 1994 ACS

AN CA119(1):871k CA

TI Efficacy of some indigenous drugs in tissue repair in buffaloes

AU Kumar, Anil; Sharma, V. K.; Singh, H. P.; Prakash, Prem; Singh, S. P.

CS Coll. Vet. Sci., G. B. Pant Univ. Agric. Technol.

LO Pantnagar 263 145, India

SO Indian Vet. J., 70(1), 42-4

SC 1-12 (Pharmacology)

SX 63

DT J

CO IVEJAC

IS 0019-6479

PY 1993

LA Eng

AB SKin wound healing responses to ointments contg.

*Curcuma longa* root ext., *Azadirachta indica* leaf ext., honey, and nitrofurazone were evaluated in buffalo calves. The healing was evaluated by clin. and histol. methods.

KW indigenous drug tissue repair buffalo; pharmaceutical natural product wound healing buffalo

IT Wound healing

(nitrofurazone and honey and plant exts. stimulation)

IT Honey

(skin wound healing stimulation by)

IT *Curcuma longa*

(skin wound healing stimulation by ext. of roots of)

IT Margosa

(skin wound healing stimulation by leaf ext. of)

IT Buffalo

(Indian, skin wound healing in calves of, nitrofurazone and honey and plant exts. stimulation of)

IT 59-87-0, Nitrofurazone  
(skin wound healing stimulation by)

L51 ANSWER 3 OF 27 CA COPYRIGHT 1994 ACS

AN CA116(22):221612# CA

TI Lipopolysaccharides of plants and microorganisms for treatment of ulcer of digestive tract

IN Soma, Genichiro; Yoshimura, Atsushi; Tsukioka, Daisuke; Mizuno, Denichi; Oshima, Haruyuki

PA Chiba Seifun K. K.

LO Japan

SO Jpn. Kokai Tokkyo Koho, 25 pp.

PI JP 04049240 A2 920218 Heisei

AI JP 90-155429 900615

SC 63-6 (Pharmaceuticals)

SX 11

DT P

CO JKXXAF

PY 1992

LA Japan

IC ICM A61K035-74  
ICS A61K035-78; A61K035-80; A61K035-84

AB Lipopolysaccharides are isolated from many plants and some microorganisms, and their antiulcer activities shown in mice.

KW lipopolysaccharide plant microorganism ulcer inhibitor

IT Ulcer inhibitors  
(lipopolysaccharides of plants and microorganisms as)

IT Arisaema triphyllum  
Asparagus  
Avocado  
Azukia  
Bamboo  
Bordetella pertussis  
Broad bean  
Capsicum  
Chlorella  
Coix lacryma-jobi  
Curcuma longa  
Escherichia coli  
Gastrolina  
Ginseng  
Hizikia fusiforme  
Houttuynia cordata  
Hydrangea serrata  
Iris (plant)  
Laver  
Lily  
Loquat  
Microorganism  
Mushroom  
Myristica



- Oat  
 Osmunda regalis  
 Peach  
 Pine  
 Plant  
 Potato  
 Radish  
 Rice  
 Seaweed  
 Soybean  
 Tomato  
 Uncaria hirsuta  
 Wheat  
 Yeast  
 (lipopolysaccharides of, digestive tract ulcer  
 treatment with)
- IT Lipopolysaccharides  
 (of plants and microorganisms, as ulcer inhibitors)
- IT Cucurbita  
 (pumpkin, lipopolysaccharides of, digestive tract ulcer  
 treatment with)
- IT Orange  
 (sour, lipopolysaccharides of, digestive tract ulcer  
 treatment with)
- IT Ginger  
 (Z. mloga, lipopolysaccharides of, digestive tract ulcer  
 treatment with)
- IT Oat  
 (A. fatua, lipopolysaccharides of, digestive tract ulcer  
 treatment with)
- IT Kudzu  
 (P. lobata, lipopolysaccharides of, digestive tract ulcer  
 treatment with)
- L51 ANSWER 4 OF 27 COPYRIGHT 1994 ELSEVIER AMS DUPLICATE 1  
 AN 92180313 EMBASE  
 TI Homeostasis as regulated by activated macrophage. II. LPS of plant  
 origin other than wheat flour and their concomitant bacteria  
 AU Inagawa H.; Nishizawa T.; Tsukioka D.; Suda T.; Chiba Y.; Okutomi T.;  
 Morikawa A.; Soma G.-I.; Mizuno D.  
 CS Biotechnology Research Center, Teikyo University, Miyamae-ku,  
 Kawasaki 216, Japan  
 SO (CHEM. PHARM. BULL.) 40/4 (994-997) 1992  
 ISSN: 0009-2363 CODEN: CPBTAL  
 CY Japan  
 DT Journal  
 FS 004 Microbiology  
 029 Clinical Biochemistry  
 LA English  
 SL English  
 AB In order to seek a macrophage-activating substance,  
 lipopolysaccharide (LPS) of plant origin other than that of wheat  
 flour was surveyed. A large amount of LPS (10-100 .mu.g/g) was  
 detected in Laminaria japonica (kelp), Curcuma

**longa (turmeric)**, *Undaria pinnatifida* and other substances. Since concomitant bacteria possibly existing in root of farm products can be considered to contribute to LPS of plant origin, a count was taken of bacterial cells both dead and alive. This count revealed that some LPS were derived from concomitant bacteria which had probably come from root. Few concomitant bacterial cells were found in seaweed, while stem-root contained enough bacterial cells. Three predominant bacteria have been isolated and identified; *Pantoea agglomerans*, *Enterobacter cloacae*, and *Serratia ficaria*. These LPSS were purified and their chemical compositions were examined. They are similar to that of *Escherichia coli* except that their molecular sizes are smaller. Since LPS is non-toxic when taken orally or percutaneously, these LPSS may also be advantageous in the cure of intractable diseases.

CC 037.00.00.00.00. Drug Literature Index

CT EMTAGS: etiology(0135); prevention(0165); therapy(0160); nonhuman(0777); male(0041); mouse(0727); mammal(0738); animal experiment(0112); animal model(0106); biological model(0502); controlled study(0197); oral drug administration(0181); intravenous drug administration(0182); article(0060)

Medical Descriptors:

\*phytochemistry  
 \*macrophage activation  
 bacterium contamination  
 ulcerogenesis: PC, prevention  
 ulcerogenesis: DT, drug therapy  
 extraction  
 chemical analysis  
 toxicity  
 nonhuman  
 male  
 mouse  
 animal experiment  
 animal model  
 controlled study  
 oral drug administration  
 intravenous drug administration  
 article

Drug Descriptors:

\*lipopolysaccharide: TO, drug toxicity  
 \*lipopolysaccharide: DT, drug therapy  
 \*lipopolysaccharide: CM, drug comparison  
 \*lipopolysaccharide: AN, drug analysis  
 \*lipopolysaccharide: DV, drug development

L51 ANSWER 5 OF 27 COPYRIGHT 1994 ELSEVIER AMS DUPLICATE 2

AN 92087182 EMBASE

TI Turmerin: A water soluble antioxidant peptide from turmeric  
 (*Curcuma longa*)

AU Srinivas L.; Shalini V.K.; Shylaja M.

CS Department of Nutrition and Food Safety, Central Food Technological  
 Research Institute, Mysore-570 013, Karnataka State, India

SO (ARCH. BIOCHEM. BIOPHYS.) 292/2 (617-623) 1992

ISSN: 0003-9861 CODEN: ABBIA4

CY United States  
 DT Journal  
 FS 029 Clinical Biochemistry  
 030 Pharmacology  
 LA English  
 SL English  
 AB Dietary spice components have been screened for their protective effect against reactive oxygen species (ROS)-induced, lipid peroxide-mediated membrane and DNA damage and mutagenicity. A new, water soluble, 5-kDa peptide - Turmerin - from turmeric (*Curcuma longa*) has been found to be an efficient antioxidant/DNA-protectant/antimutagen. Turmerin forms 0.1% of the dry weight of turmeric and is obtained in a crystalline form. It is a heat stable, noncyclic peptide containing 40 amino acid residues, with a blocked N-terminal and leucine at the C-terminal. It is insensitive to trypsin and pepsin, heat, and uv radiation. Turmerin contains three residues of methionine which are partly responsible for the antioxidant activity. Turmerin at 183 nM offers 80% protection to membranes and DNA against oxidative injury. ROS-induced arachidonate release and the mutagenic activity of t-butyl hydroperoxide are substantially inhibited by Turmerin. Turmerin is noncytotoxic up to milligram concentrations, as tested by Ames assay and in human lymphocytes.  
 CC 037.00.00.00.00. Drug Literature Index  
 CT EMTAGS: higher plant(0697); plant(0699); heredity(0137); blood and hemopoietic system(0927); lymphatic system(0929); mammal(0738); human(0888); human tissue, cells or cell components(0111); priority journal(0007); article(0060); enzyme(0990)  
 Medical Descriptors:  
 \**curcuma longa*  
 aqueous solution  
 mutagenicity  
 lymphocyte  
 crystallization  
 ultraviolet radiation  
 amino acid analysis  
 membrane  
 heat treatment  
 human  
 human cell  
 priority journal  
 article  
 Drug Descriptors:  
 \*antioxidant: PD, pharmacology  
 \*antioxidant: AN, drug analysis  
 \*antioxidant: DV, drug development  
 peptide  
 methionine  
 dna  
 trypsin  
 pepsin a  
 leucine  
 oxygen  
 arachidonic acid

tert butyl hydroperoxide: TO, drug toxicity  
 turmerin: AN, drug analysis  
 turmerin: DV, drug development  
 turmerin: PD, pharmacology  
 unclassified drug

RN 39413-28-0; 63641-61-2; 59-51-8; 63-68-3; 7005-18-7; 9007-49-2;  
 9002-07-7; 9001-75-6; 61-90-5; 7005-03-0; 7782-44-7; 506-32-1;  
 6610-25-9; 7771-44-0

L51 ANSWER 6 OF 27 CA COPYRIGHT 1994 ACS  
 AN CA118(17):160800u CA  
 TI Inhibition of lipid peroxidation and cholesterol levels in mice by  
 curcumin

AU Soudamini, K. K.; Unnikrishnan, M. C.; Soni, K. B.; Kuttan, R.  
 CS Amala Cancer Res. Cent.  
 LO Trichur 680 553, India  
 SO Indian J. Physiol. Pharmacol., 36(4), 239-43  
 SC 1-8 (Pharmacology)  
 DT J  
 CO IJPPAZ  
 IS 0019-5499  
 PY 1992  
 LA Eng  
 AB Effect of oral administration of curcumin (diferuloyl  
 methane) on lipid peroxidn. in various organs of mice like liver,  
 lung, kidney and brain was studied in control animals as well as  
 those given carbon tetrachloride, paraquat and cyclophosphamide.  
 Oral administration of curcumin significantly lowered the  
 increased peroxidn. of lipids in these tissues produced by these  
 chems. Administration of curcumin was also found to lower  
 significantly the serum and tissue cholesterol levels in these  
 animals, indicating that the use of curcumin helps in  
 conditions assocd. with peroxide induced injury such as  
 liver damage and arterial diseases.

KW curcumin antioxidant lipid peroxidn cholesterol  
 antiatherosclerotic

IT Antioxidants  
 (curcumin as, lipid peroxidn. inhibition by,  
 antiatherosclerotic activity in relation to)

IT Brain, metabolism  
 Kidney, metabolism  
 Liver, metabolism  
 Lung, metabolism  
 (curcumin effect on lipid peroxidn. and cholesterol  
 level in, as antioxidant)

IT Reactive oxygen species  
 (curcumin scavenging of, antiatherosclerotic activity  
 in relation to)

IT Lipids, biological studies  
 (peroxidn. of, curcumin inhibition of,  
 antiatherosclerotic activity in relation to)

IT Antiarteriosclerotics  
 (antiatherosclerotics, curcumin as, lipid peroxidn. and  
 cholesterol levels inhibition by)

- IT 458-37-7, **Curcumin**  
(antiatherosclerotic activity of, lipid peroxidn. and cholesterol level inhibition in)
- IT 57-88-5, Cholest-5-en-3-ol (3.beta.)-, biological studies  
(**curcumin** inhibition of, in blood, antiatherosclerotic activity in relation to)
- IT 7782-44-7D, Oxygen, radicals  
(**curcumin** scavenging of, antiatherosclerotic activity in relation to)
- L51 ANSWER 7 OF 27 COPYRIGHT 1994 NLM  
AN 92358724 MEDLINE
- TI The use and efficacy of *Azadirachta indica* ADR ('Neem') and *Curcuma longa* ('Turmeric') in scabies. A pilot study.
- AU Charles V; Charles SX  
CS Medical and Cancer Research and Treatment Centre, Nagercoil, India.  
SO Trop Geogr Med, (1992 Jan) 44 (1-2) 178-81.  
Journal code: WGJ. ISSN: 0041-3232.
- CY Netherlands  
DT Journal; Article; (JOURNAL ARTICLE)  
LA English  
FS Priority Journals  
EM 9211
- AB In the Ayurvedha and Sidha system of medicine (Indian system of medicine) *Azadirachta indica* ADR ('Neem') and *Curcuma longa* ('Turmeric') has been used for healing chronic ulcers and scabies. The 'Neem' and 'Turmeric' was used as a paste for the treatment of scabies in 814 people. In 97% of cases cure was obtained within 3 to 15 days of treatment. We find that this is a very cheap, easily available, effective and acceptable mode of treatment for the villagers in the developing countries. We have noticed no toxic or adverse reaction so far. However, further research is needed.
- CT Check Tags: Female; Human; Male  
Administration, Topical  
Adolescence  
Adult  
Child  
Child, Preschool  
Curcumin: AD, administration & dosage  
\*Curcumin: TU, therapeutic use  
Glycerides: AD, administration & dosage  
\*Glycerides: TU, therapeutic use  
India: EP, epidemiology  
Infant  
Infant, Newborn  
\*Medicine, Ayurvedic  
Middle Age  
Pilot Projects  
Plant Oils: AD, administration & dosage  
\*Plant Oils: TU, therapeutic use  
\*Scabies: DT, drug therapy  
Scabies: EP, epidemiology

Terpenes: AD, administration & dosage  
 \*Terpenes: TU, therapeutic use  
 Treatment Outcome

RN 458-37-7 (Curcumin); 8002-65-1 (neem oil)  
 CN 0 (Glycerides); 0 (Plant Oils); 0 (Terpenes)

L51 ANSWER 8 OF 27 COPYRIGHT 1994 ELSEVIER AMS  
 AN 92311551 EMBASE  
 TI Reversal of aflatoxin induced liver damage by turmeric and curcumin  
 AU Soni K.B.; Rajan A.; Kuttan R.  
 CS Amala Cancer Research Centre, Amala Nagar, Trichur-680 553, India  
 SO (CANCER LETT.) 66/2 (115-121) 1992  
 ISSN: 0304-3835 CODEN: CALEDQ  
 CY Ireland  
 DT Journal  
 FS 016 Cancer  
 030 Pharmacology  
 048 Gastroenterology  
 052 Toxicology  
 LA English  
 SL English  
 AB The effect of certain food additives on apatoxin production by *Aspergillus parasiticus* has been studied in vitro. Extracts of turmeric (*Curcuma longa*), garlic (*Allium sativum*) and asafoetida (*Ferula asafoetida*) inhibited the aflatoxin production considerably (more than 90%) at concentrations of 5-10 mg/ml. Similar results were also seen using butylated hydroxytoluene, butylated hydroxyanisole and ellagic acid at concentration 0.1 mM. Curcumin, the antioxidant principle from *Curcuma longa* did not have any effect on aflatoxin production. Turmeric and curcumin were also found to reverse the apatoxin induced liver damage produced by feeding apatoxin B1 (AFB1) (5 .mu.g/day per 14 days) to ducklings. Fatty changes, necrosis and biliary hyperplasia produced by AFB1 were considerably reversed by these food additives.

CC 037.00.00.00.00. Drug Literature Index  
 CT EMTAGS: injury(0301); plant(0699); fungus(0763); bird(0703); ducks and geese(0712); nonhuman(0777); animal experiment(0112); animal model(0106); biological model(0502); controlled study(0197); animal tissue, cells or cell components(0105); newborn(0013); infant(0014); child(0022); oral drug administration(0181); priority journal(0007); article(0060); higher plant(0697)  
 Medical Descriptors:  
 \*liver injury  
 \*toxin synthesis  
 aspergillus parasiticus  
 duck  
 fatty liver  
 liver necrosis  
 hyperplasia  
 nonhuman  
 animal experiment

animal model  
 controlled study  
 animal tissue  
 newborn  
 oral drug administration  
 priority journal  
 article

## Drug Descriptors:

\**curcuma longa*  
 \*curcumin  
 \*food additive  
 \*aflatoxin b1: TO, drug toxicity  
 garlic  
 butylcresol  
 butylated hydroxyanisole  
 ellagic acid

RN 68038-57-3; 458-37-7; 1162-65-8; 128-37-0; 30587-81-6;  
 25013-16-5; 476-66-4

L51 ANSWER 9 OF 27 COPYRIGHT 1994 ELSEVIER AMS           DUPLICATE 3

AN 91133063 EMBASE

TI Styrylpyrazoles, styrylisoxazoles, and styrylisothiazoles. Novel  
 5-lipoxygenase and cyclooxygenase inhibitors

AU Flynn D.L.; Belliotti T.R.; Boctor A.M.; Connor D.T.; Kostlan C.R.;  
 Nies D.E.; Ortwine D.F.; Schrier D.J.; Sircar J.C.

CS G.D. Searle and Co., 4901 Searle Parkway, Skokie, IL 60077, United  
 States

SO (J. MED. CHEM.) 34/2 (518-525) 1991

ISSN: 0022-2623   CODEN: JMCMAR

CY United States

DT Journal

FS 030 Pharmacology

031 Arthritis and Rheumatism

LA English

AB A series of styrylpyrazoles, styrylisoxazoles, and styrylisothiazoles  
 were prepared and found to be dual inhibitors of 5-lipoxygenase and  
 cyclooxygenase in rat basophilic leukemia cells. Compounds from  
 this series also were found to inhibit the in vivo production of LTB<sub>4</sub>  
 when dosed orally in rats. Among these compounds,  
 di-tert-butylphenols 19 and 33 exhibit oral activity in various  
 models of inflammation and, most importantly, are devoid of  
 ulcerogenic potential.

CC 037.00.00.00.00. Drug Literature Index

CT EMTAGS: chemical procedures(0107); malignant neoplastic  
 disease(0306); etiology(0135); nonhuman(0777); male(0041); rat(0733);  
 mammal(0738); animal experiment(0112); animal model(0106); biological  
 model(0502); oral drug administration(0181); priority journal(0007);  
 article(0060); therapy(0160); enzyme(0990)

## Medical Descriptors:

\*drug synthesis  
 \*enzyme inhibition  
 leukemia cell  
 ulcerogenesis  
 structure activity relation

nonhuman  
male  
rat  
animal experiment  
animal model  
oral drug administration  
priority journal  
article  
\*antiinflammatory activity  
Drug Descriptors:  
\*pyrazole derivative: TO, drug toxicity  
\*pyrazole derivative: CM, drug comparison  
\*pyrazole derivative: AN, drug analysis  
\*pyrazole derivative: DV, drug development  
\*isoxazole derivative: TO, drug toxicity  
\*isoxazole derivative: CM, drug comparison  
\*isoxazole derivative: AN, drug analysis  
\*isoxazole derivative: DV, drug development  
\*isothiazole derivative: TO, drug toxicity  
\*isothiazole derivative: CM, drug comparison  
\*isothiazole derivative: AN, drug analysis  
\*isothiazole derivative: DV, drug development  
\*lipoxxygenase inhibitor: TO, drug toxicity  
\*lipoxxygenase inhibitor: CM, drug comparison  
\*lipoxxygenase inhibitor: AN, drug analysis  
\*lipoxxygenase inhibitor: DV, drug development  
\*prostaglandin synthase inhibitor: TO, drug toxicity  
\*prostaglandin synthase inhibitor: CM, drug comparison  
\*prostaglandin synthase inhibitor: AN, drug analysis  
\*prostaglandin synthase inhibitor: DV, drug development  
\*curcumin derivative: TO, drug toxicity  
\*curcumin derivative: CM, drug comparison  
\*curcumin derivative: AN, drug analysis  
\*curcumin derivative: DV, drug development  
lipoxxygenase: EC, endogenous compound  
prostaglandin synthase: EC, endogenous compound  
leukotriene b4: EC, endogenous compound  
alpha (3,5 di tert butyl 4 hydroxybenzylidene) gamma butyrolactone:  
CM, drug comparison  
3 (3,5 di tert butyl 4 hydroxybenzylidene) 1 methoxy 2  
pyrrolidinone: CM, drug comparison  
2,6 di tert butyl 4 (2 (3 methyl 5 isoxazolyl)vinyl)phenol: TO, drug  
toxicity  
2,6 di tert butyl 4 (2 (3 methyl 5 isoxazolyl)vinyl)phenol: CM, drug  
comparison  
2,6 di tert butyl 4 (2 (3 methyl 5 isoxazolyl)vinyl)phenol: AN, drug  
analysis  
2,6 di tert butyl 4 (2 (3 methyl 5 isoxazolyl)vinyl)phenol: DV, drug  
development  
2,6 di tert butyl 4 (2 (5 methyl 1h pyrazol 3 yl)vinyl)phenol: TO,  
drug toxicity  
2,6 di tert butyl 4 (2 (5 methyl 1h pyrazol 3 yl)vinyl)phenol: CM,  
drug comparison  
2,6 di tert butyl 4 (2 (5 methyl 1h pyrazol 3 yl)vinyl)phenol: AN,



drug analysis .  
 .2,6 di tert butyl 4 (2 (5 methyl 1h pyrazol 3 yl)vinyl)phenol: DV,  
 drug development  
 unclassified drug

RN 9027-17-2; 9029-60-1; 9055-65-6; 39391-18-9; 59763-19-8; 71160-24-2;  
 83677-24-1

CN kme 4; e 5110

L51 ANSWER 10 OF 27 COPYRIGHT 1994 ELSEVIER AMS

AN 92129525 EMBASE

TI Study on the histochemical staining of boric acid

AU Yoshida M.; Tokiyasu T.; Watabiki T.; Ueda M.; Ishida N.

CS Japan

SO (JPN. J. LEG. MED.) 45/5-6 (416-422) 1991

ISSN: 0047-1887 CODEN: NHOZAX

CY Japan

DT Journal

FS 049 Forensic Science Abstracts

LA Japanese

SL English; Japanese

AB The detection of boric acid in the tissue is of significance in investigating its toxicity. Because of this, we have devised a histochemical staining method to detect the presence of boric acid. The outline of this method follows. Frozen 12-14 .mu.m sections, cut by a cryostat, are fixed in anhydrous ethanol and stained for 20 minutes in a protonated curcumin solution. Washing in acetic acid follows, and a red stain results if boric acid is present. This method causes a reaction, in which rosocyanin is formed by the reaction of boric acid and the protonated curcumin, and this principle is now used when an analysis of boric acid is needed. As to procedure, a 1 N concentration of sodium hydroxide is dropped onto a part of the stain to be tested, and the presence of rosocyanin is confirmed if the stain turns blue. Consequently, this staining confirms the presence of boric acid. (protonated curcumin solution=0.1% curcumin /acetic acid:sulfuric acid=20:1 (volume ratio))

CT ENTAGS: histology(0330); nonhuman(0777); mouse(0727); mammal(0738); animal experiment(0112); controlled study(0197); animal tissue, cells or cell components(0105); adult(0018); article(0060)

Medical Descriptors:  
 \*staining  
 histochemistry  
 forensic identification  
 nonhuman  
 mouse  
 animal experiment  
 controlled study  
 animal tissue  
 adult  
 article

Drug Descriptors:  
 \*boric acid: TO, drug toxicity

RN 10043-35-3; 11113-50-1; 11129-12-7; 14213-97-9

L51 ANSWER 11 OF 27 CA COPYRIGHT 1994 ACS  
 AN CA115(21):230756y CA  
 TI Occurrence of aflatoxins and aflatoxin-producing molds in fresh and processed meat in Egypt  
 AU Aziz, Nagy H.; Youssef, Youssef A.  
 CS Natl. Cent. Radiat. Res. Technol.  
 LO Nasr, Egypt  
 SO Food Addit. Contam., 8(3), 321-31  
 SC 17-5 (Food and Feed Chemistry)  
 DT J  
 CO FACOEB  
 IS 0265-203X  
 PY 1991  
 LA Eng  
 AB A survey was carried out to detect aflatoxins and isolate aflatoxigenic molds contaminating fresh and processed meat products. The fungal contamination was examd. in 215 samples of fresh and processed meat products and 130 samples of spices used in the meat industry collected from different local companies in Cairo, Egypt. Processed meat products, such as beefburger, hotdog, sausage, and luncheon meat had the highest count of molds as compared with fresh and canned meat. Of 150 samples of meat products and 100 samples of spices, aflatoxin B1 was detected in 5 samples of beefburger (8 .mu.g/kg), 4 of black pepper (35 .mu.g/kg), and 4 of white pepper (22 .mu.g/kg). Aflatoxins B1 and B2 were detected in 1 sample of kubeba (150 .mu.g aflatoxin B1/kg and 25 .mu.g aflatoxin B2/kg); hotdog (5 .mu.g aflatoxin B1/kg and 2 .mu.g aflatoxin B2/kg), sausage (7 .mu.g aflatoxin B1/kg and 3 .mu.g aflatoxin B2/kg) and luncheon meat (4 .mu.g aflatoxin B2/kg and 2 .mu.g aflatoxin B2/kg). Also, aflatoxins B1 and G1 were detected in 2 samples of turmeric (12 .mu.g aflatoxin B1/kg and 8 .mu.g aflatoxin G1/kg) and coriander (8 .mu.g aflatoxin B1/kg and 2 .mu.g aflatoxin G1/kg). *Aspergillus flavus* (24 isolates), and *A. parasiticus* (16 isolates) were the predominant aflatoxin-producing molds isolated from both processed meat products and spices. Aflatoxins were absent in fresh meat, canned meat, salami, beefsteak, and minced meat. The contamination of processed meat with aflatoxin was correlated with the addn. of spices to fresh meat.  
 KW aflatoxin meat spice; *Aspergillus* meat spice  
 IT Coriander  
 Curcuma domestica  
 Pepper (condiment)  
 Spices  
 (aflatoxins and *Aspergillus* of)  
 IT Food contamination  
 (by aflatoxins and *Aspergillus*, of meats and spices)  
 IT Aflatoxins  
 (of meats and spices)  
 IT *Aspergillus flavus*  
*Aspergillus parasiticus*  
 (of meats and spices and herbs)  
 IT Cumin  
 Rosemary  
 Thyme

(Aspergillus of)

IT Garlic  
Onion  
(Aspergillus of dried)

IT Meat  
(beef, aflatoxins and Aspergillus of ground)

IT Meat  
(cold cuts, aflatoxins and Aspergillus of)

IT Condiments  
(curry powder, Aspergillus of)

IT Condiments  
(herbs, Aspergillus of)

IT Meat  
(sausage, frankfurter, aflatoxins and Aspergillus of)

IT Pepper (condiment)  
(white, aflatoxins and Aspergillus of)

IT 1162-65-8, Aflatoxin B1 1165-39-5, Aflatoxin G1 7220-81-7,  
Aflatoxin B2  
(of meats and spices)

L51 ANSWER 12 OF 27 COPYRIGHT 1994 NLM DUPLICATE 4

AN 91288683 MEDLINE

TI Pharmacology of *Curcuma longa*.

AU Ammon HP; Wahl MA

CS Department of Pharmacology, Eberhard-Karls-Universitat Tubingen,  
Federal Republic of Germany.

SO *Planta Med*, (1991 Feb) 57 (1) 1-7. Ref: 59

Journal code: P9F. ISSN: 0032-0943.

CY GERMANY: Germany, Federal Republic of

DT Journal; Article; (JOURNAL ARTICLE)

General Review; (REVIEW)

(REVIEW, TUTORIAL)

LA English

EM 9110

AB The data reviewed indicate that extracts of *Curcuma longa* exhibit anti-inflammatory activity after parenteral application in standard animal models used for testing anti-inflammatory activity. It turned out that curcumin and the volatile oil are at least in part responsible for this action. It appears that when given orally, curcumin is far less active than after i.p. administration. This may be due to poor absorption, as discussed. Data on histamine-induced ulcers are controversial, and studies on the secretory activity (HCl, pepsinogen) are still lacking. In vitro, curcumin exhibited antispasmodic activity. Since there was a protective effect of extracts of *Curcuma longa* on the liver and a stimulation of bile secretion in animals, *Curcuma longa* has been advocated for use in liver disorders. Evidence for an effect on liver disease in humans is not yet available. From the facts that after oral application only traces of curcumin were found in the blood and that, on the other hand, most of the curcumin is excreted via the faeces it may be concluded that curcumin is absorbed poorly by the gastrointestinal tract and/or underlies presystemic transformation.

Systemic effects therefore seem to be questionable after oral application except that they occur at very low concentrations of curcumin. This does not exclude a local action in the gastrointestinal tract.

- CT Check Tags: Animal; Human; Support, Non-U.S. Gov't  
Anti-Inflammatory Agents, Non-Steroidal  
Cardiovascular System: DE, drug effects  
Curcumin: CH, chemistry  
\*Curcumin: PD, pharmacology  
Drug Screening Assays, Antitumor  
Gastrointestinal System: DE, drug effects  
Metabolism: DE, drug effects  
Microbial Sensitivity Tests  
Plant Extracts: PD, pharmacology  
\*Plants, Medicinal
- RN 458-37-7 (Curcumin); 8024-37-1 (turmeric)  
CN 0 (Plant Extracts)
- L51 ANSWER 13 OF 27 COPYRIGHT 1994 NLM DUPLICATE 5  
AN 90265113 MEDLINE  
TI Evaluation of turmeric (*Curcuma longa*)  
for gastric and duodenal antiulcer activity in rats.  
AU Rafatullah S; Tariq M; Al-Yahya MA; Mossa JS; Ageel AM  
CS Medicinal, Aromatic and Poisonous Plants Research Center, College of  
Pharmacy, King Saud University, Riyadh, Saudi Arabia.  
SO J Ethnopharmacol, (1990 Apr) 29 (1) 25-34.  
Journal code: K8T. ISSN: 0378-8741.  
CY Switzerland  
DT Journal; Article; (JOURNAL ARTICLE)  
LA English  
FS Priority Journals  
EM 9009  
AB An ethanol extract of turmeric was studied in rats for its ability to inhibit gastric secretion and to protect gastroduodenal mucosa against the injuries caused by pyloric ligation, hypothermic-restraint stress, indomethacin, reserpine and cysteamine administration and cystodestructive agents including 80% ethanol, 0.6 M HCl, 0.2 M NaOH and 25% NaCl. An oral dose of 500 mg/kg of the extract produced significant anti-ulcerogenic activity in rats subjected to hypothermic-restraint stress, pyloric ligation and indomethacin and reserpine administration. The extract had a highly significant protective effect against cystodestructive agents. The reduction in the intensity of ulceration of cysteamine-induced duodenal ulcers was not found to be statistically significant. Turmeric extract not only increased the gastric wall mucus significantly but also restored the non-protein sulfhydryl (NP-SH) content in the glandular stomachs of the rats.
- CT Check Tags: Animal; Female; Male; Support, Non-U.S. Gov't  
\*Anti-Ulcer Agents: PD, pharmacology  
Antioxidants: PD, pharmacology  
Duodenal Ulcer: DT, drug therapy  
Gastric Mucosa: DE, drug effects  
\*Medicine, Herbal  
\*Plant Extracts: PD, pharmacology

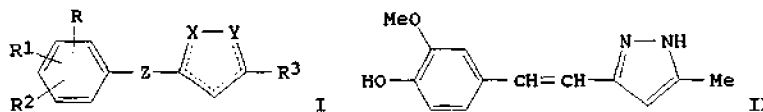
Rats  
Rats, Inbred Strains  
Stomach Ulcer: DT, drug therapy

CN 0 (Anti-Ulcer Agents); 0 (Antioxidants); 0 (Plant Extracts)

L51 ANSWER 14 OF 27 CA COPYRIGHT 1994 ACS  
AN CA108(15):131808r CA  
TI Preparation of novel styrylpyrazoles, styrylisoxazoles, and analogs as 5-lipoxygenase inhibitors  
IN Belliotti, Thomas R.; Connor, David T.; Flynn, Daniel L.; Kostlan, Catherine R.; Nies, Donald E.  
PA Warner-Lambert Co.  
LO USA  
SO Eur. Pat. Appl., 58 pp.  
PI EP 245825 A1 871119  
DS R: AT, BE, CH, DE, ES, FR, GB, GR, IT, LI, LU, NL, SE  
AI EP 87-106822 870511  
PRAI US 86-861179 860509  
US 86-910692 860922  
US 87-32730 870406

SC 28-8 (Heterocyclic Compounds (More Than One Hetero Atom))  
SX 1, 62  
DT P  
CO EPXXDW  
PY 1987  
LA Eng  
IC ICM C07D231-04  
ICS C07D231-06; C07D231-12; C07D261-02; C07D261-04; C07D261-06;  
C07D261-08; C07D275-02; A61K031-415; A61K031-42; A61K031-425

GI



AB The title compds. [I, R-R2 = H, alkyl, HOCH2, CF3, R4O, R5S, NO2, R4CO2, R4CO, CO2R5, R6R7N, R4CONH, HCONH, R4SO2NH, R5NHCONH; R3 = H, alkyl, CF3, (hetero)aryl, (hetero)aralkyl, halo, R4CO2, R4CO, CO2R5, R6O2CCHR7, RR1R2C6H2CH:CH; R4 = alkyl; R5-R7 = H, alkyl; X, Y = O, S, N, R8N; R8 = H, alkyl, R6O2CCHR7, R5CO, C3-20 cycloalkyl, aryl, aralkyl; Z = (CH2)n, CH:CH, CH:C(CO2R5); dotted line indicates 2 conjugated double bonds in azole ring] were prepd. as inhibitors of 5-lipoxygenase and cyclooxygenase, useful as antiinflammatories, allergy inhibitors, and as sunscreens. 4,6-HO(MeO)C6H3CHO and CH2(COMe)2 were stirred at room temp. in EtOAc contg. B2O3 to give 90% 4,6-HO(MeO)C6H3CH:CHCOCH2COMe. The latter was cyclocondensed with N2H4.H2O in EtOH/BuOH contg. HOAc to give 53% styrylpyrazole II. II inhibited 5-lipoxygenase and cyclooxygenase of rat basophilic

leukemia cells with IC50 of 0.8 .mu.M and 13.0 .mu.M, resp.

KW lipoxigenase inhibitor styrylpyrazole styrylisoxazole prepn;  
cyclooxygenase inhibitor styrylpyrazole prepn; pyrazole styryl  
prepn lipoxigenase inhibitor; isoxazole styryl prepn lipoxigenase  
inhibitor; antiinflammatory styrylpyrazole prepn; sunscreen  
styrylpyrazole prepn

IT Allergy inhibitors  
Cardiovascular agents  
Inflammation inhibitors  
Ulcer inhibitors  
(styrylpyrazoles and -isoxazoles)

IT Inflammation inhibitors  
(antiarthritics, styrylpyrazoles and -isoxazoles)

IT Bronchodilators  
(antiasthmatics, styrylpyrazoles and -isoxazoles)

IT Sunburn and Suntan  
(sunscreens, styrylpyrazoles and -isoxazoles for)

IT 1080-12-2  
(condensation of, with di-Et oxalate)

IT 39391-18-9, Cyclooxygenase 80619-02-9, 5-Lipoxygenase  
(inhibitors, styrylpyrazoles and -isoxazoles)

IT 1008-74-8P 1924-25-0P 24939-16-0P 36062-04-1P 65401-83-4P  
113465-65-9P 113465-66-0P 113465-67-1P 113465-68-2P  
113465-69-3P 113465-70-6P 113465-71-7P 113465-72-8P  
113465-73-9P 113465-74-0P 113465-76-2P 113465-77-3P  
113465-78-4P 113465-79-5P 113465-80-8P 113465-81-9P  
113465-82-0P 113465-83-1P 113465-84-2P 113465-85-3P  
113465-86-4P 113465-87-5P 113465-88-6P 113465-89-7P  
113465-90-0P 113465-91-1P 113465-92-2P 113465-94-4P  
113465-95-5P 113465-96-6P 113482-94-3P  
(prepn. and reaction of, in prepn. of lipoxigenase inhibitor)

IT 93729-31-8P 113464-78-1P 113464-79-2P 113464-80-5P  
113464-81-6P 113464-82-7P 113464-83-8P 113464-84-9P  
113464-85-0P 113464-86-1P 113464-87-2P 113464-88-3P  
113464-89-4P 113464-90-7P 113464-91-8P 113464-92-9P  
113464-93-0P 113464-94-1P 113464-95-2P 113464-96-3P  
113464-97-4P 113464-98-5P 113464-99-6P 113465-00-2P  
113465-01-3P 113465-02-4P 113465-03-5P 113465-04-6P  
113465-05-7P 113465-06-8P 113465-07-9P 113465-08-0P  
113465-09-1P 113465-10-4P 113465-11-5P 113465-12-6P  
113465-13-7P 113465-14-8P 113465-15-9P 113465-16-0P  
113465-17-1P 113465-18-2P 113465-19-3P 113465-20-6P  
113465-21-7P 113465-22-8P 113465-23-9P 113465-24-0P  
113465-25-1P 113465-26-2P 113465-27-3P 113465-28-4P  
113465-29-5P 113465-30-8P 113465-31-9P 113465-32-0P  
113465-33-1P 113465-34-2P 113465-35-3P 113465-36-4P  
113465-37-5P 113465-38-6P 113465-39-7P 113465-40-0P  
113465-41-1P 113465-42-2P 113465-43-3P 113465-44-4P  
113465-45-5P 113465-46-6P 113465-47-7P 113465-48-8P  
113465-49-9P 113465-50-2P 113465-51-3P 113465-52-4P  
113465-53-5P 113465-54-6P 113465-55-7P 113465-56-8P  
113465-57-9P 113465-58-0P 113465-59-1P 113465-60-4P  
113465-61-5P 113465-62-6P 113465-63-7P 113465-64-8P  
113482-91-0P 113482-92-1P 113482-93-2P

(prepn. of, as drug)

IT 75-09-2, reactions 75-36-5 90-59-5, 3,5-Dibromosalicylaldehyde  
 90-60-8, 3,5-Dichlorosalicylaldehyde 93-91-4, 1-Phenyl-1,3-  
 butanedione 96-32-2, Methyl bromoacetate 107-19-7 108-22-5,  
 Isopropenyl acetate 121-33-5, Vanillin 134-96-3, Syringaldehyde  
 148-53-8, 2-Hydroxy-3-methoxybenzaldehyde 300-87-8,  
 3,5-Dimethylisoxazole 302-01-2, reactions 407-25-0,  
 Trifluoroacetic anhydride 458-37-7 536-74-3,  
 Phenylacetylene 603-35-0, Triphenylphosphine, reactions  
 637-80-9, Ethyl hydrazinoacetate 881-68-5, O-Acetylvanillin  
 927-74-2, 3-Butyn-1-ol 932-90-1, Benzaldehyde oxime 1008-74-8,  
 5-Methyl-3-phenylisoxazole 1620-98-0 1924-25-0 2233-18-3,  
 4-Hydroxy-3,5-dimethylbenzaldehyde 2314-36-5, 3,5-Dichloro-4-  
 hydroxybenzaldehyde 2973-76-4, 5-Bromovanillin 2973-77-5,  
 3,5-Dibromo-4-hydroxybenzaldehyde 3002-24-2, 2,4-Hexanedione  
 5470-11-1, Hydroxylamine hydrochloride 10537-86-7 18162-48-6,  
 tert-Butylchlorodimethyl silane 19668-85-0,  
 3-Methyl-5-isoxazoleacetic acid 20361-59-5 27349-40-2, Methyl  
 3-methyl-5-isoxazoleacetate 41669-06-1, 3-Methylpyrazole-5-acetic  
 acid 57612-87-0, 5-Methyl-3-isoxazoleacetic acid 88511-32-4,  
 3-Methylisothiazole-5-carboxaldehyde 93498-41-0 113465-75-1  
 (reaction of, in prepn. of lipoxigenase inhibitors)

LS1 ANSWER 15 OF 27 COPYRIGHT 1994 NLM

AN 87150539 MEDLINE

TI Turmeric and curcumin as topical agents in  
 cancer therapy.

AU Kuttan R; Sudheeran PC; Josph CD

SO Tumori, (1987 Feb 28) 73 (1) 29-31.

Journal code: WJS. ISSN: 0300-8916.

CY Italy

DT Journal; Article; (JOURNAL ARTICLE)

LA English

FS Priority Journals; Cancer Journals

EM 8706

AB An ethanol extract of turmeric ("Curcuma  
 longa") as well as an ointment of curcumin (its  
 active ingredient) were found to produce remarkable symptomatic  
 relief in patients with external cancerous lesions. Reduction in  
 smell were noted in 90% of the cases and reduction in itching in  
 almost all cases. Dry lesions were observed in 70% of the cases, and  
 a small number of patients (10%) had a reduction in lesion size and  
 pain. In many patients the effect continued for several months. An  
 adverse reaction was noticed in only one of the 62 patients  
 evaluated.

CT Check Tags: Female; Human; Male; Support, Non-U.S. Gov't  
 Administration, Topical

Aged  
 Aged, 80 and over

\*Anti-Inflammatory Agents, Non-Steroidal: TU, therapeutic use

Breast Neoplasms: CO, complications

\*Catechols: TU, therapeutic use

Curcumin: AD, administration & dosage

\*Curcumin: TU, therapeutic use

Drug Evaluation  
 Middle Age  
 \*Mouth Neoplasms: CO, complications  
 \*Odors: PC, prevention & control  
 \*Palliative Treatment  
 Plant Extracts: AD, administration & dosage  
 \*Plant Extracts: TU, therapeutic use  
 \*Pruritus: DT, drug therapy  
 Pruritus: ET, etiology  
 Skin Neoplasms: CO, complications  
 \*Skin Ulcer: DT, drug therapy  
 Skin Ulcer: ET, etiology  
 Vulvar Neoplasms: CO, complications  
 RN 458-37-7 (Curcumin); 8024-37-1 (turmeric)  
 CN 0 (Catechols); 0 (Plant Extracts)

L51 ANSWER 16 OF 27 CA COPYRIGHT 1994 ACS  
 AN CA108(25):217403s CA  
 TI Lipid peroxide induced DNA damage: protection by turmeric  
 (Curcuma longa)  
 AU Shalini, V. K.; Srinivas, Leela  
 CS Dep. Nutr. Food Saf., Cent. Food Technol. Res. Inst.  
 LO Mysore 570 013, India  
 SO Mol. Cell. Biochem., 77(1), 3-10  
 SC 4-3 (Toxicology)  
 SX 1  
 DT J  
 CO MCBIB8  
 IS 0300-8177  
 PY 1987  
 LA Eng  
 AB Liposomal lipid peroxidn. and peroxide induced DNA damage were investigated. Inhibition of lipid peroxidn. was studied using 400 .mu.M uric acid, .beta.-carotene, .alpha.-tocopherol, curcumin, and BHA. Curcumin, the active principle of turmeric, was as effective an antioxidant as BHA. An aq. ext. of turmeric was also an effective inhibitor. The inhibition obtained using this aq. ext., incorporated into the liposome itself, was 70% at 300 ng/.mu.L. This indicates the presence of yet another antioxidant in turmeric besides the lipophilic curcumin. The aq. antioxidant extended 80% protection to DNA against peroxidative injury at 100 ng/.mu.L. This component of turmeric is being characterized and investigated as an antioxidant/anticlastogen and as an antipromoter.

KW Curcuma ext lipid peroxidn; peroxide lipid DNA turmeric ext; antioxidant liposome lipid peroxidn  
 IT Curcuma longa  
 (ext. of, lipid peroxidn. by liposome response to)  
 IT Deoxyribonucleic acids  
 (lipid peroxide-induced damage of, turmeric ext. effect on)  
 IT Antioxidants  
 (lipid peroxidn. by liposome response to)



IT Phosphatidylcholines, biological studies  
(lipid peroxidn. by liposomes contg. cholesterol and,  
turmeric ext. effect on)

IT Liposome  
(lipid peroxidn. in, turmeric ext. effect on)

IT Peroxidation  
(of lipids, of liposomes, turmeric ext. effect on)

IT Lipids, biological studies  
(peroxidn. of, of liposomes, turmeric ext. effect on)

IT 69-65-8, D-Mannitol  
(lipid peroxide-induced DNA damage response to, turmeric  
ext. in relation to)

IT 59-02-9, .alpha.-Tocopherol 69-93-2, Uric acid, biological studies  
458-37-7, Curcumin 7235-40-7, .beta.-Carotene  
25013-16-5, BHA.  
(lipid peroxidn. by liposome response to)

IT 57-88-5, Cholesterol, biological studies  
(lipid peroxidn. by liposomes contg. phosphatidylcholine and,  
turmeric ext. effect on)

L51 ANSWER 17 OF 27 COPYRIGHT 1994 NLM  
AN 87136338 MEDLINE  
TI Evaluation of anti-inflammatory property of curcumin  
(diferuloyl methane) in patients with postoperative inflammation.  
AU Satoskar RR; Shah SJ; Shenoy SG  
SO Int J Clin Pharmacol Ther Toxicol, (1986 Dec) 24 (12) 651-4.  
Journal code: GQ0. ISSN: 0174-4879.  
CY GERMANY, WEST: Germany, Federal Republic of  
DT (CLINICAL TRIAL)  
Journal; Article; (JOURNAL ARTICLE)  
LA English  
FS Priority Journals  
EM 8706  
AB A new model for evaluating nonsteroidal anti-inflammatory drugs  
(NSAIDs) is described. In this model of postoperative inflammation,  
the anti-inflammatory activity of curcumin (diferuloyl  
methane) was investigated in comparison with phenylbutazone and  
placebo. Phenylbutazone and curcumin produced a better  
anti-inflammatory response than placebo.

CT Check Tags: Comparative Study; Human; Male  
Adolescence  
Adult  
Aged  
\*Anti-Inflammatory Agents, Non-Steroidal: TU, therapeutic use  
\*Catechols: TU, therapeutic use  
Clinical Trials  
\*Curcumin: TU, therapeutic use  
Double-Blind Method  
\*Inflammation: DT, drug therapy  
Middle Age  
Phenylbutazone: TU, therapeutic use  
\*Postoperative Complications: DT, drug therapy  
Random Allocation  
RN 458-37-7 (Curcumin); 50-33-9 (Phenylbutazone)

CN 0 (Catechols)

L51 ANSWER 18 OF 27 COPYRIGHT 1994 NLM

AN 85219714 MEDLINE

TI **Curcuma longa** (Linn) drops in corneal wound healing.

AU Mehra KS; Mikuni I; Gupta U; Gode KD

SO Tokai J Exp Clin Med, (1984 Mar) 9 (1) 27-31.

Journal code: VZM. ISSN: 0385-0005.

CY Japan

DT Journal; Article; (JOURNAL ARTICLE)

LA English

FS Priority Journals

EM 8509

AB In this study, an attempt has been made to evaluate the cortisone like inhibitory activity on healing of wounds of **curcuma longa** extracts-aqueous extract (2.8%) and alcoholic extract (1.125%) on the healing of superficial and penetrating corneal wounds in albino rabbits. It was observed that **curcuma longa** aqueous drops (a) definitely delayed healing of superficial corneal wounds (P less than 0.001), (b) delayed healing of penetrating corneal wounds also and markedly reduced the tensile strength of corneal wounds (P less than 0.02), when comparison was made with placebo and preservative drops.

CT Check Tags: Animal

Cornea: DE, drug effects

\*Cornea: IN, injuries

Cortisone: PD, pharmacology

\*Medicine, Ayurvedic

Plant Extracts: PD, pharmacology

\*Plants, Medicinal

Rabbits

\*Wound Healing: DE, drug effects

RN 53-06-5 (Cortisone)

CN 0 (Plant Extracts)

L51 ANSWER 19 OF 27 COPYRIGHT 1994 ELSEVIER AMS

AN 85095308 EMBASE

TI **Curcuma longa** (Linn) drops in corneal wound healing

AU Mehra K.S.; Mikuni I.; Gupta U.; Gode K.D.

CS Department of Ophthalmology, Institute of Medical Sciences, Banaras

Hindu University, Varanasi 221 005, India

SO (TOKAI J. EXP. CLIN. MED.) 9/1 (27-31) 1984

CODEN: TJEMDR

CY Japan

FS 012 Ophthalmology

030 Pharmacology

LA English

CC 012.36.00.00.00.

012.17.00.00.00.

030.36.00.00.00.

030.37.00.00.00.

037.51.00.00.00.

037.07.03.01.00.  
 037.20.04.00.00.  
 037.12.00.00.00.  
 037.17.04.00.00.  
 037.38.00.00.00.  
 037.22.04.00.00.  
 037.22.03.00.00.

CT EMTAGS: therapy(0160); rabbits and hares(0731); topical drug administration(0186); nonhuman(0777); visual system(0915); animal model(0106)  
 \*cornea  
 \*wound healing  
 \*curcuma longa  
 \*pharmacotherapy  
 \*rabbit  
 \*sodium chloride  
 \*benzalkonium  
 placebo

ST cortison like action; rabbit

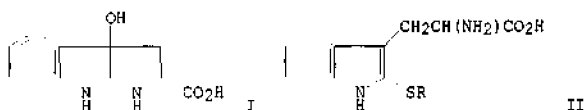
L51 ANSWER 20 OF 27 CA COPYRIGHT 1994 ACS  
 AN CA99(26):218620t CA  
 TI Ulcer inhibitor compositions containing phenol derivatives  
 PA Institute for Production and Development Science  
 LO Japan  
 SO Jpn. Kokai Tokkyo Koho, 3 pp.  
 PI JP 58162520 A2 830927 Showa  
 AI JP 82-46709 820323  
 SC 63-6 (Pharmaceuticals)  
 DT F  
 CO JKXXAF  
 PY 1983  
 LA Japan  
 IC A61K031-05; A61K031-085  
 AB Ulcer inhibitor compns. contg. anethole [104-46-1], eugenol (I) [97-53-0] isoeugenol [97-54-1], syringin [118-34-3], syringenin [20675-96-1], piperin [94-62-2], curcumin [458-37-7], vanillin [121-33-5] and (or) isovanillin [621-59-0] are effective as detd. in mice. Thus, tablets were prepd. contg. I 100, potato starch 240 and Mg stearate 10 mg.  
 KW antiulcer pharmaceutical phenol deriv; ulcer inhibitor eugenol  
 IT Phenols, biological studies  
 (antiulcer pharmaceuticals contg.)  
 IT Ulcer  
 (inhibitors, phenol derivs. as)  
 IT 94-62-2 97-53-0 97-54-1 104-46-1 118-34-3 121-33-5  
 458-37-7 621-59-0 20675-96-1  
 (antiulcer pharmaceuticals contg.)

L51 ANSWER 21 OF 27 CA COPYRIGHT 1994 ACS  
 AN CA100(19):151003n CA  
 TI Validity of the oriental medicines. Part 53. Liver-protective drugs. Part 8. Antihepatotoxic principles of Curcuma

- longa** rhizomes
- AU Kiso, Yoshinobu; Suzuki, Yuriko; Watanabe, Noriko; Oshima, Yoshiteru; Hikino, Hiroshi  
 CS Pharm. Inst., Tohoku Univ.  
 LO Sendai, Japan  
 SO Planta Med., 49(3), 185-7  
 SC 1-12 (Pharmacology)  
 SX 4, 11  
 DT J  
 CO PLMEAA  
 IS 0032-0943  
 PY 1983  
 LA Eng  
 AB An ext. of the crude drug Ukon, from the rhizomes of *C. longa*, prevented CCl<sub>4</sub>-induced liver injury in vivo and in vitro. After fractionation, the curcuminoids possessed significant antihepatotoxic action. The liver-protective effects of ferulic acid [1135-24-6] and p-coumaric acid [7400-08-0] and their resp. analogs (probable metabolites of the curcuminoids) were also evaluated.
- KW antihepatotoxic curcuminoid; Curcuma ext liver protection  
 IT **Curcuma longa**  
     (curcuminoids from, liver toxicity prevention by)  
 IT Liver, toxic chemical and physical damage  
     (curcuminoids in protection against)  
 IT 90-50-6 99-50-3 331-39-5 458-37-7 530-59-6  
 621-82-9, biological studies 830-09-1 1135-24-6 2316-26-9  
 7400-08-0 24939-16-0 89499-18-3  
     (liver toxicity prevention by)
- L51 ANSWER 22 OF 27 CA COPYRIGHT 1994 ACS  
 AN CA99(6):47130b CA  
 TI Studies on oscillopolarographic titrations. (VII). Acid-base titrations
- AU Chen, Shuping; Hung, Kao  
 CS Dep. Chem., Nanjing Univ.  
 LO Nanjing, Peop. Rep. China  
 SO Gaodeng Xuexiao Huaxue Xuebao, (Zhuan Kan), 53-60  
 SC 79-6 (Inorganic Analytical Chemistry)  
 DT J  
 CO KTHPDM  
 IS 0251-0790  
 PY 1982  
 LA Ch  
 AB The application of oscillopolarog. titrns. to neutralization reactions was studied. Org. compds., including ordinary acid-base indicators used in classical titrns., and metal ions, such as Zn<sup>2+</sup>, Pb<sup>2+</sup>, Eu<sup>3+</sup>, In<sup>3+</sup>, Ga<sup>3+</sup>, can be used as indicators. The oscillopolarograms show sharp incisions whose appearance and disappearance depend on the pH of the titrated solns. Very weak acids, such as boric acid and phenol, can be titrated directly by std. bases using this new technique. The new method is more simple, accurate, rapid and much cheaper than potentiometric and nonaq. titrn.

1.	Patent Number	054015045
2.	Application Type	1
3.	Issue Date	03/28/95
4.	Serial Number	8174363
5.	Filing Date	12/28/93
6.1.1	Foreign Priority Ctry. Code	ZZX
7.	State/Country Number	28
8.	Title	Use of turmeric in wound healing
9.	Entity	***** Required Field *****
12.	Primary Examiner	Rose; Shep K.
13.	Number of Sheets	0
14.	Number of Figures	0
15.	Primary Drawing	N
17.	Date Fee Paid	***** Required Field *****
18.	Class/Subclass	420/195.1
19.	Group Art Unit Number	1205
20.1.1	Cross Reference Class	514
20.2.1	Cross Reference Subclass	925;926;927;928
21.	International Class Type	6
22.1.1	International Class	A61K
22.2.1	International Subclass	35/78
23.1.1	Field of Search Class	424
23.2.1	Field of Search Subclass	195.1
24.	Print Claim Number	1
25.	Total Claims	6
28.1.1	Attorney	Wenderoth, Lind & Ponack
30.1.1	Assignee Name	University of Mississippi Medical Center

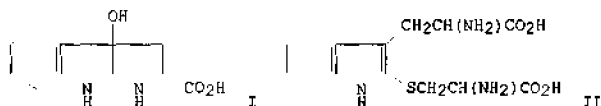
GI



AB Pyrrolo[2,3-b]indole I was treated with RSH (R = Me, Et, CH<sub>2</sub>CH<sub>2</sub>OH, CH<sub>2</sub>CH<sub>2</sub>CO<sub>2</sub>H) in the presence of acid to give the corresponding 2-thioethers II. I was treated with cysteine to give tryptathionine [II; R = CH<sub>2</sub>CH(NH<sub>2</sub>)CO<sub>2</sub>H], a constituent of phalloidin and other related toxic peptides from *Amanita phalloides*. Glutathione and reduced RNase were treated with I to give the resp. S-tryptophanylated derivs.

REFERENCE 2: 86:5827 New method of linking tryptophan to cysteine sulfhydryl groups in peptides and proteins. Savige, W. E.; Fontana, A. (Inst. Org. Chem., Univ. Padova, Padua, Italy). J. Chem. Soc., Chem. Commun. (15), 600-1 (English) 1976. CODEN: JCCCAT.

GI



AB Cysteine with 1.2 equiv acid I in 2% CF<sub>3</sub>CO<sub>2</sub>H at room temp. for 2 days gave 80% tryptathionine (II). Similarly, glutathione gave 85% S-tryptophanylated glutathione. Reduced ribonuclease contg. 8 cysteine residues/mol. with I gave a S-tryptophanylated protein with an oxindolylalanine value of 7.6 residues/mol. The reaction is applicable to the prepn. of *Amanita phalloides* toxic peptides.

(Lipopolysaccharides)).

35.1.3 Other References Kumar et al GA.119: 871K (1993) of |  
Ind. Vet. J. 70(1):42[14 4 (1993). |

35.1.4 Other References Abstracts of Charles et al Trop. |  
Geogr. Med: 44(1[14 2) 178[14 181 |  
Jan. 1992; Rafatullah et al J. |  
Ethnopharmacol. 29(1): 25[14 34 Apr. |  
1990; Kutton et al Tumori 73(1): |  
29[14 31 Feb. 28, 1987; Mehra et al. |  
Tokai J Etpharm Med 9(1): 27[14 31 |  
Mar. 1984.)

36. Abstract Code 1

(FILE 'USPAT' ENTERED AT 13:57:24 ON 31 DEC 1998)

L1 1474 S VIDEO PROGRAM?  
L2 2594 S INTERNET  
L3 11 S L1(P)L2  
L4 762 S TV BROADCAST?  
L5 2 S L2(P)L4  
L6 100 S (L1 OR L4) AND L2  
L7 610 S BROWSER  
L8 10 S L6 AND L7

=> d 13 5 9

5. 5,761,606, Jun. 2, 1998, Media online services access via address embedded in video or audio program; Thomas R. Wolzien, 455/6.2; 348/10, 13, 460, 461; 455/5.1, 6.3 [IMAGE AVAILABLE]

9. 5,694,163, Dec. 2, 1997, Method and apparatus for viewing of on-line information service chat data incorporated in a broadcast television program; Edward R. Harrison, 348/13, 468, 552; 379/93.17 [IMAGE AVAILABLE]



# PALM INTRANET

ACU

Day: Monday  
Date: 11/20/2000  
Time: 12:56.18

## Serial Number Information

2304 2d

Serial Number: **09/028404** [Order This File](#)

Examiner Number: **71525/VU, VIET D.**

Filing Date: **02/24/1998**

Group Art Unit: **2758**

Application Received: **02/24/1998**

Class/Subclass: **709/218.000**

Patent Number: **6018767**

Lost Case: **NO**

Issue Date: **01/25/2000**

Interference Number: **.**

Date of Abandonment: **00/00/0000**

Unmatched Petition: **NO**

Attorney Docket Number: **97.558**

L&R Code: **01**

Status: **150 / PATENTED FILE**

Status Date: **01/12/2000**

Location: **9200/FILE REPOSITORY (FRANCONIA)**

Location Date: **02/09/2000**

Charge to Location: **/No Charge to Location Definition**

Charge to Name: **No Charge to Name**

Title of Invention:

**METHOD AND SYSTEM FOR MANAGING SUBSCRIPTION SERVICES WITH A CABLE MODEM**

Serial Info	Contents	Details	Attorney/Agent Info	Continuity Data	Foreign Data	Invento
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Serial Number Inform

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## PALM INTRANET

Day : Thursday  
Date: 10/ 8/1998  
Time: 11:38:04

### Serial Number Information

Serial Number : 08/615143      Patent Number : 5778181  
Filing Date : 03/14/96      Issue Date : 07/07/98  
Examiner Number : 71525      Application Received : 00/00/0000  
Group Art Unit : 2784      Examiner Name : VU, VIET D.  
Class/Subclass : 395/200.480      Attorney Docket Number : 4247  
Date of Abandonment : 00/00/00      Charge to Name : NOT ASSIGNED  
Location Date : 08/17/98      Status Date : 06/26/98

Status : 150 / PATENTED FILE

Location : 9200/ FILES REPOSITORY(CINDERBED) 603-6013

Charge to Location : /

Station location : PSA OSD

Title of Invention :

**ENHANCED VIDEO PROGRAMMING SYSTEM AND METHOD FOR INCORPORATING  
AND DISPLAYING RETRIEVED INTEGRATED INTERNET INFORMATION SEGMENTS**

Serial

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011074300

WPI Acc No: 97-052224/199705

XRAM Acc No: C97-017375

New immunosuppressant peptide(s) - contg. D-tryptophan and D-glutamic acid or D-isoglutamic acid

Patent Assignee: DEIGIN V I (DEIG-I); KOROTKOV A M (KORO-I)

Inventor: DEIGIN V I; KOROTKOV A M

Number of Countries: 035 Number of Patents: 002

Patent Family:

Patent No	Kind	Date	Applicat No	Kind	Date	Main IPC	Week
WO 9640740	A1	19961219	WO 96RD116	A	19960506	C07K-005/06	199705 B
AU 9657076	A	19961230	AU 9657076	A	19960506	C07K-005/06	199716

Priority Applications (No Type Date): RU 95108559 A 19950607

Cited Patents: EP 101929; GB 1526367; GB 2109796; US 3832337; WO 8906134

Patent Details:

Patent	Kind	Lang	Pg	Filing Notes	Application	Patent
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WO 9640740 A1 R 11

Designated States (National): AU BR BY CA CN CZ HU JP KG KP K2 LT LV MN

SK UA US UZ

Designated States (Regional): AT BE CH DE DK ES FI FR GB GR IE IT LU MC

NL PT SE

AU 9657076 A Based on

WO 9640740

Abstract (Basic): WO 9640740 A

Peptides of formula X-A-D-Trp-Y (I) are new, where: A = D-Glu or D-isoglutamic acid (D-iGlu); X = H, Gly, Ala, Leu, Ile, Val, Nva, Pro, Tyr, Phe, Trp, D-Ala, D-Leu, D-Ile, D-Val, D-Nva, D-Pro, D-Tyr, D-Phe, D-Trp, gamma-aminobutyric acid or epsilon-aminocaproic acid; Y = Gly, Ala, Leu, Ile, Val, Nva, Pro, Tyr, Phe, Trp, D-Ala, D-Leu, D-Ile, D-Val, D-Nva, D-Pro, D-Tyr, D-Phe, D-Trp, gamma-aminobutyric acid, epsilon-aminocaproic acid, OH or 1-3C substd, amino.

USE - (I) have immunosuppressant activity (e.g. inhibiting proliferation of spleen cells) and can be used in human and veterinary medicine and experimental biochemistry.

Dwg. 0/0

Derwent Class: B04; C03

International Patent Class (Main): C07K-005/06

International Patent Class (Additional): A61K-038/05; A61K-038/06;

A61K-038/07; C07K-005/08; C07K-005/10

File Segment: CPI

Manual Codes (CPI/A-N): B04-C01A; C04-C01A; B04-C01B; C04-C01B; B14-G02;

C14-G02; B14-H01B; C14-H01B

Chemical Fragment Codes (M1):

\*01\* D011 D601 F012 F423 G010 G013 G100 H1 H100 H181 H401 H441 J0 J011 J012 J1 J111 J171 J172 M280 M311 M312 M313 M314 M315 M320 M321 M331 M332 M333 M340 M342 M343 M349 M371 M381 M391 M423 M510 M511 M520 M521 M530 M531 M540 M620 M710 M903 M904 P433 V902 V911 V921 V924 V925 9705-46901-N

Chemical Fragment Codes (M2):

\*02\* D012 D019 D601 D699 F011 F012 F423 G010 G013 G100 H1 H100 H181 H211 H401 H441 J0 J013 J014 J1 J111 J171 J172 J3 J371 J372 M210 M211 M212 M213 M214 M215 M216 M231 M232 M233 M273 M280 M281 M311 M312 M313 M314 M315 M314 M315 M321 M322 M331 M332 M333 M340 M342 M343 M349 M371 M381 M391 M392 M412 M511 M512 M520 M521 M530 M531 M540 M710 M903 M904 P433 9705-46903-N

\*03\* D012 D019 D601 D699 F012 F423 G010 G013 G100 H100 H181 H401 H441 J0 J014 J1 J171 J172 J3 J311 J371 J372 J373 M210 M211 M212 M213 M214 M215 M216 M231 M232 M233 M273 M280 M281 M311 M312 M313 M314 M315 M321 M322 M331 M332 M333 M340 M342 M343 M349 M371 M381 M391 M392 M412 M511 M512 M520 M521 M530 M531 M540 M710 M903 M904 P433 9705-46902-N

Generic Compound Numbers: 9705-46901-N; 9705-46903-N; 9705-46902-N

?

### Status: Signing Off...

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11nov97 13:51:39 User018228 Session D333.3

Sub account: 3152.001

(staple inside file in blue slip area)


USPTO

INTERNAL TRANSFER REQUEST FOR S.N.

091 109945

DATE: <u>10/8/98</u>	FROM: <u>R. STEPHEN DILD, JR.</u> (print name)
FORWARD TO: A. Art Unit: <u>2784</u> B. Class: <u>395</u> C Subclass: <u>200.48</u>	REASON(S): A. You had Parent <input checked="" type="checkbox"/> (check box) B. See Title <input type="checkbox"/> (check box) C. See Abstract <input type="checkbox"/> (check box) D. See Claim(s): _____
FURTHER EXPLANATION IF NEEDED: <u>you had parent</u>	

DATE: _____	FROM: _____ (print name)
FORWARD TO: A. Art Unit: _____ B. Class: _____ C Subclass: _____	REASON(S): A. You had Parent <input type="checkbox"/> (check box) B. See Title <input type="checkbox"/> (check box) C. See Abstract <input type="checkbox"/> (check box) D. See Claim(s): _____
FURTHER EXPLANATION IF NEEDED:	

DATE: _____	FROM: _____ (print name)
FORWARD TO CLASSIFIER 	REASON(S): A. You had Parent <input type="checkbox"/> (check box) B. See Title <input type="checkbox"/> (check box) C. See Abstract <input type="checkbox"/> (check box) D. See Claim(s): _____
FURTHER EXPLANATION IF NEEDED:	

**DISPOSITION BY 2700 CLASSIFICATION**

DATE: _____	CLASSIFIER: _____
FORWARD TO: A. Art Unit: _____ B. Class: _____ C Subclass: _____	REASON(S): A. You had Parent <input type="checkbox"/> (check box) B. See Title <input type="checkbox"/> (check box) C. See Abstract <input type="checkbox"/> (check box) D. See Claim(s): _____
FURTHER EXPLANATION IF NEEDED:	

**PATENT APPLICATION FEE DETERMINATION RECORD**  
Effective October 1, 1997

Application or Docket Number

091109945

**CLAIMS AS FILED - PART I**

(Column 1) (Column 2)

FOR	NUMBER FILED	NUMBER EXTRA
BASIC FEE		
TOTAL CLAIMS	20 minus 20 = *	
INDEPENDENT CLAIMS	4 minus 3 = *	1
MULTIPLE DEPENDENT CLAIM PRESENT		

\* If the difference in column 1 is less than zero, enter "0" in column 2

SMALL ENTITY TYPE  OR

OTHER THAN SMALL ENTITY

RATE	FEE	OR	RATE	FEE
	395.00	OR		790.00
x\$11=		OR	x\$22=	
x41=		OR	x82=	82
+135=		OR	+270=	
TOTAL		OR	TOTAL	812

**CLAIMS AS AMENDED - PART II**

(Column 1) (Column 2) (Column 3)

AMENDMENT A	CLAIMS REMAINING AFTER AMENDMENT	MINUS	HIGHEST NUMBER PREVIOUSLY PAID FOR	PRESENT EXTRA
	Total	*	Minus	**
Independent	*	Minus	***	=
FIRST PRESENTATION OF MULTIPLE DEPENDENT CLAIM				

SMALL ENTITY OR

OTHER THAN SMALL ENTITY

RATE	ADDITIONAL FEE	OR	RATE	ADDITIONAL FEE
x\$11=		OR	x\$22=	
x41=		OR	x82=	
+135=		OR	+270=	
TOTAL ADDIT. FEE		OR	TOTAL ADDIT. FEE	

(Column 1) (Column 2) (Column 3)

AMENDMENT B	CLAIMS REMAINING AFTER AMENDMENT	MINUS	HIGHEST NUMBER PREVIOUSLY PAID FOR	PRESENT EXTRA
	Total	*	Minus	**
Independent	*	Minus	***	=
FIRST PRESENTATION OF MULTIPLE DEPENDENT CLAIM				

RATE	ADDITIONAL FEE	OR	RATE	ADDITIONAL FEE
x\$11=		OR	x\$22=	
x41=		OR	x82=	
+135=		OR	+270=	
TOTAL ADDIT. FEE		OR	TOTAL ADDIT. FEE	

(Column 1) (Column 2) (Column 3)

AMENDMENT C	CLAIMS REMAINING AFTER AMENDMENT	MINUS	HIGHEST NUMBER PREVIOUSLY PAID FOR	PRESENT EXTRA
	Total	*	Minus	**
Independent	*	Minus	***	=
FIRST PRESENTATION OF MULTIPLE DEPENDENT CLAIM				

RATE	ADDITIONAL FEE	OR	RATE	ADDITIONAL FEE
x\$11=		OR	x\$22=	
x41=		OR	x82=	
+135=		OR	+270=	
TOTAL ADDIT. FEE		OR	TOTAL ADDIT. FEE	

\*\* If the entry in column 1 is less than the entry in column 2, write "0" in column 3.  
 \*\*\* If the "Highest Number Previously Paid For" IN THIS SPACE is less than 20, enter "20."  
 \*\*\*\* If the "Highest Number Previously Paid For" IN THIS SPACE is less than 3, enter "3."  
 The "Highest Number Previously Paid For" (Total or Independent) is the highest number found in the appropriate box in column 1.

**MULTIPLE DEPENDENT CLAIM  
FEE CALCULATION SHEET  
(FOR USE WITH FORM PTO-375)**

SERIAL NO. \_\_\_\_\_ FILING DATE \_\_\_\_\_  
 APPLICANT'S NAME \_\_\_\_\_

	CLAIMS					
	AS FILED		AFTER 1st AMENDMENT		AFTER 2nd AMENDMENT	
	IND.	DEP.	IND.	DEP.	IND.	DEP.
1						
2						
3						
4						
5						
6						
7						
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TOTAL IND.						
TOTAL DEP.	14					
TOTAL CLAIMS	20					

	CLAIMS		CLAIMS		CLAIMS	
	IND.	DEP.	IND.	DEP.	IND.	DEP.
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TOTAL CLAIMS						

PTO-375 (3-78) MAY BE USED FOR ADDITIONAL CLAIMS OR AMENDMENTS U.S. DEPARTMENT OF COMMERCE PATENT AND TRADEMARK OFFICE

# MPI Family Report (Family Bibliographic and Legal Status)

In the MPI Family report, all publication stages are collapsed into a single record, based on identical application data. The bibliographic information displayed in the collapsed record is taken from the latest publication.

**Report Created Date:** 2013-02-12

**Name of Report:**

**Number of Families:** 1

**Comments:**

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1. <b>US6018768A</b> 20000125 ACTV INC US Enhanced video programming system and method for incorporating and displaying retrieved integrated internet information segments .....	52
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**Family1****102 records in the family, collapsed to 78 records.****AT204110T 20010815**

[ no drawing available]

**(GER) INTEGRIERTES SYSTEM FUER INTERAKTIVES  
VIDEO UND INTERNET****Assignee:** ACTV INC US**Inventor(s):** HIDARY JACK D US ; ULLMAN CRAIG US ;  
SPIVACK NOVA T US**Application No:** AT 97908915 T**Filing Date:** 19970307**Issue/Publication Date:** 20010815

**Abstract:** (ENG) A system for integrating video programming with the vast information resources of the Internet (20). A computer-based system (16, 114) receives a video program and uniform resource locators (URLs). The URLs are interpreted by the system (12) to direct the system to the Web site locations to retrieve related Web pages (98). The video program signal can be displayed on a video window on a conventional personal computer screen (18). The actual retrieved Web pages can be time stamped and displayed, on another portion of the display screen (18), when predetermined related video content is displayed in the video window. The computer-based system can receive the URLs directly through an Internet connection (94), at times specified by TV broadcasters in advance.

**Priority Data:** US 61314496 19960308 A Y; US 61514396 19960314 A Y; US 62247496 19960325 A Y; US 9703525 19970307 W W N;

**IPC (International Class):** H04N007173; H04N00708; H04L02906; H04N007088; H04N00716

**Legal Status:**

Date	+/-	Code	Description
20020215	(-)	RER	CEASED AS TO PARAGRAPH 5 LIT. 3 LAW INTRODUCING PATENT TREATIES





**AT303697T 20050915****(GER) INTEGRIERTES SYSTEM FUER INTERAKTIVES VIDEO UND INTERNET****Assignee:** ACTV INC US

[ no drawing available]

**Inventor(s):** HIDARY JACK D US ; ULLMAN CRAIG US ; SPIVACK NOVA T US**Application No:** AT 99122625 T**Filing Date:** 19970307**Issue/Publication Date:** 20050915

**Abstract:** (ENG) A system for integrating video programming with the vast information resources of the Internet (20). A computer-based system (16, 114) receives a video program and uniform resource locators (URLs). The URLs are interpreted by the system (12) to direct the system to the Web site locations to retrieve related Web pages (98). The video program signal can be displayed on a video window on a conventional personal computer screen (18). The actual retrieved Web pages can be time stamped and displayed, on another portion of the display screen (18), when predetermined related video content is displayed in the video window. The computer-based system can receive the URLs directly through an Internet connection (94), at times specified by TV broadcasters in advance.

**Priority Data:** US 61314496 19960308 A Y; US 61514396 19960314 A Y; US 62247496 19960325 A Y;**IPC (International Class):** H04N007173; H04N00708; H04L02906; H04N007088; H04N00716**Legal Status:**

Date	+/-	Code	Description
20060215	(-)	RER	CEASED AS TO PARAGRAPH 5 LIT. 3 LAW INTRODUCING PATENT TREATIES

**AU779170B2 20050113****(ENG) Powder pharmaceutical formulations****Assignee:** WRIGLEY W M JUN CO

[ no drawing available]

**Inventor(s):** REAM RONALD L ; WOKAS WILLIAM J**Application No:** AU 1968201 A**Filing Date:** 20001018**Issue/Publication Date:** 20050113**Priority Data:** US 0041225 20001018 W W; US 42190599 19991020 A;**IPC (International Class):** A61K00914; A61K00916; A61K00919; A61K00920; A61K00946**Legal Status:** There is no Legal Status information available for this patent

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**AU1968201A 20010430**

**(ENG) Powder pharmaceutical formulations**

**Assignee:** WRIGLEY W M JUN CO

[ no drawing available]

**Inventor(s):** REAM RONALD L ; WOKAS WILLIAM J

**Application No:** AU 1968201 D

**Filing Date:** 20001018

**Issue/Publication Date:** 20010430

**Abstract:** NotAvailable

**Priority Data:** US 0041225 20001018 W V; US 42190599 19991020 A X;

**IPC (International Class):** A61K00914; A61K00916; A61K00919; A61K00920; A61K00946

**Legal Status:** There is no Legal Status information available for this patent

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**AU2070597A 19970922**

**(ENG) An integrated interactive video and internet system**

**Assignee:** ACTV INC

[ no drawing available]

**Inventor(s):** HIDARY JACK D ; ULLMAN CRAIG ;  
SPIVACK NOVA T

**Application No:** AU 2070597 D

**Filing Date:** 19970307

**Issue/Publication Date:** 19970922

**Abstract:** (ENG) A system for integrating video programming with the vast information resources of the Internet (20). A computer-based system (16, 114) receives a video program and uniform resource locators (URLs). The URLs are interpreted by the system (12) to direct the system to the Web site locations to retrieve related Web pages (98). The video program signal can be displayed on a video window on a conventional personal computer screen (18). The actual retrieved Web pages can be time stamped and displayed, on another portion of the display screen (18), when predetermined related video content is displayed in the video window. The computer-based system can receive the URLs directly through an Internet connection (94), at times specified by TV broadcasters in advance.

**Priority Data:** US 61314496 19960308 A Y; US 61514396 19960314 A Y; US 62247496 19960325 A Y; US 9703525 19970307 W W N;

**IPC (International Class):** H04N007173; H04N00708; H04L02906; H04N007088; H04N00716

**Legal Status:** There is no Legal Status information available for this patent

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**AU773809B2 20040610****(ENG) Enhanced video programming system and method providing a distributed community network****Assignee:** ACTV INC

[ no drawing available]

**Inventor(s):** ULLMAN CRAIG D ; HARRINGTON JEFFREY M ; ABATO MICHAEL R ; DUDA CARL R**Application No:** AU 5943800 A**Filing Date:** 20000915**Issue/Publication Date:** 20040610

**Abstract:** (ENG) A distributed community network (200) provides services to an arbitrarily large community of end users (204, 206, 208) by distributing the load among many machines (210, 212, 214). The network uses hubs (220,222, 224) on the machines for routing packets. The hubs (220, 222, 224) obtain routing instructions from a router (256) and use those instructions for routing the packets. The packets include content for the machines based upon a particular network service, such as a chat service (218) permitting users to interact in chat rooms, or a push/pull service (228) for pushing content to the user machines either directly or based upon information received from the users.

**Priority Data:** US 39669399 19990915 A Y;**IPC (International Class):** G06F01300; H04N00708; H04N007081; H04L01228; H04L02906; H04N00724; G06F015173; H04L02908; H04N00500**Legal Status:**

Date	+/-	Code	Description
20041007	()	EGA	

**AU5943800A 20010322****(ENG) Enhanced video programming system and method providing a distributed community network****Assignee:** ACTV INC

[ no drawing available]

**Inventor(s):** ULLMAN CRAIG D ; HARRINGTON JEFFREY M ; ABATO MICHAEL R ; DUDA CARL R**Application No:** AU 5943800 D**Filing Date:** 20000915**Issue/Publication Date:** 20010322

**Abstract:** (ENG) A distributed community network (200) provides services to an arbitrarily large community of end users (204, 206, 208) by distributing the load among many machines (210, 212, 214). The network uses hubs (220,222, 224) on the machines for routing packets. The hubs (220, 222, 224) obtain routing instructions from a router (256) and use those instructions for routing the packets. The packets include content for the machines based upon a particular network service, such as a chat service (218) permitting users to interact in chat rooms, or a push/pull service (228) for pushing content to the user machines either directly or based upon information received from the users.

**Priority Data:** US 39669399 19990915 A Y;

**IPC (International Class):** G06F01300; H04N00708; H04N007081; H04L01228; H04L02906; H04N00724; H04L02908; G06F015173; H04N00500

**Legal Status:**

Date	+/-	Code	Description
20041007	()	EGA	

**AU774190B2 20040617**

**(ENG) Enhanced video programming system and method for providing a distributed community network**

**Assignee:** ACTV INC

[ no drawing available]

**Inventor(s):** ULLMAN CRAIG D ; HARRINGTON JEFFREY M ; ABATO MICHAEL R ; DUDA CARI R

**Application No:** AU 7379500 A

**Filing Date:** 20000914

**Issue/Publication Date:** 20040617

**Abstract:** (ENG) A distributed community network (200) provides services to an arbitrarily large community of end users (204, 206, 208) by distributing the load among many machines (210, 212, 214). The network uses hubs (220, 222, 224) on the machines for routing packets. The hubs (220, 222, 224) obtain routing instructions from a router (256) and use those instructions for routing the packets. The packets include content for the machines based upon a particular network service, such as a chat service (218) permitting users to interact in chat rooms, or a push/pull service (228) for pushing content to the user machines either directly or based upon information received from the users.

**Priority Data:** US 39669399 19990915 A Y; US 0025180 20000914 W W N;

**IPC (International Class):** G06F01300; H04N00708; H04N007081; H04L01228; H04L02906; H04N00724; H04L02908; G06F015173; H04N00500

**Legal Status:**

Date	+/-	Code	Description
20041014	()	EGA	



**AU7379500A 20010417****(ENG) Enhanced video programming system and method for providing a distributed community network****Assignee:** ACTV INC

[ no drawing available]

**Inventor(s):** ULLMAN CRAIG D ; HARRINGTON JEFFREY M ; ABATO MICHAEL R ; DUDA CARL R**Application No:** AU 7379500 D**Filing Date:** 20000914**Issue/Publication Date:** 20010417

**Abstract:** (ENG) A distributed community network (200) provides services to an arbitrarily large community of end users (204, 206, 208) by distributing the load among many machines (210, 212, 214). The network uses hubs (220, 222, 224) on the machines for routing packets. The hubs (220, 222, 224) obtain routing instructions from a router (256) and use those instructions for routing the packets. The packets include content for the machines based upon a particular network service, such as a chat service (218) permitting users to interact in chat rooms, or a push/pull service (228) for pushing content to the user machines either directly or based upon information received from the users.

**Priority Data:** US 39669399 19990915 A Y; US 0025180 20000914 W W N;**IPC (International Class):** G06F01300; H04N00708; H04N007081; H04L01228; H04L02906; H04N00724; H04L02908; G06F015173; H04N00500**Legal Status:**

Date	+/-	Code	Description
20041014	0	EGA	

**AU9717501A 20030522****(ENG) Multifunctional mobile appliance****Assignee:** RUFFNER BRYAN J

[ no drawing available]

**Inventor(s):** RUFFNER BRYAN J**Application No:** AU 9717501 A**Filing Date:** 20011211**Issue/Publication Date:** 20030522**Abstract:** NotAvailable**Priority Data:** US 35151001 20011120 A;**IPC (International Class):** G05D00100; A01D03463**Legal Status:** There is no Legal Status information available for this patent

**BR0014050A 20020702**

**(POR) Sistema e método de programação de vídeo  
aperfeiçoado para prover uma rede de comunidade distribuída**

[ no drawing available]

**Assignee:** ACTV INC US

**Inventor(s):** ULLMAN CRAIG D ; HARRINGTON JEFFREY  
M ; ABATO MICHAEL R ; DUDA CARL R

**Application No:** BR 0014050 A

**Filing Date:** 20000914

**Issue/Publication Date:** 20020702

**Abstract:** (ENG) A distributed community network (200) provides services to an arbitrarily large community of end users (204, 206, 208) by distributing the load among many machines (210, 212, 214). The network uses hubs (220, 222, 224) on the machines for routing packets. The hubs (220, 222, 224) obtain routing instructions from a router (256) and use those instructions for routing the packets. The packets include content for the machines based upon a particular network service, such as a chat service (218) permitting users to interact in chat rooms, or a push/pull service (228) for pushing content to the user machines either directly or based upon information received from the users.

**Priority Data:** US 39669399 19990915 A Y; US 0025180 20000914 W W N;

**IPC (International Class):** G06F01300; H04N00708; H04N007081; H04L01228; H04L02906; H04N00724;  
H04L02908; G06F015173; H04N00500

**Legal Status:**

Date	+/-	Code	Description
20080812	()	B08F	: REFERENTE A 6,7 E 8 ANUIDADE.;
20090303	()	B08K	: REFERENTE AO DESPACHO PUBLICADO NA RPI 1962 DE 12/08/2008.;

**CA2282299C 20040921**

**CA2282299A1 19970912****(ENG) ENHANCED VIDEO PROGRAMMING SYSTEM  
AND METHOD FOR INCORPORATING AND DISPLAYING  
RETRIEVED INTEGRATED INTERNET SEGMENTS**

[ no drawing available]

**Assignee:** ACTV INC US**Inventor(s):** SPIVACK NOVA T US ; ULLMAN CRAIG US ;  
HIDARY JACK D US**Application No:** CA 2282299 A**Filing Date:** 19970307**Issue/Publication Date:** 20040921

**Abstract:** (ENG) A system for integrating video programming with the vast information resources of the Internet. A computer-based system receives a video program and uniform resource locators (URLs). The URLs, the effective addresses of locations or Web sites on the Internet, are interpreted by the system and direct the system to the Web site locations to retrieve related Web pages. Web pages related to the video programming appear upon receipt through the user's browser. The video program signal can be displayed on a video window on a conventional personal computer screen. The actual retrieved Web pages can be time stamped to also be displayed, on another portion of the display screen, when predetermined related video content is displayed in the video window. The computer-based system can receive the URLs embedded in the video program or directly through an Internet connection, at times specified by TV broadcasters in advance. The system interprets the URLs and retrieves the appropriate Web pages. The Web pages are synchronized to the video content for display in conjunction with a television program being broadcast to the user at that time. This system allows the URLs to be entered for live transmission to the user.

**Priority Data:** US 61314496 19960308 A Y; US 61514396 19960314 A Y; US 62247496 19960325 A Y; US 9703525 19970307 W W N;**IPC (International Class):** H04N007088; H04N007173; H04N00708; H04L02906; H04N00716**Publication Language:** ENG**Legal Status:**

Date	+/-	Code	Description
19990830		AFNE	NATIONAL PHASE ENTRY
20020305		EEER	EXAMINATION REQUEST
20030403		AFNE	NATIONAL PHASE ENTRY Effective date: 19990830;
20030403		EEER	EXAMINATION REQUEST Effective date: 20020305;



**CA2345149A1 20010322**

**(ENG) ENHANCED VIDEO PROGRAMMING SYSTEM AND METHOD FOR PROVIDING A DISTRIBUTED COMMUNITY NETWORK**

[ no drawing available]

**Assignee:** ACTV INC US

**Inventor(s):** ULLMAN CRAIG D US ; ABATO MICHAEL R US ; HARRINGTON JEFFREY M US ; DUDA CARL R US

**Application No:** CA 2345149 A

**Filing Date:** 20000914

**Issue/Publication Date:** 20010322

**Abstract:** (ENG) A distributed community network (200) for providing services to an arbitrarily large community of end users (204, 206, 208) by distributing the load among many machines. The network uses hubs (220, 222, 224) on the machines for routing packets. The packets include content for the machines based upon a particular network service, such as a chat service (218) for permitting users to interact in chat rooms or a push/pull service (228) for pushing content to the user machines either directly or based upon information received from the users.

**Priority Data:** US 39669399 19990915 A Y; US 0025180 20000914 W W N;

**IPC (International Class):** G06F01300; H04N00708; H04N007081; H04L01228; H04L02906; H04N00724; H04L02908; G06F015173; H04N00500

**Publication Language:** ENG

**Legal Status:**

Date	+/-	Code	Description
20010322		AFNE	NATIONAL PHASE ENTRY
20030403		AFNE	NATIONAL PHASE ENTRY Effective date: 20010322;
20030403		AFNE	NATIONAL PHASE ENTRY Effective date: 20010322;
20031211		EEER	EXAMINATION REQUEST
20040115		AFNE	NATIONAL PHASE ENTRY Effective date: 20010322;
20040115		AFNE	NATIONAL PHASE ENTRY Effective date: 20010322;
20040115		EEER	EXAMINATION REQUEST Effective date: 20031211;
20040115		EEER	EXAMINATION REQUEST Effective date: 20031211;
20060914	(-)	FZDE	DEAD





**CA2364737A1 20030520****(ENG) MULTIFUNCTIONAL MOBILE APPLIANCE****Assignee:** RUFFNER BRYAN J US

[ no drawing available]

**Inventor(s):** RUFFNER BRYAN J US**Application No:** CA 2364737 A**Filing Date:** 20011211**Issue/Publication Date:** 20030520**Priority Data:** US 35151001 20011120 A X;**IPC (International Class):** G05D00100; A01D06900; G05D00300**Publication Language:** ENG**Legal Status:**

Date	+/-	Code	Description
20071211	(-)	FZDE	DEAD

**CA2382978A1 20010426****(ENG) POWDER PHARMACEUTICAL FORMULATIONS****Assignee:** WRIGLEY W M JUN CO US

[ no drawing available]

**Inventor(s):** REAM RONALD L US ; WOKAS WILLIAM J US**Application No:** CA 2382978 A**Filing Date:** 20001018**Issue/Publication Date:** 20010426**Priority Data:** US 42190599 19991020 A X; US 0041225 20001018 W V;**IPC (International Class):** A61K00914; A61K00916; A61K00919; A61K00920; A61K00946**Publication Language:** ENG**Legal Status:**

Date	+/-	Code	Description
20020226		AFNE	NATIONAL PHASE ENTRY
20020226		EEER	EXAMINATION REQUEST
20030403		AFNE	NATIONAL PHASE ENTRY Effective date: 20020226;
20030403		AFNE	NATIONAL PHASE ENTRY Effective date: 20020226;
20030403		EEER	EXAMINATION REQUEST Effective date: 20020226;
20030403		EEER	EXAMINATION REQUEST Effective date: 20020226;
20081020	()	FZDE	



**CN100393051C 20080604**  
**CN1288313A 20010321**

**(ENG) Method and apparatus for transmitting application layer information package in network**

**Assignee:** ACTV CORP US

[ no drawing available]

**Application No:** CN 00124856 A

**Filing Date:** 20000915

**Issue/Publication Date:** 20080604

**Abstract:** (ENG) A distributed community network (200) provides services to an arbitrarily large community of end users (204, 206, 208) by distributing the load among many machines (210, 212, 214). The network uses hubs (220, 222, 224) on the machines for routing packets. The hubs (220, 222, 224) obtain routing instructions from a router (256) and use those instructions for routing the packets. The packets include content for the machines based upon a particular network service, such as a chat service (218) permitting users to interact in chat rooms, or a push/pull service (228) for pushing content to the user machines either directly or based upon information received from the users.

**Priority Data:** US 39669399 19990915 A Y;

**IPC (International Class):** H04L01228; G06F01300; H04N00708; H04N007081; H04L02906; H04N00724; H04L02908; G06F015173; H04N00500

**Publication Language:** ENG

**Legal Status:**

Date	+/-	Code	Description
20020923	()	<del>C06</del>	Corresponding country code for PRS Code (EP REG): HK; Corresponding EP Code 1 for PRS Code (EP REG): GR; Corresponding patent document: 1065577; Country code of corresponding patent document: IIK;
20080604	()	C14	



**CN1374859A 20021016****NotAvailable****Application No:** CN 00812937 A

[ no drawing available]

**Filing Date:** 20000818**Issue/Publication Date:** 20021016

**Abstract:** (ENG) Methods and powder formulations for delivering a powdered medicament or agent to an individual are provided. The powder formulation includes a medicament or agent. The powder formulation also includes a sufficient amount of a masking agent to allow the consumer to allow at least a portion of the powder to dissolve in his or her mouth due to the flavor masking abilities of the powdered oral dosage form. It is believed that by placing the powder formulation into the mouth of the user, the medicament or agent is released, enhancing the absorption of the drug into the systemic system as well as the bioavailability of the drug within the system.

**Priority Data:** US 42190599 19991020 A Y; US 0041225 20001018 W W N;

**IPC (International Class):** A61K04722; A61P02900; A61K04710; A61P00904; A61P03104; A61P02102; A61P03112; A61P00310; A61K04742; A61P04300; A61K04708; A61K031167; A61K04718; A61K04726; A61P02526; A61K04746; A61P00104; A61K04712; A61K031522; A61P03704; A61P02518; A61K04720; A61K031616; A61K00916; A61K00914; A61K00900

**Legal Status:**

Date	+/-	Code	Description
<del>20030006</del>	0	<del>C00</del>	

**CN1375087A 20021016**

(ENG) Enhanced video programming system and method for providing a distributed community network

**Assignee:** ACTV INC US

[ no drawing available]

**Inventor(s):** ULI,MAN CRAIG D US ; HARRINGTON JEFFREY M US ; ABATO MICHAEL R US

**Application No:** CN 00812938 A**Filing Date:** 20000914**Issue/Publication Date:** 20021016

**Abstract:** (ENG) A distributed community network (200) provides services to an arbitrarily large community of end users (204, 206, 208) by distributing the load among many machines (210, 212, 214). The network uses hubs (220,222, 224) on the machines for routing packets. The hubs (220, 222, 224) obtain routing instructions from a router (256) and use those instructions for routing the packets. The packets include content for the machines based upon a particular network service, such as a chat service (218) permitting users to interact in chat rooms, or a push/pull service (228) for pushing content to the user machines either directly or based upon information received from the users.

**Priority Data:** US 39669399 19990915 A Y;

**IPC (International Class):** G06F01300; H04N007081; H04L01228; H04N00708; G06F015173; H04L02906; H04N00724; H04L02908; H04N00500



**Legal Status:**

Date	+/-	Code	Description
20080808	0	C06	

**DE69706036D1 20010913**

**(GER) INTEGRIERTES SYSTEM FUER INTERAKTIVES VIDEO UND INTERNET**

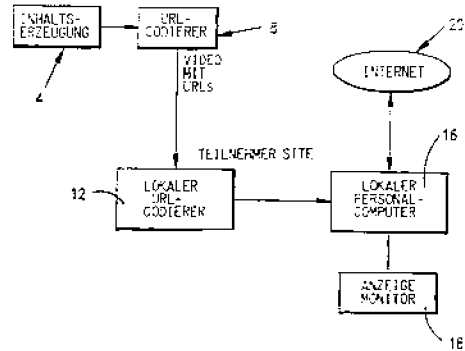
**Assignee:** ACTV INC US

**Inventor(s):** HIDARY D US ; ULLMAN CRAIG US ; SPIVACK T US

**Application No:** DE 69706036 A

**Filing Date:** 19970307

**Issue/Publication Date:** 20010913



**Abstract:** (ENG) A system for integrating video programming with the vast information resources of the Internet (20). A computer-based system (16, 114) receives a video program and uniform resource locators (URLs). The URLs are interpreted by the system (12) to direct the system to the Web site locations to retrieve related Web pages (98). The video program signal can be displayed on a video window on a conventional personal computer screen (18). The actual retrieved Web pages can be time stamped and displayed, on another portion of the display screen (18), when predetermined related video content is displayed in the video window. The computer-based system can receive the URLs directly through an Internet connection (94), at times specified by TV broadcasters in advance.

**Priority Data:** US 61314496 19960308 A Y; US 61514396 19960314 A Y; US 62247496 19960325 A Y; US 9703525 19970307 W W N;

**IPC (International Class):** H04N007088; H04N00708; H04L02906; H04N007173; H04N00716

**Legal Status:**

Date	+/-	Code	Description
20020808	(-)	8363	OPPOSITION AGAINST THE PATENT
20080731		8366	RESTRICTED MAINTAINED AFTER OPPOSITION PROCEEDINGS



**DE69706036T3 20081211**  
**DE69706036T2 20020606**

**(GER) INTEGRIERTES SYSTEM FUER INTERAKTIVES VIDEO UND INTERNET**

**Assignee:** ACTV INC US

**Inventor(s):** HILDARY D US ; ULLMAN CRAIG US ; SPIVACK T US

**Application No:** DE 69706036 T

**Filing Date:** 19970307

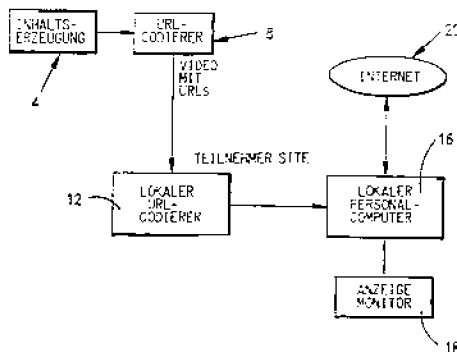
**Issue/Publication Date:** 20081211

**Abstract:** (ENG) A system for integrating video programming with the vast information resources of the Internet (20). A computer-based system (16, 114) receives a video program and uniform resource locators (URLs). The URLs are interpreted by the system (12) to direct the system to the Web site locations to retrieve related Web pages (98). The video program signal can be displayed on a video window on a conventional personal computer screen (18). The actual retrieved Web pages can be time stamped and displayed, on another portion of the display screen (18), when predetermined related video content is displayed in the video window. The computer-based system can receive the URLs directly through an Internet connection (94), at times specified by TV broadcasters in advance.

**Priority Data:** US 61314496 19960308 A Y; US 61514396 19960314 A Y; US 62247496 19960325 A Y; US 9703525 19970307 W W N;

**IPC (International Class):** H04N00708; H04N007088; H04L02906; H04N007173; H04N00716

**Legal Status:** There is no Legal Status information available for this patent



**DE69734117D1 20051006**

**(GER) Integriertes System fuer interaktives Video und Internet**

**Assignee:** ACTV INC US

[ no drawing available ]

**Inventor(s):** HILDARY JACK D US ; ULLMAN CRAIG US ; SPIVACK NOVA T US

**Application No:** DE 69734117 A

**Filing Date:** 19970307

**Issue/Publication Date:** 20051006

**Abstract:** (ENG) A system for integrating video programming with the vast information resources of the Internet (20). A computer-based system (16, 114) receives a video program and uniform resource locators (URLs). The URLs are interpreted by the system (12) to direct the system to the Web site locations to retrieve related Web pages (98). The video program signal can be displayed on a video window on a conventional personal computer screen (18). The actual retrieved Web pages can be time stamped and displayed, on another portion of the display screen (18), when predetermined related video content is displayed in the video window. The computer-based system can receive the URLs directly through an Internet connection (94), at times specified by TV broadcasters in advance.

**Priority Data:** US 61314496 19960308 A Y; US 61514396 19960314 A Y; US 62247496 19960325 A Y;



**IPC (International Class):** H04N007088; H04N00708; H04L02906; H04N007173; H04N00716

**Legal Status:**

Date	+/-	Code	Description
20060817	(-)	8363	OPPOSITION AGAINST THE PATENT
20090507	()	8365	

**DE69734117T2 20060713**

**(GER) Integriertes System fuer interaktives Video und Internet**

**Assignee:** ACTV INC US

[ no drawing available]

**Inventor(s):** HIDARY JACK D US ; ULLMAN CRAIG US ;  
SPIVACK NOVA T US

**Application No:** DE 69734117 T

**Filing Date:** 19970307

**Issue/Publication Date:** 20060713

**Abstract:** (ENG) A system for integrating video programming with the vast information resources of the Internet (20). A computer-based system (16, 114) receives a video program and uniform resource locators (URLs). The URLs are interpreted by the system (12) to direct the system to the Web site locations to retrieve related Web pages (98). The video program signal can be displayed on a video window on a conventional personal computer screen (18). The actual retrieved Web pages can be time stamped and displayed, on another portion of the display screen (18), when predetermined related video content is displayed in the video window. The computer-based system can receive the URLs directly through an Internet connection (94), at times specified by TV broadcasters in advance.

**Priority Data:** US 61314496 19960308 A Y; US 61514396 19960314 A Y; US 62247496 19960325 A Y;

**IPC (International Class):** H04N00708; H04N007088; H04L02906; H04N007173; H04N00716

**Legal Status:**

Date	+/-	Code	Description
20060817	(-)	8363	OPPOSITION AGAINST THE PATENT
20090507	()	8365	



**DK0885525T4 20080929**  
**DK0885525T3 20011008**

**(DAN) Integreret interaktivt video- og internetsystem**

**Assignee:** ACTV INC US

[ no drawing available]

**Inventor(s):** HIDARY JACK D US ; ULLMAN CRAIG US ;  
 SPIVACK NOVA T US

**Application No:** DK 97908915 T

**Filing Date:** 19970307

**Issue/Publication Date:** 20080929

**Abstract:** (ENG) A system for integrating video programming with the vast information resources of the Internet (20). A computer-based system (16, 114) receives a video program and uniform resource locators (URLs). The URLs are interpreted by the system (12) to direct the system to the Web site locations to retrieve related Web pages (98). The video program signal can be displayed on a video window on a conventional personal computer screen (18). The actual retrieved Web pages can be time stamped and displayed, on another portion of the display screen (18), when predetermined related video content is displayed in the video window. The computer-based system can receive the URLs directly through an Internet connection (94), at times specified by TV broadcasters in advance.

**Priority Data:** US 61314496 19960308 A Y; US 61514396 19960314 A Y; US 62247496 19960325 A Y; US 9703525 19970307 W W N;

**IPC (International Class):** H04N00708; H04N007088; H04I.02906; H04N007173; H04N00716

**Legal Status:** There is no Legal Status information available for this patent

**EP1087565A3 20031210**  
**EP1087565A2 20010328**

**(ENG) Enhanced video programming system and method providing a distributed community network**

**Assignee:** ACTV INC US

**Inventor(s):** ULLMAN CRAIG D US ; HARRINGTON  
 JEFFREY M US ; ABATO MICHAEL R US ;  
 DUDA CARL R US

**Application No:** EP 00308045 A

**Filing Date:** 20000915

**Issue/Publication Date:** 20031210

**Abstract:** (ENG) A distributed community network (200) provides services to an arbitrarily large community of end users (204, 206, 208) by distributing the load among many machines (210, 212, 214). The network uses hubs (220, 222, 224) on the machines for routing packets. The hubs (220, 222, 224) obtain routing instructions from a router (256) and use those instructions for routing the packets. The packets include content for the machines based upon a particular network service, such as a chat service (218) permitting users to interact in chat rooms, or a push/pull service (228) for pushing content to the user machines either directly or based upon information received from the users.

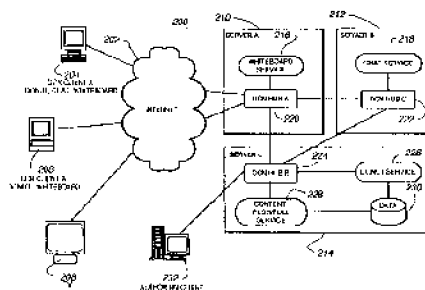


Fig. 10A



**Priority Data:** US 39669399 19990915 A Y;

**IPC (International Class):** G06F01300; H04N007081; H04L01228; H04N00708; G06F015173; H04L02906; H04N00724; H04L02908; H04N00500

**ECLA (European Class):** H04L02908N9A; H04L02906C2; H04L02906M2N3; H04L02908A7; H04L02908N9P; H04L02908N15; H04L02908N25; H04N00500N; H04N00724T4

**Designated Countries:**

**Publication Language:** ENG

**Filing Language:** ENG

**Agent(s):** Needle, Jacqueline W.H. BECK, GREENER & CO 7 Stone Buildings Lincoln's Inn, London WC2A 3SZ, GB GB

**Legal Status:**

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20031210		AK	DESIGNATED CONTRACTING STATES: Kind code of corresponding patent document: A3; List of designated states: AT BE CH CY DE DK ES FI FR GB GR IE IT LI LU MC NL PT SE;
20031210		AX	EXTENSION OF THE EUROPEAN PATENT TO List of countries concerned with an event: AL LT LV MK RO SI;
20031210	()	RIC1	CLASSIFICATION (CORRECTION) IPC: 7H 04L 12/00 A;
20031210	()	RIC1	CLASSIFICATION (CORRECTION) IPC: 7G 06F 13/00 B;
20031210	()	RIC1	CLASSIFICATION (CORRECTION) IPC: 7H 04L 29/06 B;
20031210	()	RIC1	CLASSIFICATION (CORRECTION) IPC: 7H 04M 7/00 B;
20040414		17P	REQUEST FOR EXAMINATION FILED Effective date: 20040214;
20040512		17Q	FIRST EXAMINATION REPORT Effective date: 20040330;
20070411		17Q	FIRST EXAMINATION REPORT Effective date: 20040330;





**EP1107535A3 20031210**  
**EP1107535A2 20010613**

**(ENG) Enhanced video programming system and method providing a distributed community network**

**Assignee:** ACTV INC US

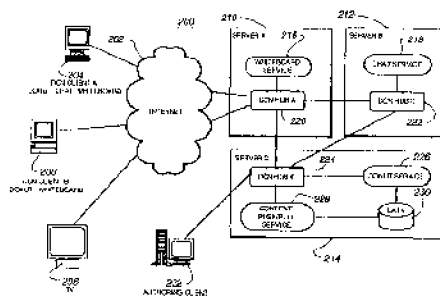
**Inventor(s):** ULLMAN CRAIG D US ; HARRINGTON JEFFREY M US ; ABATO MICHAEL R US ; DUDA CARL R US

**Application No:** EP 00308060 A

**Filing Date:** 20000915

**Issue/Publication Date:** 20031210

**Abstract:** (ENG) A distributed community network (200) provides services to an arbitrarily large community of end users (204, 206, 208) by distributing the load among many machines (210, 212, 214). The network uses hubs (220, 222, 224) on the machines for routing packets. The hubs (220, 222, 224) obtain routing instructions from a router (256) and use those instructions for routing the packets. The packets include content for the machines based upon a particular network service, such as a chat service (218) permitting users to interact in chat rooms, or a push/pull service (228) for pushing content to the user machines either directly or based upon information received from the users.



**Fig. 10A**

**Priority Data:** US 39669399 19990915 A Y;

**IPC (International Class):** G06F01300; H04N007081; H04L01228; H04N00708; G06F015173; H04L02906; H04N00724; H04L02908; H04N00500

**ECLA (European Class):** H04L02908N9A; H04L02906C2; H04L02908A7; H04L02908N9P; H04L02908N15; H04L02908N25

**Designated Countries:**

**Publication Language:** ENG

**Filing Language:** ENG

**Agent(s):** Needle, Jacqueline W.H. BECK, GREENER & CO 7 Stone Buildings Lincoln's Inn, London WC2A 3SZ, GB GB

**Legal Status:**

Date	+/-	Code	Description
20010613		AK	DESIGNATED CONTRACTING STATES: Kind code of corresponding patent document: A2; List of designated states: AT BE CH CY DE DK ES FI FR GB GR IE IT LI LU MC NL PT SE;
20010613		AX	EXTENSION OF THE EUROPEAN PATENT TO : AL;LT;LV;MK;RO;SI;
20031210		AK	DESIGNATED CONTRACTING STATES: Kind code of corresponding patent document: A3; List of designated states: AT BE CH CY DE DK ES FI FR GB GR IE IT LI LU MC NL PT SE;
20031210		AX	EXTENSION OF THE EUROPEAN PATENT TO List of countries concerned with an event: AL LT LV MK RO SI;
20040811		17P	REQUEST FOR EXAMINATION FILED Effective date: 20040611;
20040908		17Q	FIRST EXAMINATION REPORT Effective date: 20040721;
20060329	(-)	18D	DEEMED TO BE WITHDRAWN Effective date: 20050927;



**EP1221941A4 20051130**  
**EP1221941A1 20020717**

**(ENG) POWDER PHARMACEUTICAL FORMULATIONS**

**Assignee:** WRIGLEY W M JUN CO US

[ no drawing available]

**Inventor(s):** REAM RONALD L US ; WOKAS WILLIAM J  
 US

**Application No:** EP 00982684 A

**Filing Date:** 20001018

**Issue/Publication Date:** 20051130

**Abstract:** NotAvailable

**Priority Data:** US 0041225 20001018 W W; US 42190599 19991020 A;

**IPC (International Class):** A61K04722; A61P02900; A61K04710; A61P00904; A61P03104; A61P02102;  
 A61P03112; A61P00310; A61K04742; A61P04300; A61K04708; A61K031167;  
 A61K04718; A61K04726; A61P02526; A61P00104; A61K04746; A61K04712;  
 A61K031522; A61P03704; A61P02518; A61K04720; A61K031616; A61K00916;  
 A61K00914; A61K00900

**ECLA (European Class):** A61K00914H4

**Designated Countries:**

—Designated States: AT BE CH CY DE DK ES FI FR GB GR IE IT LI LU MC NL PT SE

**Publication Language:** ENG

**Filing Language:** ENG

**Legal Status:**

Date	+/-	Code	Description
20051130		A4	SUPPLEMENTARY SEARCH REPORT Effective date: 20051012;
20060816		17Q	FIRST EXAMINATION REPORT Effective date: 20060717;
20080813	(-)	18D	DEEMED TO BE WITHDRAWN Effective date: 20080312;



**EP0885525B2 20080528**  
**EP0885525B1 20010808**  
**EP0885525A1 19981223**

**(ENG) AN INTEGRATED INTERACTIVE VIDEO AND INTERNET SYSTEM**

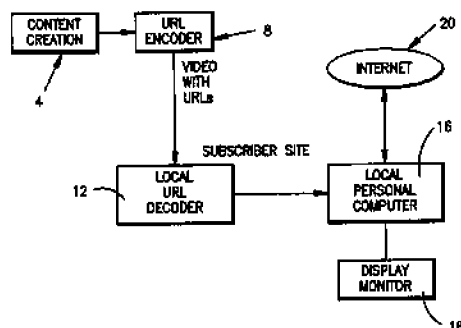
**Assignee:** ACTV INC US

**Inventor(s):** HIDARY JACK D US ; ULLMAN CRAIG US ; SPIVACK NOVA T US

**Application No:** EP 97908915 A

**Filing Date:** 19970307

**Issue/Publication Date:** 20080528



**Abstract:** (ENG) A system for integrating video programming with the vast information resources of the Internet (20). A computer-based system (16, 114) receives a video program and uniform resource locators (URLs). The URLs are interpreted by the system (12) to direct the system to the Web site locations to retrieve related Web pages (98). The video program signal can be displayed on a video window on a conventional personal computer screen (18). The actual retrieved Web pages can be time stamped and displayed, on another portion of the display screen (18), when predetermined related video content is displayed in the video window. The computer-based system can receive the LRLs directly through an Internet connection (94), at times specified by TV broadcasters in advance.

**Priority Data:** US 61314496 19960308 A Y; US 61514396 19960314 A Y; US 62247496 19960325 A Y; US 9703525 19970307 W W N;

**Related Application(s):**  
**IPC (International Class):** H04N00708; H04N007088; H04L02906; H04N007173; H04N00716

**ECLA (European Class):** H04L02906; H04N00708; H04N007088; H04N007173B2

**Designated Countries:**

**Publication Language:** ENG

**Filing Language:** ENG

**Agent(s):** Riesenberg, Axel Glawe - Delfs - Moll, Patent- und Rechtsanwaelte, Rothenbaumchaussee 58, 20148 Hamburg, DE DE

**Legal Status:**

Date	+/-	Code	Description
20050105	(-)	25	LAPSED IN A CONTRACTING STATE ANNOUNCED VIA POSTGRANT INFORM. FROM NAT. OFFICE TO EPO Corresponding country code for PRS Code (EP REG): AT; Effective date: 20010808;
20050105	(-)	25	LAPSED IN A CONTRACTING STATE ANNOUNCED VIA POSTGRANT INFORM. FROM NAT. OFFICE TO EPO Corresponding country code for PRS Code (EP REG): FI; Effective date: 20010808;
20050105	(-)	25	LAPSED IN A CONTRACTING STATE ANNOUNCED VIA POSTGRANT INFORM. FROM NAT. OFFICE TO EPO Corresponding country code for PRS Code (EP REG): GR; Effective date: 20011109;
20050105	(-)	25	LAPSED IN A CONTRACTING STATE ANNOUNCED VIA



			POSTGRANT INFORM. FROM NAT. OFFICE TO EPO Corresponding country code for PRS Code (EP REG): MC; Effective date: 20020307;
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20120430	()	PGFP	Corresponding country code for PRS Code (EP REG): IE; Payment date: 20120326; Year of fee payment: 16;

**EP0982943B1 20050831**  
**EP0982943A3 20000510**  
**EP0982943A2 20000301**

(ENG) An integrated interactive video and internet system

Assignee: ACTV INC US

Inventor(s): HIDARY JACK D US ; ULLMAN CRAIG US ; SPIVACK NOVA T US

Application No: EP 99122625 A

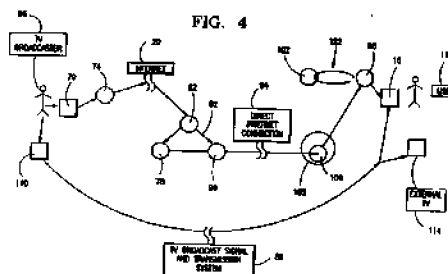
Filing Date: 19970307

Issue/Publication Date: 20050831

**Abstract:** (ENG) A system for integrating video programming with the vast information resources of the Internet (20). A computer-based system (16, 114) receives a video program and uniform resource locators (URLs). The URLs are interpreted by the system (12) to direct the system to the Web site locations to retrieve related Web pages (98). The video program signal can be displayed on a video window on a conventional personal computer screen (18). The actual retrieved Web pages can be time stamped and displayed, on another portion of the display screen (18), when predetermined related video content is displayed in the video window. The computer-based system can receive the URLs directly through an Internet connection (94), at times specified by TV broadcasters in advance.

**Priority Data:** EP 97908915 19970307 A 3 N; US 61314496 19960308 A Y; US 61514396 19960314 A Y; US 62247496 19960325 A Y;

**Related Application(s):** 97908915.8 19970307 885525 EP





**IPC (International Class):** H04N007088; H04N00708; H04L02906; H04N007173; H04N00716

**ECLA (European Class):** H04L02906; H04N00708; H04N007088; H04N007173B2

**Designated Countries:**

**Publication Language:** ENG

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**Agent(s):** Riesenberg, Axel Glawe - Delfs - Moll, Patent- und Rechtsanwaelte, Rothenbaumchaussee 58, 20148 Hamburg, DE DE

**Legal Status:**

Date	+/-	Code	Description
20050831	( )	AC	DIVISIONAL APPLICATION (ART. 76) OF: Corresponding patent document: 0885525; Country code of corresponding patent document: EP; Kind code of corresponding patent document: P;
20050831		AK	DESIGNATED CONTRACTING STATES: Kind code of corresponding patent document: B1; List of designated states: AT BE CH DE DK ES FI FR GB GR IE IT LI LU MC NL PT SE;
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20060301	(-)	NLVI	NL: LAPSED OR ANNULED DUE TO FAILURE TO FULFILL THE REQUIREMENTS OF ART. 29P AND 29M OF THE PATENTS ACT; NO LEGAL EFFECT FROM
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20061213	( )	REG	REFERENCE TO A NATIONAL CODE Corresponding country code for PRS Code (EP REG): IE; Corresponding EP Code 1 for PRS Code (EP REG): MM4A;
20070327		PGFP	POSTGRANT: ANNUAL FEES PAID TO NATIONAL OFFICE Corresponding country code for PRS Code (EP REG): GB; Payment date: 20070327; Year of fee payment: 11;



20070327	()	PGFP	Corresponding country code for PRS Code (EP REG): GB; Payment date: 20070327; Year of fee payment: 11;
20070430		PGFP	POSTGRANT: ANNUAL FEES PAID TO NATIONAL OFFICE Corresponding country code for PRS Code (EP REG): DE; Payment date: 20070430; Year of fee payment: 11;
20070430	()	PGFP	Corresponding country code for PRS Code (EP REG): DE; Payment date: 20070430; Year of fee payment: 11;
20070502	(-)	25	LAPSED IN A CONTRACTING STATE ANNOUNCED VIA POSTGRANT INFORM. FROM NAT. OFFICE TO EPO Corresponding country code for PRS Code (EP REG): AT; Effective date: 20050831;
20070502	(+)	25	LAPSED IN A CONTRACTING STATE ANNOUNCED VIA POSTGRANT INFORM. FROM NAT. OFFICE TO EPO Corresponding country code for PRS Code (EP REG): FI; Effective date: 20050831;
20070502	(-)	25	LAPSED IN A CONTRACTING STATE ANNOUNCED VIA POSTGRANT INFORM. FROM NAT. OFFICE TO EPO Corresponding country code for PRS Code (EP REG): CH; Effective date: 20050831;
20070502	(-)	25	LAPSED IN A CONTRACTING STATE ANNOUNCED VIA POSTGRANT INFORM. FROM NAT. OFFICE TO EPO Corresponding country code for PRS Code (EP REG): LI; Effective date: 20050831;
20070502	(+)	25	LAPSED IN A CONTRACTING STATE ANNOUNCED VIA POSTGRANT INFORM. FROM NAT. OFFICE TO EPO Corresponding country code for PRS Code (EP REG): ES; Effective date: 20051212;
20070502	(-)	25	LAPSED IN A CONTRACTING STATE ANNOUNCED VIA POSTGRANT INFORM. FROM NAT. OFFICE TO EPO Corresponding country code for PRS Code (EP REG): SE; Effective date: 20051130;
20070502	(+)	25	LAPSED IN A CONTRACTING STATE ANNOUNCED VIA POSTGRANT INFORM. FROM NAT. OFFICE TO EPO Corresponding country code for PRS Code (EP REG): GR; Effective date: 20051130;
20070502	(-)	25	LAPSED IN A CONTRACTING STATE ANNOUNCED VIA POSTGRANT INFORM. FROM NAT. OFFICE TO EPO Corresponding country code for PRS Code (EP REG): NL; Effective date: 20050831;
20070502	(-)	25	LAPSED IN A CONTRACTING STATE ANNOUNCED VIA POSTGRANT INFORM. FROM NAT. OFFICE TO EPO Corresponding country code for PRS Code (EP REG): BE; Effective date: 20050831;
20070502	(+)	25	LAPSED IN A CONTRACTING STATE ANNOUNCED VIA POSTGRANT INFORM. FROM NAT. OFFICE TO EPO Corresponding country code for PRS Code (EP REG): PT; Effective date: 20060222;
20070502	(-)	25	LAPSED IN A CONTRACTING STATE ANNOUNCED VIA POSTGRANT INFORM. FROM NAT. OFFICE TO EPO Corresponding country code for PRS Code (EP REG): DK; Effective date: 20051130;
20070502	(-)	25	LAPSED IN A CONTRACTING STATE ANNOUNCED VIA



			POSTGRANT INFORM. FROM NAT. OFFICE TO EPO Corresponding country code for PRS Code (EP REG): MC; Effective date: 20060331;
20070502	(-)	25	LAPSED IN A CONTRACTING STATE ANNOUNCED VIA POSTGRANT INFORM. FROM NAT. OFFICE TO EPO Corresponding country code for PRS Code (EP REG): LU; Effective date: 20060331;
20070502	(-)	25	LAPSED IN A CONTRACTING STATE ANNOUNCED VIA POSTGRANT INFORM. FROM NAT. OFFICE TO EPO Corresponding country code for PRS Code (EP REG): IE; Effective date: 20060307;
20071017	(-)	R26	OPPOSITION FILED (CORRECTION) Opponent name: IGR GMBH & CO. KG; Effective date: 20060531;
20080102		PGFP	POSTGRANT: ANNUAL FEES PAID TO NATIONAL OFFICE Corresponding country code for PRS Code (EP REG): IT; Payment date: 20070521; Year of fee payment: 11;
20080102	()	PGFP	Corresponding country code for PRS Code (EP REG): IT; Payment date: 20070521; Year of fee payment: 11;
20080430		PGFP	POSTGRANT: ANNUAL FEES PAID TO NATIONAL OFFICE Corresponding country code for PRS Code (EP REG): FR; Payment date: 20070319; Year of fee payment: 11;
20080430	()	PGFP	Corresponding country code for PRS Code (EP REG): FR; Payment date: 20070319; Year of fee payment: 11;
20080530		PGFP	POSTGRANT: ANNUAL FEES PAID TO NATIONAL OFFICE Corresponding country code for PRS Code (EP REG): GB; Payment date: 20080327; Year of fee payment: 12;
20080530	()	PGFP	Corresponding country code for PRS Code (EP REG): GB; Payment date: 20080327; Year of fee payment: 12;
20080731		PGFP	POSTGRANT: ANNUAL FEES PAID TO NATIONAL OFFICE Corresponding country code for PRS Code (EP REG): DE; Payment date: 20080430; Year of fee payment: 12;
20080731		PGFP	POSTGRANT: ANNUAL FEES PAID TO NATIONAL OFFICE Corresponding country code for PRS Code (EP REG): FR; Payment date: 20080317; Year of fee payment: 12;
20080731	()	PGFP	Corresponding country code for PRS Code (EP REG): DE; Payment date: 20080430; Year of fee payment: 12;
20080731	()	PGFP	Corresponding country code for PRS Code (EP REG): FR; Payment date: 20080317; Year of fee payment: 12;
20080930		PGFP	POSTGRANT: ANNUAL FEES PAID TO NATIONAL OFFICE Corresponding country code for PRS Code (EP REG): IT; Payment date: 20080328; Year of fee payment: 12;
20080930	()	PGFP	Corresponding country code for PRS Code (EP REG): IT; Payment date: 20080328; Year of fee payment: 12;
20081031		PGFP	POSTGRANT: ANNUAL FEES PAID TO NATIONAL OFFICE Corresponding country code for PRS Code (EP REG): GB; Payment date: 20060329; Year of fee payment: 10;
20081031	()	PGFP	Corresponding country code for PRS Code (EP REG): GB; Payment date: 20060329; Year of fee payment: 10;
20090325	()	27O	Effective date: 20081107;
20090831	()	PGFP	Corresponding country code for PRS Code (EP REG): DE; Payment date: 20090327; Year of fee payment: 13;
20090831	()	PGFP	Corresponding country code for PRS Code (EP REG): IT; Payment date: 20090330; Year of fee payment: 13;



20090831	()	PGFP	Corresponding country code for PRS Code (EP REG): DE; Payment date: 20090327; Year of fee payment: 13;
20090831	()	PGFP	Corresponding country code for PRS Code (EP REG): IT; Payment date: 20090330; Year of fee payment: 13;
20091030	()	PGFP	Corresponding country code for PRS Code (EP REG): FR; Payment date: 20090317; Year of fee payment: 13;
20091030	()	PGFP	Corresponding country code for PRS Code (EP REG): FR; Payment date: 20090317; Year of fee payment: 13;
20091130	()	PGFP	Corresponding country code for PRS Code (EP REG): GB; Payment date: 20090403; Year of fee payment: 13;
20091130	()	PGFP	Corresponding country code for PRS Code (EP REG): GB; Payment date: 20090403; Year of fee payment: 13;
20100531	()	PGFP	Corresponding country code for PRS Code (EP REG): FR; Payment date: 20100406; Year of fee payment: 14;
20100531	()	PGFP	Corresponding country code for PRS Code (EP REG): FR; Payment date: 20100406; Year of fee payment: 14;
20100630	()	PGFP	Corresponding country code for PRS Code (EP REG): GB; Payment date: 20100326; Year of fee payment: 14;
20100831	()	PGFP	Corresponding country code for PRS Code (EP REG): DE; Payment date: 20100329; Year of fee payment: 14;
20100831	()	PGFP	Corresponding country code for PRS Code (EP REG): IT; Payment date: 20100329; Year of fee payment: 14;
20110531	()	PGFP	Corresponding country code for PRS Code (EP REG): FR; Payment date: 20110331; Year of fee payment: 15;
20110531	()	PGFP	Corresponding country code for PRS Code (EP REG): FR; Payment date: 20110331; Year of fee payment: 15;
20120430	()	PGFP	Corresponding country code for PRS Code (EP REG): FR; Payment date: 20120406; Year of fee payment: 16;

**ES2159118T5 20081201**  
**ES2159118T3 20010916**

(SPA) SISTEMA INTEGRADO DE VIDEO INTERACTIVO E INTERNET.

**Assignee:** ACTV INC

[ no drawing available]

**Inventor(s):** HIDARY JACK D US ; ULLMAN CRAIG US ; SPIVACK NOVA T US

**Application No:** ES 97908915 T

**Filing Date:** 19970307

**Issue/Publication Date:** 20081201

**Abstract:** (ENG) A system for integrating video programming with the vast information resources of the Internet (20). A computer-based system (16, 114) receives a video program and uniform resource locators (URLs). The URLs are interpreted by the system (12) to direct the system to the Web site locations to retrieve related Web pages (98). The video program signal can be displayed on a video window on a conventional personal computer screen (18). The actual retrieved Web pages can be time stamped and displayed, on another portion of the display screen (18), when predetermined related video content is displayed in the video window. The computer-based system can receive the URLs directly through an Internet connection (94), at times specified by TV broadcasters in advance.



**Priority Data:** US 61314496 19960308 A Y; US 61514396 19960314 A Y; US 62247496 19960325 A Y;

**IPC (International Class):** H04N00708; H04N007088; H04L02906; H04N007173; H04N00716

**Publication Language:** SPA

**Legal Status:** There is no Legal Status information available for this patent

**GB2359708B 20040414**  
**GB2359708A 20010829**  
**GB0022707D0 20001101**

(ENG) Enhanced video programming system and method  
 providing a distributed community network

**Assignee:** ACTV INC US

[ no drawing available]

**Inventor(s):** ULLMAN CRAIG D US ; HARRINGTON  
 JEFFREY M US ; ABATO MICHAEL R US ;  
 DUDA CARL R US

**Application No:** GB 0022707 A

**Filing Date:** 20000915

**Issue/Publication Date:** 20040414

**Abstract:** (ENG) A distributed community network (200) provides services to an arbitrarily large community of end users (204, 206, 208) by distributing the load among many machines (210, 212, 214). The network uses hubs (220, 222, 224) on the machines for routing packets. The hubs (220, 222, 224) obtain routing instructions from a router (256) and use those instructions for routing the packets. The packets include content for the machines based upon a particular network service, such as a chat service (218) permitting users to interact in chat rooms, or a push/pull service (228) for pushing content to the user machines either directly or based upon information received from the users.

**Priority Data:** US 39669399 19990915 A Y;

**IPC (International Class):** G06F01300; H04N007081; H04L01228; H04N00708; G06F015173; H04L02906;  
 H04N00724; H04L02908; H04N00500

**National Classification:**  
 -H4P PPBB PPBB

**Legal Status:**

Date	+/-	Code	Description
20050218	()	REG	Corresponding country code for PRS Code (EP REG): HK; Corresponding EP Code I for PRS Code (EP REG): GR; Corresponding patent document: 1039844; Country code of corresponding patent document: IIK;



**GB2359958B 20040303**  
**GB2359958A 20010905**  
**GB0022712D0 20001101**

(ENG) Enhanced video programming system and method  
 providing a distributed community network

Assignee: ACTV INC US

[ no drawing available]

Inventor(s): ULLMAN CRAIG D US ; HARRINGTON  
 JEFFREY M US ; ABATO MICHAEL R US ;  
 DUDA CARL R US

Application No: GB 0022712 A

Filing Date: 20000915

Issue/Publication Date: 20040303

**Abstract:** (ENG) A distributed community network (200) provides services to an arbitrarily large community of end users (204, 206, 208) by distributing the load among many machines (210, 212, 214). The network uses hubs (220, 222, 224) on the machines for routing packets. The hubs (220, 222, 224) obtain routing instructions from a router (256) and use those instructions for routing the packets. The packets include content for the machines based upon a particular network service, such as a chat service (218) permitting users to interact in chat rooms, or a push/pull service (228) for pushing content to the user machines either directly or based upon information received from the users.

Priority Data: US 39669399 19990915 A Y;

IPC (International Class): G06F01300; H04N007081; H04L01228; H04N00708; G06F015173; H04L02906;  
 H04N00724; H04L02908; H04N00500

National Classification:  
 -H4K KTKX KTKX

**Legal Status:**

Date	+/-	Code	Description
20080502	()	REG	Corresponding country code for PRS Code (EP REG): HK; Corresponding EP Code 1 for PRS Code (EP REG): WD; Corresponding patent document: 1039845; Country code of corresponding patent document: HK;



**GB2382157A 20030521**  
**GB0129691D0 20020130**

**(ENG) Multifunctional mobile appliance**

**Assignee:** RUFFNER BRYAN J US

[ no drawing available]

**Inventor(s):** RUFFNER BRYAN J US

**Application No:** GB 0129691 A

**Filing Date:** 20011212

**Issue/Publication Date:** 20030521

**Abstract:** (ENG) A user can place the multifunctional mobile appliance in a work area bounded by a set of impulse radio, or GPS, transceivers. The appliance independently and accurately maps the work area and proceeds to perform one or more tasks over that area, as directed by the user. These tasks include, but are not limited to, mowing, vacuuming, scrubbing, waxing, and polishing. The user may control, through the World Wide Web, what tasks are performed where and when. Both the user and the appliance can make use of services that are provided on the Internet to enhance the performance of the appliance. The appliance is safe, silent, self-sufficient, nimble, and non-polluting. It is equipped with sensors to enable it to avoid obstacles and other less than optimal operating conditions.

**Priority Data:** US 98859201 20011120 A Y;

**IPC (International Class):** G01S01927; G01S00102; A01D03400; A01B06904; G01S00502; G05D00102;  
 G01S00512; G01S00514; G01S01941; G01S01943

**National Classification:**

—A1F FDH FDH; A1F F160 FDH; A1F F161 FDH; G3N NGA4 GA4; G3N N286C GA4; G3N N288X GA4;  
 G3N N383A GA4; G3N N383B GA4; G3N N403 GA4; G3N N405 GA4; G3N N407 GA4

**Legal Status:**

Date	+/-	Code	Description
20060301	(-)	WAP	APPLICATION WITHDRAWN, TAKEN TO BE WITHDRAWN OR REFUSED ** AFTER PUBLICATION UNDER SECTION 16(1)



**GB0510395D0 20050629****(ENG) Multifunctional mobile appliance****Assignee:** RUFFNER BRYAN J

[ no drawing available]

**Application No:** GB 0510395 A**Filing Date:** 20050523**Issue/Publication Date:** 20050629**Abstract:** NotAvailable**Priority Data:** US 61173801 20011120 A; US 98859201 20011120 A;**Legal Status:**

Date	+/-	Code	Description
20060308	(-)	AT	APPLICATIONS TERMINATED BEFORE PUBLICATION UNDER SECTION 16(1)

**GB0514368D0 20050817****(ENG) Multifunctional mobile appliance****Assignee:** RUFFNER BRYAN J

[ no drawing available]

**Application No:** GB 0514368 A**Filing Date:** 20050713**Issue/Publication Date:** 20050817

**Abstract:** (ENG) A user can place the multifunctional mobile appliance in a work area bounded by a set of impulse radio, or GPS, transceivers. The appliance independently and accurately maps the work area and proceeds to perform one or more tasks over that area, as directed by the user. These tasks include, but are not limited to, mowing, vacuuming, scrubbing, waxing, and polishing. The user may control, through the World Wide Web, what tasks are performed where and when. Both the user and the appliance can make use of services that are provided on the Internet to enhance the performance of the appliance. The appliance is safe, silent, self-sufficient, nimble, and non-polluting. It is equipped with sensors to enable it to avoid obstacles and other less than optimal operating conditions.

**Priority Data:** US 98859201 20011120 A Y;**IPC (International Class):** G01S01927; G01S00102; A01D03400; A01B06904; G01S00502; G05D00102; G01S00512; G01S00514; G01S01941; G01S01943**Legal Status:**

Date	+/-	Code	Description
20060308	(-)	AT	APPLICATIONS TERMINATED BEFORE PUBLICATION UNDER SECTION 16(1)





**GB0514622D0 20050824****(ENG) Multi-functional mobile appliance****Assignee:** RUFFNER BRYAN J

[ no drawing available]

**Application No:** GB 0514622 A**Filing Date:** 20050718**Issue/Publication Date:** 20050824

**Abstract:** (ENG) A user can place the multifunctional mobile appliance in a work area bounded by a set of impulse radio, or GPS, transceivers. The appliance independently and accurately maps the work area and proceeds to perform one or more tasks over that area, as directed by the user. These tasks include, but are not limited to, mowing, vacuuming, scrubbing, waxing, and polishing. The user may control, through the World Wide Web, what tasks are performed where and when. Both the user and the appliance can make use of services that are provided on the Internet to enhance the performance of the appliance. The appliance is safe, silent, self-sufficient, nimble, and non-polluting. It is equipped with sensors to enable it to avoid obstacles and other less than optimal operating conditions.

**Priority Data:** US 98859201 20011120 A Y;**IPC (International Class):** G01S01927; G01S00102; A01D03400; A01B06904; G01S00502; G05D00102; G01S00512; G01S00514; G01S01941; G01S01943**Legal Status:**

Date	+/-	Code	Description
20060308	(-)	AT	APPLICATIONS TERMINATED BEFORE PUBLICATION UNDER SECTION 16(1)

**HK1025000A1 20060616****(ENG) An integrated interactive video and internet system****Assignee:** ACTV INC US

[ no drawing available]

**Inventor(s):** HILDARY JACK D ; ULLMAN CRAIG ; SPIVACK NOVA T**Application No:** IIK 00103964 A**Filing Date:** 20000629**Issue/Publication Date:** 20060616

**Abstract:** (ENG) A system for integrating video programming with the vast information resources of the Internet (20). A computer-based system (16, 114) receives a video program and uniform resource locators (URI.s). The URI.s are interpreted by the system (12) to direct the system to the Web site locations to retrieve related Web pages (98). The video program signal can be displayed on a video window on a conventional personal computer screen (18). The actual retrieved Web pages can be time stamped and displayed, on another portion of the display screen (18), when predetermined related video content is displayed in the video window. The computer-based system can receive the URLs directly through an Internet connection (94), at times specified by TV broadcasters in advance.

**Priority Data:** US 61314496 19960308 A Y; US 61514396 19960314 A Y; US 62247496 19960325 A Y;**IPC (International Class):** H04N007088; H04N00708; H04L02906; H04N007173; H04N00716**Legal Status:** There is no Legal Status information available for this patent

**HK1039844A1 20050218**

(ENG) Enhanced video programming system and method providing a distributed community network.

Assignee: ACTV INC US

[ no drawing available]

Inventor(s): ULLMAN CRAIG D ; HARRINGTON JEFFREY M ; ABATO MICHAEL R ; DUDA CARL R

Application No: HK 02101127 A

Filing Date: 20020215

Issue/Publication Date: 20050218

**Abstract:** (ENG) A distributed community network (200) provides services to an arbitrarily large community of end users (204, 206, 208) by distributing the load among many machines (210, 212, 214). The network uses hubs (220, 222, 224) on the machines for routing packets. The hubs (220, 222, 224) obtain routing instructions from a router (256) and use those instructions for routing the packets. The packets include content for the machines based upon a particular network service, such as a chat service (218) permitting users to interact in chat rooms, or a push/pull service (228) for pushing content to the user machines either directly or based upon information received from the users.

Priority Data: US 39669399 19990915 A Y;

IPC (International Class): G06F01300; H04N007081; H04L01228; H04N00708; G06F015173; H04L02906; H04N00724; H04L02908; H04N00500

Legal Status: There is no Legal Status information available for this patent

**JP2001177579A 20010629**

(ENG) HIGH-VIDEO PROGRAMMING SYSTEM AND METHOD FOR SUPPLYING DISTRIBUTED COMMUNITY NETWORK

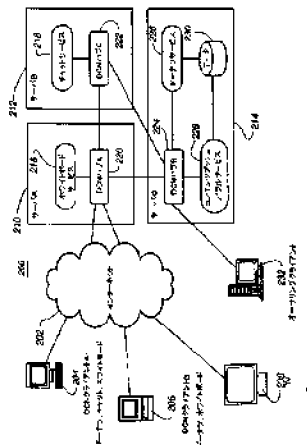
Assignee: ACTV INC

Inventor(s): ULLMAN CRAIG D ; HARRINGTON JEFFREY M ; ABATO MICHAEL R ; DUDA CARL R

Application No: JP 2000279807 A

Filing Date: 20000914

Issue/Publication Date: 20010629



**Abstract:** (ENG) PROBLEM TO BE SOLVED: To eliminate a gap between video programming and a vast information resource that the internet has. SOLUTION: A distributed community network 200 supplies service to the arbitrary large-scale communities of client machines 204, 206 and 208 by distributing loads among servers 210, 212 and 214. The network routes a packet by using hubs 220, 222 and 224 on the machines. The hubs 220, 222 and 224 obtain routing instructions from a router and routes the packet by using the instructions. The packet includes a content for the machine based on specified network service such as chat service 218 enabling the user to make conversation in a chat room or push/pull service 228 pushing the content to the user machine based on information which is directly received or is received from the user.



**Priority Data:** US 39669399 19990915 A Y;

**IPC (International Class):** G06F01300; H04N007081; H04L01228; H04N00708; G06F015173; H04L02906; H04N00724; H04L02908; H04N00500

**Legal Status:**

Date	+/-	Code	Description
20100331	()	A02	: JAPANESE INTERMEDIATE CODE: A02; Effective date: 20100330;

**JP2003509928A 20030311**

**NotAvailable**

**Application No:** JP 2001523978 T

[ no drawing available]

**Filing Date:** 20000914

**Issue/Publication Date:** 20030311

**Abstract:** (ENG) A distributed community network (200) provides services to an arbitrarily large community of end users (204, 206, 208) by distributing the load among many machines (210, 212, 214). The network uses hubs (220, 222, 224) on the machines for routing packets. The hubs (220, 222, 224) obtain routing instructions from a router (256) and use those instructions for routing the packets. The packets include content for the machines based upon a particular network service, such as a chat service (218) permitting users to interact in chat rooms, or a push/pull service (228) for pushing content to the user machines either directly or based upon information received from the users.

**Priority Data:** US 39669399 19990915 A Y; US 0025180 20000914 W W N;

**IPC (International Class):** G06F01300; H04N007081; H04L01228; H04N00708; G06F015173; H04L02906; H04N00724; H04L02908; H04N00500

**Legal Status:** There is no Legal Status information available for this patent



**JP2003512315A 20030402****NotAvailable****Application No:** JP 2001531353 T

[ no drawing available]

**Filing Date:** 20001018**Issue/Publication Date:** 20030402

**Abstract:** (ENG) Methods and powder formulations for delivering a powdered medicament or agent to an individual are provided. The powder formulation includes a medicament or agent. The powder formulation also includes a sufficient amount of a masking agent to allow the consumer to allow at least a portion of the powder to dissolve in his or her mouth due to the flavor masking abilities of the powdered oral dosage form. It is believed that by placing the powder formulation into the mouth of the user, the medicament or agent is released, enhancing the absorption of the drug into the systemic system as well as the bioavailability of the drug within the system.

**Priority Data:** US 42190599 19991020 A Y; US 0041225 20001018 W W N;

**IPC (International Class):** A61K04722; A61P02900; A61K04710; A61P00904; A61P03104; A61P02102; A61P03112; A61P00310; A61K04742; A61P04300; A61K04708; A61K031167; A61K04718; A61K04726; A61P02526; A61P00104; A61K04746; A61K04712; A61K031522; A61P03704; A61P02518; A61K04720; A61K031616; A61K00916; A61K00914; A61K00900

**ECLA (European Class):** A61K00914II4**Legal Status:** There is no Legal Status information available for this patent**KR100773632B1 20071105  
KR20010070073A 20010725****(ENG) ENHANCED VIDEO PROGRAMMING SYSTEM  
AND METHOD PROVIDING A DISTRIBUTED  
COMMUNITY NETWORK**

[ no drawing available]

**Application No:** KR 20000054255 A**Filing Date:** 20000915**Issue/Publication Date:** 20071105

**Abstract:** (ENG) A distributed community network (200) provides services to an arbitrarily large community of end users (204, 206, 208) by distributing the load among many machines (210, 212, 214). The network uses hubs (220, 222, 224) on the machines for routing packets. The hubs (220, 222, 224) obtain routing instructions from a router (256) and use those instructions for routing the packets. The packets include content for the machines based upon a particular network service, such as a chat service (218) permitting users to interact in chat rooms, or a push/pull service (228) for pushing content to the user machines either directly or based upon information received from the users.

**Priority Data:** US 39669399 19990915 A Y;

**IPC (International Class):** H04L01228; G06F01300; H04N007081; H04N00708; G06F015173; H04L02906; H04N00724; H04L02908; H04N00500

**Publication Language:** KOR**Legal Status:** There is no Legal Status information available for this patent

**MXPA01012463A 20020604**

**(ENG) ENHANCED VIDEO PROGRAMMING SYSTEM  
AND METHOD FOR PROVIDING A DISTRIBUTED  
COMMUNITY NETWORK.**

[ no drawing available]

**Assignee:** ACTV INC US

**Inventor(s):** CARL R DUDA US

**Application No:** MX PA01012463 A

**Filing Date:** 20011130

**Issue/Publication Date:** 20020604

**Abstract:** (ENG) A distributed community network (200) for providing services to an arbitrarily large community of end users (204, 206, 208) by distributing the load among many machines. The network uses hubs (220, 222, 224) on the machines for routing packets. The packets include content for the machines based upon a particular network service, such as a chat service (218) for permitting users to interact in chat rooms or a push/pull service (228) for pushing content to the user machines either directly or based upon information received from the users.

**Priority Data:** US 39669399 19990915 A Y; US 0025180 20000914 W W N;

**IPC (International Class):** G06F01300; H04N007081; H04L01228; H04N00708; G06F015173; H04L02906; H04N00724; H04L02908; H04N00500

**Publication Language:** SPA

**Legal Status:** There is no Legal Status information available for this patent

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**SG86439A1 20020219**

**(ENG) ENHANCED VIDEO PROGRAMMING SYSTEM  
AND METHOD PROVIDING A DISTRIBUTED  
COMMUNITY NETWORK**

[ no drawing available]

**Assignee:** ACTV INC

**Inventor(s):** CRAIG D ULLMAN ; JEFFREY M  
HARRINGTON ; MICHAEL R ABATO ; CARL  
R DUDA

**Application No:** SG 200005238 A

**Filing Date:** 20000915

**Issue/Publication Date:** 20020219

**Abstract:** (ENG) A distributed community network (200) provides services to an arbitrarily large community of end users (204, 206, 208) by distributing the load among many machines (210, 212, 214). The network uses hubs (220, 222, 224) on the machines for routing packets. The hubs (220, 222, 224) obtain routing instructions from a router (256) and use those instructions for routing the packets. The packets include content for the machines based upon a particular network service, such as a chat service (218) permitting users to interact in chat rooms, or a push/pull service (228) for pushing content to the user machines either directly or based upon information received from the users.



**Priority Data:** US 39669399 19990915 A Y;

**IPC (International Class):** G06F01300; H04N007081; H04L01228; H04N00708; G06F015173; H04L02906;  
H04N00724; H04L02908; H04N00500

**Legal Status:** There is no Legal Status information available for this patent

### TW529260B 20030421

(ENG) Enhanced video programming system and method  
providing a distributed community network

**Assignee:** ACTV INC US

[ no drawing available]

**Inventor(s):** ULLMAN CRAIG D US ; ABATO MICHAEL R  
US ; HARRINGTON JEFFREY M US ; DUDA  
CARL R US

**Application No:** TW 89118915 A

**Filing Date:** 20001214

**Issue/Publication Date:** 20030421

**Abstract:** (ENG) A distributed community network (200) provides services to an arbitrarily large community of end users (204, 206, 208) by distributing the load among many machines (210, 212, 214). The network uses hubs (220, 222, 224) on the machines for routing packets. The hubs (220, 222, 224) obtain routing instructions from a router (256) and use those instructions for routing the packets. The packets include content for the machines based upon a particular network service, such as a chat service (218) permitting users to interact in chat rooms, or a push/pull service (228) for pushing content to the user machines either directly or based upon information received from the users.

**Priority Data:** US 39669399 19990915 A Y;

**IPC (International Class):** G06F01300; H04N007081; H04L01228; H04N00708; G06F015173; H04L02906;  
H04N00724; H04L02908; H04N00500

**Legal Status:**

Date	+/-	Code	Description
20030815		GD4A	ISSUE OF PATENT CERTIFICATE FOR GRANTED INVENTION PATENT
20070621	(-)	MM4A	ANNULMENT OR LAPSE OF PATENT DUE TO NON-PAYMENT OF FEES



**TW533703B 20030521****(ENG) Method and apparatus for routing application layer packets of information in a network****Assignee:** ACTV INC US

[ no drawing available]

**Inventor(s):** ULLMAN CRAIG D US ; HARRINGTON  
JEFFREY M US ; ABATO MICHAEL R US ;  
DUDA CARL R US**Application No:** TW 89118917 A**Filing Date:** 20001124**Issue/Publication Date:** 20030521**Abstract:** (ENG) A distributed community network (200) provides services to an arbitrarily large community of end users (204, 206, 208) by distributing the load among many machines (210, 212, 214). The network uses hubs (220, 222, 224) on the machines for routing packets. The hubs (220, 222, 224) obtain routing instructions from a router (256) and use those instructions for routing the packets. The packets include content for the machines based upon a particular network service, such as a chat service (218) permitting users to interact in chat rooms, or a push/pull service (228) for pushing content to the user machines either directly or based upon information received from the users.**Priority Data:** US 39669399 19990915 A Y;**IPC (International Class):** G06F01300; H04N007081; H04L01228; H04N00708; G06F015173; H04L02906;  
H04N00724; H04L02908; H04N00500**Legal Status:**

Date	+/-	Code	Description
20030926		GD4A	ISSUE OF PATENT CERTIFICATE FOR GRANTED INVENTION PATENT
20070711	(-)	MM4A	ANNULMENT OR LAPSE OF PATENT DUE TO NON-PAYMENT OF FEES



**WO2001020468A1 20010322**

**(ENG) ENHANCED VIDEO PROGRAMMING SYSTEM AND METHOD FOR PROVIDING A DISTRIBUTED COMMUNITY NETWORK**

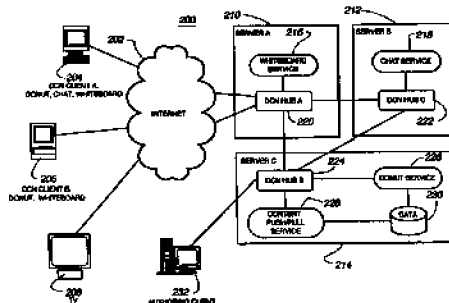
**Assignee:** ACTV INC US

**Inventor(s):** ULLMAN CRAIG D ; HARRINGTON JEFFREY M ; ABATO MICHAEL R ; DUDA CARL R

**Application No:** US 0025180 W

**Filing Date:** 20000914

**Issue/Publication Date:** 20010322



**Abstract:** (ENG) A distributed community network (200) for providing services to an arbitrarily large community of end users (204, 206, 208) by distributing the load among many machines. The network uses hubs (220, 222, 224) on the machines for routing packets. The packets include content for the machines based upon a particular network service, such as a chat service (218) for permitting users to interact in chat rooms or a push/pull service (228) for pushing content to the user machines either directly or based upon information received from the users.

**Priority Data:** US 39669399 19990915 A Y;

**IPC (International Class):** G06F01300; H04N007081; H04L01228; H04N00708; G06F015173; H04L02906; H04N00724; H04L02908; H04N00500

**Designated Countries:**

- Designated States: (national) AL AM AT AU AZ BA BB BG BR BY CA CH CN CU CZ DE DK EE ES FI GD GE GH GM HR HU ID IL IN IS JP KE KG KP KR KZ LC LK LR LS LT LU LV MD MG MK MN MW MX NO NZ PL PT RO RU SD SE SG SI SK SL TJ TM TR TT UA UG UZ VN YU ZW
- Regional Treaties: (ARIPO) AP GH GM KE LS MW MZ SD SL SZ TZ UG ZW
- EPO Extension States: (EAPO) EA AM AZ BY KG KZ MD RU TJ TM
- Elected States (PCT): (OAPI) OA BF BJ CF CG CI CM GA GN GW ML MR NE SN TD TG

**Publication Language:** ENG

**Filing Language:** ENG

**Legal Status:**

Date	+/-	Code	Description
20010322		AK	DESIGNATED STATES Kind code of corresponding patent document: A1; List of designated states: AL AM AT AU AZ BA BB BG BR BY CA CH CN CU CZ DE DK EE ES FI GD GE GH GM HR HU ID IL IN IS JP KE KG KP KR KZ LC LK LR LS LT LU LV MD MG MK MN MW MX NO NZ PL PT RO RU SD SE SG SI SK SL TJ TM TR TT UA UG UZ VN YU ZW;
20010322		AI	DESIGNATED COUNTRIES FOR REGIONAL PATENTS Kind code of corresponding patent document: A1; List of designated states: GHI GM KE LS MW MZ SD SL SZ TZ UG ZW AM AZ BY KG KZ MD RU TJ TM BF BJ CF CG CI CM GA GN GW ML MR NE SN TD TG;
20010322	( )	ENP	ENTRY INTO THE NATIONAL PHASE IN: Corresponding country code for PRS Code (EP REG): CA; Corresponding patent document: 2345149; Kind code of corresponding patent document: A;





20010809	( )	DFPE	REQUEST FOR PRELIMINARY EXAMINATION FILED PRIOR TO EXPIRATION OF 19TH MONTH FROM PRIORITY DATE (PCT APPLICATION FILED BEFORE 20040101)
20020308		WWE	WIPO INFORMATION: ENTRY INTO NATIONAL PHASE Corresponding patent document: 73795/00; Country code of corresponding patent document: AU;
20020314		WWE	WIPO INFORMATION: ENTRY INTO NATIONAL PHASE Corresponding patent document: 1020027003403; Country code of corresponding patent document: KR;
20020315	( )	ENP	ENTRY INTO THE NATIONAL PHASE IN: Corresponding country code for PRS Code (EP REG): JP; Corresponding patent document: 2001 523978; Kind code of corresponding patent document: A;
20020315		WWE	WIPO INFORMATION: ENTRY INTO NATIONAL PHASE Corresponding patent document: 00812938X; Country code of corresponding patent document: CN;
20020415	( )	NENP	NON-ENTRY INTO THE NATIONAL PHASE IN: Corresponding country code for PRS Code (EP REG): RU;
20020415	( )	NENP	NON-ENTRY INTO THE NATIONAL PHASE IN: Corresponding country code for PRS Code (EP REG): RU;
20020504		WWP	WIPO INFORMATION: PUBLISHED IN NATIONAL OFFICE Corresponding patent document: 1020027003403; Country code of corresponding patent document: KR;
20020822	( )	REG	REFERENCE TO NATIONAL CODE Corresponding country code for PRS Code (EP REG): DE; Corresponding EP Code 1 for PRS Code (EP REG): 8642;
20040930		WWG	WIPO INFORMATION: GRANT IN NATIONAL OFFICE Corresponding patent document: 73795/00; Country code of corresponding patent document: AU;

**WO2001028523A1 20010426****(ENG) POWDER PHARMACEUTICAL FORMULATIONS****Assignee:** WRIGLEY W M JUN CO US

[ no drawing available]

**Inventor(s):** REAM RONALD L US ; WOKAS WILLIAM J US**Application No:** US 0041225 W**Filing Date:** 20001018**Issue/Publication Date:** 20010426

**Abstract:** (ENG) Methods and powder formulations for delivering a powdered medicament or agent to an individual are provided. The powder formulation includes a medicament or agent. The powder formulation also includes a sufficient amount of a masking agent to allow the consumer to allow at least a portion of the powder to dissolve in his or her mouth due to the flavor masking abilities of the powdered oral dosage form. It is believed that by placing the powder formulation into the mouth of the user, the medicament or agent is released, enhancing the absorption of the drug into the systemic system as well as the bioavailability of the drug within the system.



**Priority Data:** US 42190599 19991020 A Y;

**IPC (International Class):** A61K04722; A61P02900; A61K04710; A61P00904; A61P03104; A61P02102;  
A61P03112; A61P00310; A61K04742; A61P04300; A61K04708; A61K031167;  
A61K04718; A61K04726; A61P02526; A61P00104; A61K04746; A61K04712;  
A61K031522; A61P03704; A61P02518; A61K04720; A61K031616; A61K00916;  
A61K00914; A61K00900

**ECLA (European Class):** A61K00914I4

**Designated Countries:**

—Designated States: (national) AL AM AT AU AZ BB BG BR BY CA CH CN CZ DE DK EE ES FI GB  
GE HU IS JP KE KG KP KZ LK LR LS LT LU LV MD MG MK MN MW MX NO NZ PL PT RO RU SD  
SE SG SI SK TJ TM TR TT UA UG US UZ VN ::: (ARIPO) AP GI GM KE LS MW MZ SD SL SZ TZ UG  
ZW

—Regional Treaties: (EAPO) EA AM AZ BY KG KZ MD RU TJ TM

—EPO Extension States: (EPO) EP AT BE CH CY DE DK ES FI FR GB GR IE IT LU MC NL PT SE

—Elected States (PCT): (OAPI) OA BF BJ CF CG CI CM GA GN GW ML MR NE SN TD TG

**Publication Language:** ENG

**Filing Language:** ENG

**Agent(s):** NIMZ, Jack Wm. Wrigley Jr. Company, 410 North Michigan Avenue, Chicago, IL 60611, US US

**Legal Status:**

Date	+/-	Code	Description
20010426		AK	DESIGNATED STATES Kind code of corresponding patent document: A1; List of designated states: AL AM AT AU AZ BB BG BR BY CA CH CN CZ DE DK EE ES FI GB GE HU IS JP KE KG KP KZ LK LR LS LT LU LV MD MG MK MN MW MX NO NZ PL PT RO RU SD SE SG SI SK TJ TM TR TT UA UG US UZ VN;
20010426		AL	DESIGNATED COUNTRIES FOR REGIONAL PATENTS Kind code of corresponding patent document: A1; List of designated states: GH GM KE LS MW MZ SD SL SZ TZ UG ZW AM AZ BY KG KZ MD RU TJ TM AT BE CH CY DE DK ES FI FR GB GR IE IT LU MC NL PT SE BF BJ CF CG CI CM GA GN GW ML MR NE SN TD TG;
20010620	( )	121	EP: THE EPO HAS BEEN INFORMED BY WIPO THAT EP WAS DESIGNATED IN THIS APPLICATION
20010816	( )	DFPE	REQUEST FOR PRELIMINARY EXAMINATION FILED PRIOR TO EXPIRATION OF 19TH MONTH FROM PRIORITY DATE (PCT APPLICATION FILED BEFORE 20040101)
20020221		WWE	WIPO INFORMATION: ENTRY INTO NATIONAL PHASE Corresponding patent document: 19682/01; Country code of corresponding patent document: AU;
20020226	( )	ENP	ENTRY INTO THE NATIONAL PHASE IN: Corresponding patent document: 2382978; Country code of corresponding patent document: CA; Kind code of corresponding patent document: A;
20020226	( )	ENP	ENTRY INTO THE NATIONAL PHASE IN: Corresponding patent document: 2382978; Country code of corresponding patent document: CA; Kind code of corresponding patent document: A;
20020226		WWE	WIPO INFORMATION: ENTRY INTO NATIONAL PHASE Corresponding patent document: 2382978; Country code of corresponding patent document: CA;



20020315		WWE	WIPO INFORMATION: ENTRY INTO NATIONAL PHASE Corresponding patent document: 008129371; Country code of corresponding patent document: CN;
20020322		WWE	WIPO INFORMATION: ENTRY INTO NATIONAL PHASE Corresponding patent document: 2000982684; Country code of corresponding patent document: EP;
20020417	( )	ENP	ENTRY INTO THE NATIONAL PHASE IN: Corresponding country code for PRS Code (EP REG): JP; Corresponding patent document: 2001 531353; Kind code of corresponding patent document: A;
20020520	( )	NENP	NON-ENTRY INTO THE NATIONAL PHASE IN: Corresponding country code for PRS Code (EP REG): RU;
20020520	( )	NENP	NON-ENTRY INTO THE NATIONAL PHASE IN: Corresponding country code for PRS Code (EP REG): RU;
20020717		WWP	WIPO INFORMATION: PUBLISHED IN NATIONAL OFFICE Corresponding patent document: 2000982684; Country code of corresponding patent document: EP;
20021002	( )	REG	REFERENCE TO NATIONAL CODE Corresponding country code for PRS Code (EP REG): DE; Corresponding EP Code 1 for PRS Code (EP REG): 8642;
20050512		WWG	WIPO INFORMATION: GRANT IN NATIONAL OFFICE Corresponding patent document: 19682/01; Country code of corresponding patent document: AU;

**US6018768A 20000125**

(ENG) Enhanced video programming system and method for incorporating and displaying retrieved integrated internet information segments

Assignee: ACTV INC US

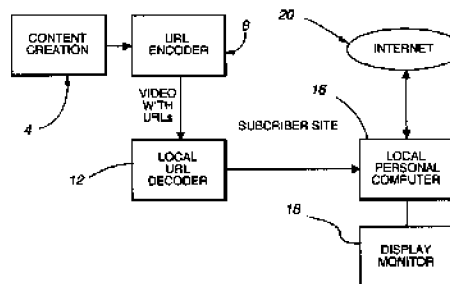
Inventor(s): ULLMAN CRAIG US ; HILDARY JACK D US ; SPIVACK NOVA T US

Application No: US 10994598 A

Filing Date: 19980706

Issue/Publication Date: 20000125

**Abstract:** (ENG) A system for integrating video programming with the vast information resources of the Internet. A computer-based system receives a video program with embedded uniform resource locators (URLs). The URLs, the effective addresses of locations or Web sites on the Internet, are interpreted by the system and direct the system to the Web site locations to retrieve related Web pages. Upon receipt of the Web pages by the system, the Web pages are synchronized to the video content for display. The video program signal can be displayed on a video window on a conventional personal computer screen. The actual retrieved Web pages are time stamped to also be displayed, on another portion of the display screen, when predetermined related video content is displayed in the video window. As an alternative, the computer-based system receives the URLs directly through an Internet connection, at times specified by TV broadcasters in advance. The system interprets the URLs and retrieves the appropriate Web pages. The Web pages are synchronized to the video content for display in conjunction with a television program being broadcast to the user at that time. This alternative system allows the URLs to be entered for live transmission to the user.



**Priority Data:** US 10994598 19980706 A N; US 61514396 19960314 A 2 Y; US 61314496 19960308 A C Y;

**Related Application(s):** 08/615143 19960314 5778181 US GRANTED; 61/3144 19960308 US ABANDONED

**IPC (International Class):** H04N00708; H04L02908; H04L02906; H04N007088; H04N007173

**ECLA (European Class):** H04L02908A7; H04L02906M4S2; H04L02908N1; H04N00708; H04N007088;  
H04N007173B2; H04N021239H; H04N021258U3; H04N0212665; H04N021462S;  
H04N0214782; H04N02184; H04N021854; H04N0218547; H04N021858U

**US Class:** 709218; 348E07024; 348E07031; 348E07071; 725110; 725112

**Publication Language:** ENG

**Filing Language:** ENG

**Agent(s):** Dorsey & Whitney LLP

**Examiner Primary:** Vu, Viet D.

**US Post Issuance:**

—US Litigations: NOTICE OF LITIGATION ACTV, Inc., et al v. The Walt Disney Co. ,  
et al, Filed Dec. 19, 2000, D.C. S.D. New York, Doc. No.00 CV 9622

**Assignments Reported to USPTO:**

**Reel/Frame:** 09469/0220 **Date Signed:** 19980818 **Date Recorded:** 19980915

**Assignee:** ACTV, INC. SUITE 2402 ROCKEFELLER CENTER 1270 AVENUE OF THE AMERICAS  
NEW YORK NEW YORK 10020

**Assignor:** HIDARY, JACK D.; SPIVACK, NOVA T.; ULLMAN, CRAIG

**Corres. Addr:** DORSEY & WHITNEY LLP SCOTT W. DOYLE 370 SEVENTEENTH STREET, SUITE  
4400 DENVER, CO 80202-5644

**Brief:** ASSIGNMENT OF ASSIGNORSINTEREST (SEE DOCUMENT FOR DETAILS).

**Reel/Frame:** 26905/0468 **Date Signed:** 20101207 **Date Recorded:** 20110914

**Assignee:** OPENTV, INC. 275 SACRAMENTO STREET SAN FRANCISCO CALIFORNIA 94111

**Assignor:** ACTV, INC.

**Corres. Addr:** JOHN D.GUSTAV-WRATHALL 1600 TCF TOWER, 121 S 8TH STREET  
MINNEAPOLIS, MN 55402

**Brief:** MERGER (SEE DOCUMENT FOR DETAILS).

**Legal Status:**

Date	+/-	Code	Description
19980915	()	AS	New owner name: ACTV, INC., NEW YORK; : ASSIGNMENT OF ASSIGNORS INTEREST;ASSIGNORS:HIDARY, JACK D.;SPIVACK, NOVA T.;ULLMAN, CRAIG;REEL/FRAME:009469/0220;SIGNING DATES FROM 19980818 TO 19980908;
20030701	()	FPAY	Year of fee payment: 4;
20070725	()	FPAY	Year of fee payment: 8;



**US2002188699A1 20021212**

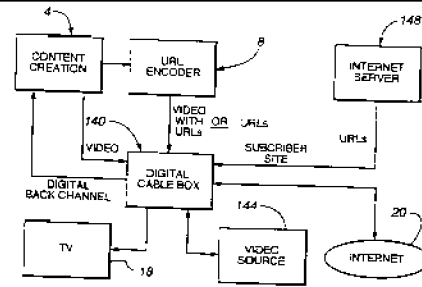
**(ENG) Enhanced video programming system and method for incorporating and displaying retrieved integrated internet information segments**

**Inventor(s):** ULLMAN CRAIG US ; HIDARY JACK D US ; SPIVACK NOVA T US

**Application No:** US 19486002 A

**Filing Date:** 20020712

**Issue/Publication Date:** 20021212



**Abstract:** (ENG) A system for integrating video programming with the vast information resources of the Internet. A computer-based system receives a video program with embedded uniform resource locators (URLs). The URLs, the effective addresses of locations or Web sites on the Internet, are interpreted by the system and direct the system to the Web site locations to retrieve related Web pages. Upon receipt of the Web pages by the system, the Web pages are synchronized to the video content for display. The video program signal can be displayed on a video window on a conventional personal computer screen. The actual retrieved Web pages are time stamped to also be displayed, on another portion of the display screen, when predetermined related video content is displayed in the video window. As an alternative, the computer-based system receives the URLs directly through an Internet connection, at times specified by TV broadcasters in advance. The system interprets the URLs and retrieves the appropriate Web pages. The Web pages are synchronized to the video content for display in conjunction with a television program being broadcast to the user at that time. This alternative system allows the URLs to be entered for live transmission to the user.

**Priority Data:** US 19486002 20020712 A N; US 47238599 19991223 A B Y; US 10994598 19980706 A 1 Y; US 61514396 19960314 A 2 Y; US 61314496 19960308 A C Y;

**Related Application(s):** 09/109945 19980706 6018768 US GRANTED; 08/615143 19960314 5778181 US GRANTED 08/613144 19960308

**IPC (International Class):** H04N007173; G06F01516; G06F01300

**US Class:** 709219; 709206; 725105

**Assignments Reported to USPTO:**

**Reel/Frame:** 13239/0603 **Date Signed:** 19980811 **Date Recorded:** 20020827

**Assignee:** ACTV, INC. 233 PARK AVENUE SOUTH 10TH FLOOR NEW YORK NEW YORK 10003

**Assignor:** HIDARY, JACK D.; SPIVACK, NOVA T.; ULLMAN, CRAIG

**Corres. Addr:** DORSEY & WHITNEY, LLP JOHN T. KENNEDY REPUBLIC PLAZA BUILDING 370 SEVENTEENTH STREET, SUITE 4700 DENVER, CO 80202

**Brief:** ASSIGNMENT OF ASSIGNORS INTEREST (SEE DOCUMENT FOR DETAILS).

**Legal Status:**

Date	+/-	Code	Description
20020827	()	AS	New owner name: ACTV, INC., NEW YORK; : ASSIGNMENT OF ASSIGNORS INTEREST;ASSIGNORS:HIDARY, JACK D.;SPIVACK, NOVA T.;ULLMAN, CRAIG;REEL/FRAME:013239/0603;SIGNING DATES FROM 19980811 TO 19980908;



**US2003005151A1 20030102****(ENG) Enhanced video programming system and method for providing a distributed community network**

[ no drawing available]

**Inventor(s):** ULLMAN CRAIG D US ; HARRINGTON JEFFREY M US ; ABATO MICHAEL R US ; DUDA CARL R US**Application No:** US 21763702 A**Filing Date:** 20020812**Issue/Publication Date:** 20030102**Abstract:** (ENG) A distributed community network for providing services to an arbitrarily large community of end users by distributing the load among many machines. The network uses hubs on the machines for routing packets. The hubs obtain routing instructions from a router and use those instructions for routing the packets. The packets include content for the machines based upon a particular network service, such as a chat service for permitting users to interact in chat rooms or a push/pull service for pushing content to the user machines either directly or based upon information received from the users.**Priority Data:** US 21763702 20020812 A N; US 39669399 19990915 A I Y; US 10994598 19980706 A 2 N; US 61514396 19960314 A 2 N; US 61314496 19960308 A C N;**Related Application(s):** 09/396693 19990915; 09/109945 19980706 6018768 US GRANTED 08/615143 19960314 5778181 US GRANTED<RDA continuation-in-part> 08/613144 19960308**IPC (International Class):** G06F01300; H04N007081; H04L01228; H04N00708; G06F015173; H04L02906; H04N00724; H04L02908; H04N00500**US Class:** 709238**Assignments Reported to USPTO:****Reel/Frame:** 13301/0737 **Date Signed:** 19990910 **Date Recorded:** 20020917**Assignee:** ACTV, INC. 1270 AVENUE OF THE AMERICAS, SUITE 2401 ROCKEFELLER CENTER  
NEW YORK NEW YORK 10020**Assignor:** ABATO, MICHAEL R.; DUDA, CARL R.; HARRINGTON, JEFFREY M.; ULLMAN, CRAIG D.  
D.**Corres. Addr:** DORSEY & WHITNEY LLP GREGORY P. DURBIN REPUBLIC PLAZA  
BUILDING, SUITE 4700 370 SEVENTEENTH STREET DENVER, CO80202-5647**Brief:** ASSIGNMENT OF ASSIGNORS INTEREST (SEE DOCUMENT FOR DETAILS).**Legal Status:**

Date	+/-	Code	Description
20020917	()	AS	New owner name: ACTV, INC., NEW YORK; : ASSIGNMENT OF ASSIGNORS INTEREST;ASSIGNORS:ULLMAN, CRAIG D.;HARRINGTON, JEFFREY M.;ABATO, MICHAEL R.;AND OTHERS;REEL/FRAME:013301/0737; Effective date: 19990910;



**US2003101232A1 20030529**

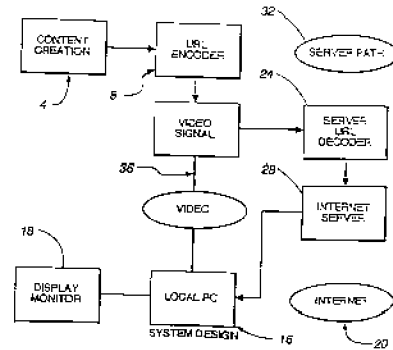
**(ENG) Enhanced video programming system and method for incorporating and displaying retrieved integrated internet information segments**

**Inventor(s):** ULLMAN CRAIG US ; HIDARY JACK D US ; SPIVACK NOVA T US

**Application No:** US 29406802 A

**Filing Date:** 20021113

**Issue/Publication Date:** 20030529



**Abstract:** (ENG) A system for integrating video programming with the vast information resources of the Internet. A computer-based system receives a video program with embedded uniform resource locators (URLs). The URLs, the effective addresses of locations or Web sites on the Internet, are interpreted by the system and direct the system to the Web site locations to retrieve related Web pages. Upon receipt of the Web pages by the system, the Web pages are synchronized to the video content for display. The video program signal can be displayed in a video window on a conventional personal computer screen. The actual retrieved Web pages are time stamped to also be displayed, on another portion of the display screen, when predetermined related video content is displayed in the video window. As an alternative, the computer-based system receives the URLs directly through an Internet connection, at times specified by TV broadcasters in advance. The system interprets the URLs and retrieves the appropriate Web pages. The Web pages are synchronized to the video content for display in conjunction with a television program being broadcast to the user at that time. This alternative system allows the URLs to be entered for live transmission to the user.

**Priority Data:** US 29406802 20021113 A N; US 99857201 20011116 A B Y; US 63334900 20000804 A B Y; US 47238599 19991223 A B Y; US 10994598 19980706 A I Y; US 61514396 19960314 A 2 Y; US 61314496 19960308 A C Y;

**Related Application(s):** 09/633349 20000804 09/472385 19991223<RDA continuation> 09/109945 19980706 6018768 US GRANTED; 08/615143 19960314 5778181 US GRANTED 08/613144 19960308

**IPC (International Class):** G06F01516

**US Class:** 709217; 725086

**Assignments Reported to USPTO:**

**Reel/Frame:** 13498/0390 **Date Signed:** 19980819 **Date Recorded:** 20021113  
**Assignee:** ACTV, INC. 233 PARK AVENUE SOUTH 10TH FLOOR NEW YORK NEW YORK 10003  
**Assignor:** HIDARY, JACK D.; SPIVACK, NOVA T.; ULLMAN, CRAIG  
**Corres. Addr:** JOHN T. KENNEDY, ESQ. REPUBLIC PLAZA BUILDING, SUITE 4700 370 SEVENTEENTH STREET DENVER, CO 80202  
**Brief:** ASSIGNMENT OF ASSIGNORS INTEREST (SEEDOCUMENT FOR DETAILS).

**Legal Status:**

Date	+/-	Code	Description
20021113	()	AS	New owner name: ACTV, INC., NEW YORK; : ASSIGNMENT OF ASSIGNORS INTEREST;ASSIGNORS:HIDARY, JACK D.;SPIVACK, NOVA T.;ULLMAN, CRAIG;REEL/FRAME:013498/0390;SIGNING DATES FROM 19980818 TO 19980908;



**US2003167300A1 20030904**

**(ENG) Enhanced video programming system and method for incorporating and displaying retrieved integrated internet information segments**

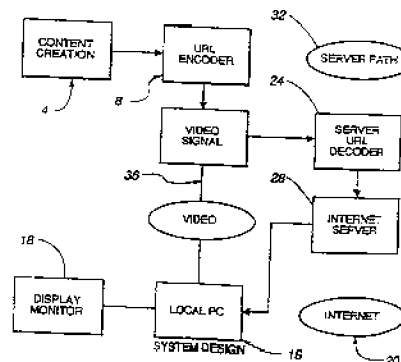
**Assignee:** ACTV INC US

**Inventor(s):** ULLMAN CRAIG US ; HIDARY JACK D US ; SPIVACK NOVA T US

**Application No:** US 29409202 A

**Filing Date:** 20021113

**Issue/Publication Date:** 20030904



**Abstract:** (ENG) A system for integrating video programming with the vast information resources of the Internet. A computer-based system receives a video program with embedded uniform resource locators (URLs). The URLs, the effective addresses of locations or Web sites on the Internet, are interpreted by the system and direct the system to the Web site locations to retrieve related Web pages. Upon receipt of the Web pages by the system, the Web pages are synchronized to the video content for display. The video program signal can be displayed on a video window on a conventional personal computer screen. The actual retrieved Web pages are time stamped to also be displayed, on another portion of the display screen, when predetermined related video content is displayed in the video window. As an alternative, the computer-based system receives the URLs directly through an Internet connection, at times specified by TV broadcasters in advance. The system interprets the URLs and retrieves the appropriate Web pages. The Web pages are synchronized to the video content for display in conjunction with a television program being broadcast to the user at that time. This alternative system allows the URLs to be entered for live transmission to the user.

**Priority Data:** US 29409202 20021113 A N; US 99858801 20011116 A B Y; US 63335900 20000804 A B Y; US 47238599 19991223 A B Y; US 10994598 19980706 A I Y; US 61514396 19960314 A 2 Y; US 61314496 19960308 A C Y;

**Related Application(s):** 10/294092 20021113 09/998588 20011116 ABANDONED 09/998588 20011116 09/633359 20000804 ABANDONED 09/633359 20000804 09/472385 19991223 ABANDONED<RDA continuation> 09/472385 19991223 09/109945 19980706 6018768 US GRANTED; 09/109945 19980706 08/615143 19960314 5778181 US GRANTED<RDA continuation-in-part> 08/615143 19960314 08/613144 19960308 ABANDONED

**IPC (International Class):** G06F01516

**US Class:** 709203; 709245

**Assignments Reported to USPTO:**

**Reel/Frame:** 13498/0513 **Date Signed:** 19980819 **Date Recorded:** 20021113

**Assignee:** ACTV, INC. 233 PARK AVENUE SOUTH 10TH FLOOR NEW YORK NEW YORK 10003

**Assignor:** HIDARY, JACK D.; SPIVACK, NOVA T.; ULLMAN, CRAIG

**Corres. Addr:** JOHN T. KENNEDY, ESQ. REPUBLIC PLAZA BUILDING SUITE 4700 370 SEVENTEENTH STREET DENVER, CO 80202

**Brief:** ASSIGNMENT OF ASSIGNORS INTEREST (SEEDOCUMENT FOR DETAILS).

**Legal Status:**

Date	+/-	Code	Description
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20021113 ( ) AS

New owner name: ACTV, INC., NEW YORK; : ASSIGNMENT OF ASSIGNORS INTEREST;ASSIGNORS:HIDARY, JACK D.;SPIVACK, NOVA T.;ULLMAN, CRAIG;REEL/FRAME:013498/0513;SIGNING DATES FROM 19980818 TO 19980908;

**US2003088674A1 20030508**

(ENG) Enhanced video programming system and method for incorporating and displaying retrieved integrated internet information segments

Assignee: ACTV INC US

Inventor(s): ULLMAN CRAIG US ; HIDARY JACK D US ; SPIVACK NOVA T US

Application No: US 29411902 A

Filing Date: 20021113

Issue/Publication Date: 20030508

**Abstract:** (ENG) A system for integrating video programming with the vast information resources of the Internet. A computer-based system receives a video program with embedded uniform resource locators (URLs). The URLs, the effective addresses of locations or Web sites on the Internet, are interpreted by the system and direct the system to the Web site locations to retrieve related Web pages. Upon receipt of the Web pages by the system, the Web pages are synchronized to the video content for display. The video program signal can be displayed in a video window on a conventional personal computer screen. The actual retrieved Web pages are time stamped to also be displayed, on another portion of the display screen, when predetermined related video content is displayed in the video window. As an alternative, the computer-based system receives the URLs directly through an Internet connection, at times specified by TV broadcasters in advance. The system interprets the URLs and retrieves the appropriate Web pages. The Web pages are synchronized to the video content for display in conjunction with a television program being broadcast to the user at that time. This alternative system allows the URLs to be entered for live transmission to the user.

**Priority Data:** US 29411902 20021113 A N; US 99859201 20011116 A I Y; US 63334700 20000804 A B Y; US 47238599 19991223 A B Y; US 10994598 19980706 A I Y; US 61514396 19960314 A 2 Y; US 61314496 19960308 A C Y;

**Related Application(s):** 09/633347 20000804 09/472385 19991223<RDA continuation> 09/109945 19980706 6018768 US GRANTED; 08/615143 19960314 5778181 US GRANTED 08/613144 19960308

**IPC (International Class):** G06F015173

**US Class:** 709226

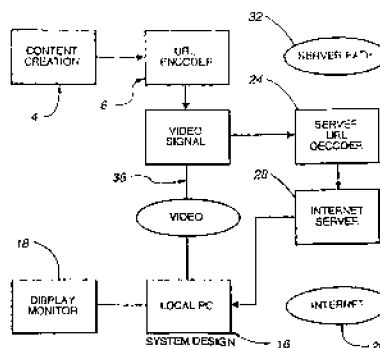
**Assignments Reported to USPTO:**

**Reel/Frame:** 13497/0072 **Date Signed:** 19980819 **Date Recorded:** 20021113

**Assignee:** ACTV, INC. 233 PARK AVENUE SOUTH 10TH FLOOR NEW YORK NEW YORK 10003

**Assignor:** HIDARY, JACK D.; SPIVACK, NOVA T.; ULLMAN, CRAIG

**Corres. Addr:** JOHN T. KENNEDY, ESQ. REPUBLIC PLAZA BUILDING, SUITE 4700 370 SEVENTEENTH STREET DENVER, CO 80202



**Brief:** ASSIGNMENT OF ASSIGNORS INTEREST (SEEDOCUMENT FOR DETAILS).

**Legal Status:**

Date	+/-	Code	Description
20021113	()	AS	New owner name: ACTV, INC., NEW YORK; : ASSIGNMENT OF ASSIGNORS INTEREST;ASSIGNORS:HIDARY, JACK D.;SPIVACK, NOVA T.;ULLMAN, CRAIG;REEL/FRAME:013497/0072;SIGNING DATES FROM 19980818 TO 19980908;

**US2003065719A1 20030403**

(ENG) Enhanced video programming system and method for incorporating and displaying retrieved integrated internet information segments

[ no drawing available]

**Assignee:** ACTV INC US

**Inventor(s):** ULLMAN CRAIG US ; HIDARY JACK D US ; SPIVACK NOVA T US

**Application No:** US 29925302 A

**Filing Date:** 20021118

**Issue/Publication Date:** 20030403

**Abstract:** (ENG) A system for integrating video programming with the vast information resources of the Internet. A computer-based system receives a video program with embedded uniform resource locators (URLs). The URLs, the effective addresses of locations or Web sites on the Internet, are interpreted by the system and direct the system to the Web site locations to retrieve related Web pages. Upon receipt of the Web pages by the system, the Web pages are synchronized to the video content for display. The video program signal can be displayed on a video window on a conventional personal computer screen. The actual retrieved Web pages are time stamped to also be displayed, in another portion of the display screen, when predetermined related video content is displayed in the video window. As an alternative, the computer-based system receives the URLs directly through an Internet connection, at times specified by TV broadcasters in advance. The system interprets the URLs and retrieves the appropriate Web pages. The Web pages are synchronized to the video content for display in conjunction with a television program being broadcast to the user at that time. This alternative system allows the URLs to be entered for live transmission to the user.

**Priority Data:** US 29925302 20021118 A N; US 883501 20011206 A 1 Y; US 63335000 20000804 A B Y; US 47238599 19991223 A B Y; US 10994598 19980706 A 1 Y; US 61514396 19960314 A 2 Y; US 61314496 19960308 A C Y;

**Related Application(s):** 09/633350 20000804 09/472385 19991223<RDA continuation> 09/109945 19980706 6018768 US GRANTED; 08/615143 19960314 5778181 US GRANTED 08/613144 19960308

**IPC (International Class):** H04N007173; G06F01516

**US Class:** 709203; 725087

**Assignments Reported to USPTO:**

**Reel/Frame:** 13513/0065 **Date Signed:** 19980819 **Date Recorded:** 20021118



**Assignee:** ACTV, INC. 233 PARK AVENUE SOUTH 10TH FLOOR NEW YORK NEW YORK 10003

**Assignor:** HIDARY, JACK D.; SPIVACK, NOVA T.; ULLMAN, CRAIG

**Corres. Addr:** JOHN T. KENNEDY, ESQ. REPUBLIC PLAZA BUILDING, SUITE 4700 370  
SEVENTEENTH STREET DENVER, CO 80202

**Brief:** ASSIGNMENT OF ASSIGNORS INTEREST (SEEDOCUMENT FOR DETAILS).

**Legal Status:**

Date	+/-	Code	Description
20021118	()	AS	New owner name: ACTV, INC., NEW YORK; : ASSIGNMENT OF ASSIGNORS INTEREST;ASSIGNORS:HIDARY, JACK D.;SPIVACK, NOVA T.;ULLMAN, CRAIG;REEL/FRAME:013513/0065;SIGNING DATES FROM 19980818 TO 19980908;

**US7409437B2 20080805**  
**US2003084444A1 20030501**

(ENG) Enhanced video programming system and method for incorporating and displaying retrieved integrated Internet information segments

**Assignee:** ACTV INC US

**Inventor(s):** ULLMAN CRAIG US ; HIDARY JACK D US ;  
SPIVACK NOVA T US

**Application No:** US 29933502 A

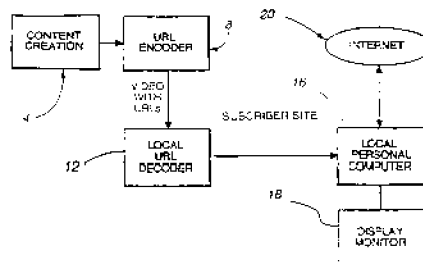
**Filing Date:** 20021118

**Issue/Publication Date:** 20080805

**Abstract:** (ENG) A system for integrating video programming with the vast information resources of the Internet. A computer-based system receives a video program with embedded uniform resource locators (URLs). The URLs, the effective addresses of locations or Web sites on the Internet, are interpreted by the system and direct the system to the Web site locations to retrieve related Web pages. Upon receipt of the Web pages by the system, the Web pages are synchronized to the video content for display. The video program signal can be displayed in a video window on a conventional personal computer screen. The actual retrieved Web pages are time stamped to also be displayed, on another portion of the display screen, when predetermined related video content is displayed in the video window. As an alternative, the computer-based system receives the URLs directly through an Internet connection, at times specified by TV broadcasters in advance. The system interprets the URLs and retrieves the appropriate Web pages. The Web pages are synchronized to the video content for display in conjunction with a television program being broadcast to the user at that time. This alternative system allows the URLs to be entered for live transmission to the user.

**Priority Data:** US 29933502 20021118 A N; US 99859001 20011116 A B Y; US 63335100 20000804 A B Y;  
US 47238599 19991223 A B Y; US 10994598 19980706 A I Y; US 61514396 19960314 A 2 Y;  
US 61314496 19960308 A C Y;

**Related Application(s):** 10/299335 20021118 20030084444 US; 09/998590 20011116 US ABANDONED;  
09/633351 20000804 US ABANDONED; 09/472385 19991223 US ABANDONED;  
09/109945 19980706 6018768 US; 08/615143 19960314 5778181 US; 61/3144  
19960308 US ABANDONED



**IPC (International Class):** G06F01300; H04N005445

**ECLA (European Class):** H04N021235; H04N021239H; H04N021258U3; H04N021262; H04N021435;  
H04N021462S; H04N0218547; H04N021858; H04N021858U

**US Class:** 709219; 709227; 709250; 719329

**Publication Language:** ENG

**Filing Language:** ENG

**Agent(s):** Schwegman, Lundberg & Woessner

**Examiner Primary:** Vu, Vict

**US Post Issuance:**

—US Certificate of Correction: 20081209 20081230 A Certificate of Correction was issued for this patent

**Assignments Reported to USPTO:**

**Reel/Frame:** 13513/0983 **Date Signed:** 19980818 **Date Recorded:** 20021118

**Assignee:** ACTV, INC. 233 PARK AVENUE SOUTH 10TH FLOOR NEW YORK NEW YORK 10003

**Assignor:** HIDARY, JACK D.; SPIVACK, NOVA T.; ULLMAN, CRAIG

**Corres. Addr:** JOHN T. KENNEDY, ESQ. REPUBLIC PLAZA BLDG., STE. 4700 370 SEVENTEENTH STREET DENVER, CO 80202

**Brief:** ASSIGNMENT OF ASSIGNORS INTEREST (SEE DOCUMENT FOR DETAILS).

**Reel/Frame:** 26905/0468 **Date Signed:** 20101207 **Date Recorded:** 20110914

**Assignee:** OPENTV, INC. 275 SACRAMENTO STREET SAN FRANCISCO CALIFORNIA 94111

**Assignor:** ACTV, INC.

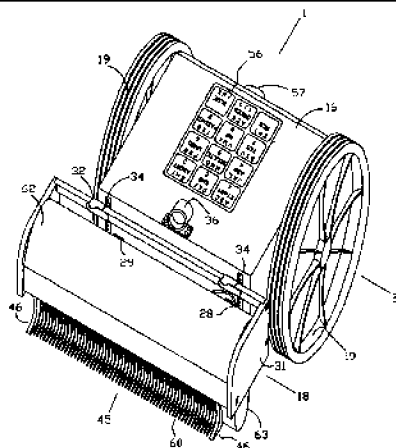
**Corres. Addr:** JOHN D. GUSTAV-WRATHALL 1600 TCF TOWER, 121 S 8TH STREET MINNEAPOLIS, MN 55402

**Brief:** MERGER (SEE DOCUMENT FOR DETAILS).

**Legal Status:**

Date	+/-	Code	Description
20021118	()	AS	New owner name: ACTV, INC., NEW YORK; ; ASSIGNMENT OF ASSIGNORS INTEREST; ASSIGNORS: HIDARY, JACK D.; SPIVACK, NOVA T.; ULLMAN, CRAIG; REEL/FRAME: 013513/0983; SIGNING DATES FROM 19980818 TO 19980908;
20080209	()	EEAY	Year of fee payment: 4;



**US6338013B1 20020108****(ENG) Multifunctional mobile appliance****Inventor(s):** RUFFNER BRYAN JOIN US**Application No:** US 35151099 A**Filing Date:** 19990712**Issue/Publication Date:** 20020108

**Abstract:** (ENG) The invention is a multifunctional, mobile appliance capable of performing a variety of tasks safely, quietly, without pollution, and out of sight of its owner. Such tasks might include lawn mowing, fertilizing, and edging, floor vacuuming, waxing, and polishing, or rug shampooing. In its preferred implementation, the mobile unit 1 would obtain precise real time and position information using the Real Time Kinematic Global Positioning System. The user initially guides the appliance around the work-area perimeters. The device then uses this information to determine the full working area. Proximity detectors and impact sensors help the appliance avoid unexpected obstacles. The device is quiet enough to perform its task in the middle of the night while its owner is asleep, but can be programmed to work continuously or during any user-specified time interval. The small turning radius of the appliance allows it to follow intricate perimeters. In the instance of a mowing application, the cutting blades are surrounded by a cage that allows grass to enter, but excludes sticks, stones, fingers or toes. The mowing blade assembly can trim over the top of yard edging. The battery-powered device can recharge itself and a wireless link enables the appliance to communicate with its user and a user support network via the World Wide Web.

**Priority Data:** US 35151099 19990712 A Y; US 12510599 19990319 P Y;**Related Application(s):** 60/125105 19990319 00**IPC (International Class):** A01D03400; A01B06904**US Class:** 701023; 1800065; 180167; 180169; 180443; 250202; 318581; 318587; 340988; 342457**Agent(s):** Diller, Ramik & Wight**Examiner Primary:** Cuchlinski, Jr., William A.**Examiner Assistant:** To, Tuan C**Legal Status:**

Date	+/-	Code	Description
20050310	()	FPAY	Year of fee payment: 4;
20090417	()	FPAY	Year of fee payment: 8;



**US6513069B1 20030128**

(ENG) Enhanced video programming system and method for providing a distributed community network

Assignee: ACTV INC US

Inventor(s): ABATO MICHAEL R US ; ULLMAN CRAIG D US ; HARRINGTON JEFFREY M US ; DUDA CARL R US

Application No: US 39669399 A

Filing Date: 19990915

Issue/Publication Date: 20030128

**Abstract:** (ENG) A distributed community network for providing services to an arbitrarily large community of end users by distributing the load among many machines. The network uses hubs on the machines for routing packets. The hubs obtain routing instructions from a router and use those instructions for routing the packets. The packets include content for the machines based upon a particular network service, such as a chat service for permitting users to interact in chat rooms or a push/pull service for pushing content to the user machines either directly or based upon information received from the users.

**Priority Data:** US 39669399 19990915 A Y; US 10994598 19980706 A 2 N; US 61514396 19960314 A 2 N; US 61314496 19960308 A C N;

**Related Application(s):** 09/109945 19980706 6018768 US GRANTED; 08/615143 19960314 5778181 US GRANTED; 61/3144 19960308 US ABANDONED

**IPC (International Class):** G06F01300; H04N007081; H04L01228; H04N00708; G06F015173; H04L02906; H04N00724; H04L02908; H04N00500

**ECLA (European Class):** H04L02908N9A; H04L02906C2; H04L02906M2N3; H04L02908A7; H04L02908N15; H04L02908N25; H04N021222; H04N021235; H04N02143S1; H04N021435; H04N021462S; H04N021475V; H04N0214782; H04N021488M; H04N0218547; H04N021858U

**US Class:** 709238; 709218; 709231

**Publication Language:** ENG

**Filing Language:** ENG

**Agent(s):** Dorsey & Whitney LLP

**Examiner Primary:** Vu, Viet D.

**Assignments Reported to USPTO:**

**Reel/Frame:** 10284/0049 **Date Signed:** 19990910 **Date Recorded:** 19990915

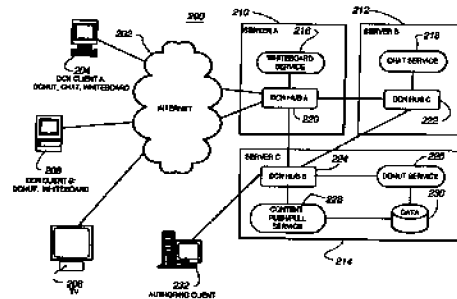
**Assignee:** ACTV, INC. SUITE 2401, ROCKEFELLER CENTER 1270 AVENUE OF THE AMERICAS  
NEW YORK NEW YORK 10020

**Assignor:** ULLMAN, CRAIG D.; HARRINGTON, JEFFREY M.; ABATO, MICHAEL R.; DUDA, CARL R.  
R.

**Corres. Addr:** DORSEY & WHITNEY LLP SCOTT DOYLE 370 SEVENTEENTH STREET SUITE 440  
DENVER, CO 80202-5644

**Brief:** ASSIGNMENT OF ASSIGNORS INTEREST (SEE DOCUMENT FOR DETAILS).

**Reel/Frame:** 26905/0468 **Date Signed:** 20101207 **Date Recorded:** 20110914



**Assignee:** OPENTV, INC. 275 SACRAMENTO STREET SAN FRANCISCO CALIFORNIA 94111

**Assignor:** ACTV, INC.

**Corres. Addr:** JOHN D.GUSTAV-WRATHALL 1600 TCF TOWER, 121 S 8TH STREET  
MINNEAPOLIS, MN 55402

**Brief:** MERGER (SEE DOCUMENT FOR DETAILS).

**Legal Status:**

Date	+/-	Code	Description
19990915	()	AS	New owner name: ACTV, INC., NEW YORK; : ASSIGNMENT OF ASSIGNORS INTEREST;ASSIGNORS:ULLMAN, CRAIG D.;HARRINGTON, JEFFREY M.;ABATO, MICHAEL R.;AND OTHERS;REEL/FRAME:010284/0049; Effective date: 19990910;
20060728	()	FPAY	Year of fee payment: 4;
20100728	()	FPAY	Year of fee payment: 8;

**US2002038383A1 20020328**

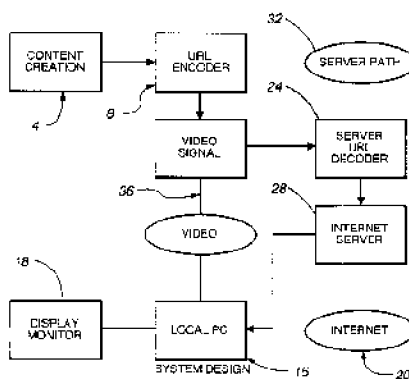
**(ENG) ENHANCED VIDEO PROGRAMMING SYSTEM AND METHOD FOR INCORPORATING AND DISPLAYING RETRIEVED INTEGRATED INTERNET INFORMATION SEGMENTS**

**Inventor(s):** ULLMAN CRAIG US ; HIDARY JACK D US ; SPIVACK NOVA T US

**Application No:** US 47238599 A

**Filing Date:** 19991223

**Issue/Publication Date:** 20020328



**Abstract:** (ENG) A system for integrating video programming with the vast information resources of the Internet. A computer-based system receives a video program with embedded uniform resource locators (URLs). The URLs, the effective addresses of locations or Web sites on the Internet, are interpreted by the system and direct the system to the Web site locations to retrieve related Web pages. Upon receipt of the Web pages by the system, the Web pages are synchronized to the video content for display. The video program signal can be displayed on a video window on a conventional personal computer screen. The actual retrieved Web pages are time stamped to also be displayed, on another portion of the display screen, when predetermined related video content is displayed in the video window. As an alternative, the computer-based system receives the URLs directly through an Internet connection, at times specified by TV broadcasters in advance. The system interprets the URLs and retrieves the appropriate Web pages. The Web pages are synchronized to the video content for display in conjunction with a television program being broadcast to the user at that time. This alternative system allows the URLs to be entered for live transmission to the user.

**Priority Data:** US 47238599 19991223 A Y;

**IPC (International Class):** H04N007088; H04L02908; H04N00724; H04N00716

**US Class:** 709245; 709203; 709218; 725110

**Assignments Reported to USPTO:**



**Reel/Frame:** 12041/0694 **Date Signed:** 19980818 **Date Recorded:** 20010731  
**Assignee:** ACTV, INC. 18TH FLOOR 225 PARK AVENUE SOUTH NEW YORK NEW YORK 10003  
**Assignor:** HIDARY, JACK D.; SPIVACK, NOVA T.; ULLMAN, CRAIG  
**Corres. Addr:** LEE R. OSMAN SUITE 4700 REPUBLIC PLAZA BUILDING 370 SEVENTEENTH  
 STREET DENVER, CO 80202  
**Brief:** ASSIGNMENT OF ASSIGNORS INTEREST (SEE DOCUMENT FOR DETAILS).

**Legal Status:**

Date	+/-	Code	Description
20010731	()	AS	New owner name: ACTV, INC., NEW YORK; : ASSIGNMENT OF ASSIGNORS INTEREST;ASSIGNORS:HIDARY, JACK D.;SPIVACK, NOVA T.;ULLMAN, CRAIG;REEL/FRAME:012041/0694;SIGNING DATES FROM 19980818 TO 19980908;

**US2002049832A1 20020425**

(ENG) Enhanced video programming system and method for incorporating and displaying retrieved integrated internet information segments

[ no drawing available]

**Inventor(s):** ULLMAN CRAIG US ; HIDARY JACK D US ; SPIVACK NOVA T US

**Application No:** US 491201 A

**Filing Date:** 20011102

**Issue/Publication Date:** 20020425

**Abstract:** (ENG) A system for integrating video programming with the vast information resources of the Internet. A computer-based system receives a video program with embedded uniform resource locators (URLs). The URLs, the effective addresses of locations or Web sites on the Internet, are interpreted by the system and direct the system to the Web site locations to retrieve related Web pages. Upon receipt of the Web pages by the system, the Web pages are synchronized to the video content for display. The video program signal can be displayed on a video window on a conventional personal computer screen. The actual retrieved Web pages are time stamped to also be displayed, on another portion of the display screen, when predetermined related video content is displayed in the video window. As an alternative, the computer-based system receives the URLs directly through an Internet connection, at times specified by TV broadcasters in advance. The system interprets the URLs and retrieves the appropriate Web pages. The Web pages are synchronized to the video content for display in conjunction with a television program being broadcast to the user at that time. This alternative system allows the URLs to be entered for live transmission to the user.

**Priority Data:** US 491201 20011102 A N; US 63336000 20000804 A 1 Y; US 47238599 19991223 A 1 Y; US 10994598 19980706 A 1 Y; US 61514396 19960314 A 2 Y; US 61314496 19960308 A C Y;

**Related Application(s):** 09/472385 19991223 09/109945 19980706; 08/615143 19960314<RDA continuation-in-part> 08/613144 19960308

**IPC (International Class):** G06F01516

**US Class:** 709218; 709203





**Assignments Reported to USPTO:**

**Reel/Frame:** 12359/0796 **Date Signed:** 19980819 **Date Recorded:** 20011102  
**Assignee:** ACTV, INC. 18TH FLOOR 225 PARK AVENUE SOUTH NEW YORK NEW YORK 10003  
**Assignor:** HIDARY, JACK D.; SPIVACK, NOVA T.; ULLMAN, CRAIG  
**Corres. Addr:** JOHN T. KENNEDY SUITE 4700 REPUBLIC PLAZA BUILDING 370 SEVENTEENTH STREET DENVER, CO 80202  
**Brief:** ASSIGNMENT OF ASSIGNORS INTEREST (SEE DOCUMENT FOR DETAILS).

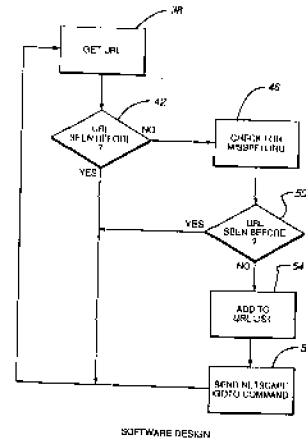
**Legal Status:**

Date	+/-	Code	Description
20011102	()	AS	New owner name: ACTV, INC., NEW YORK; : ASSIGNMENT OF ASSIGNORS INTEREST; ASSIGNORS: HIDARY, JACK D.; SPIVACK, NOVA T.; ULLMAN, CRAIG; REEL./FRAME: 012359/0796; SIGNING DATES FROM 19980818 TO 19980908;

**US2004030759A1 20040212**

(ENG) Enhanced video programming system and method for incorporating and displaying retrieved integrated internet information segments

**Assignee:** ACTV INC US  
**Inventor(s):** HIDARY JACK D US ; SPIVACK NOVA T US ; ULLMAN CRAIG US  
**Application No:** US 60927003 A  
**Filing Date:** 20030626  
**Issue/Publication Date:** 20040212



**Abstract:** (ENG) A system for integrating video programming with the vast information resources of the Internet. A computer-based system receives a video program with embedded uniform resource locators (URLs). The URLs, the effective addresses of locations or Web sites on the Internet, are interpreted by the system and direct the system to the Web site locations to retrieve related Web pages. Upon receipt of the Web pages by the system, the Web pages are synchronized to the video content for display. The video program signal can be displayed on a video window on a conventional personal computer screen. The actual retrieved Web pages are time stamped to also be displayed, on another portion of the display screen, when predetermined related video content is displayed in the video window. As an alternative, the computer-based system receives the URLs directly through an Internet connection, at times specified by TV broadcasters in advance. The system interprets the URLs and retrieves the appropriate Web pages. The Web pages are synchronized to the video content for display in conjunction with a television program being broadcast to the user at that time. This alternative system allows the URLs to be entered for live transmission to the user.

**Priority Data:** US 60927003 20030626 A N; US 47238599 19991223 A B Y; US 10994598 19980706 A 1 Y; US 61514396 19960314 A 2 Y; US 61314496 19960308 A C Y;  
**Related Application(s):** 10/609270 20030626 09/472385 19991223 ABANDONED 09/472385 19991223



09/109945 19980706 6018768 US GRANTED; 09/109945 19980706 08/615143  
 19960314 5778181 US GRANTED<RDA continuation-in-part> 08/615143 19960314  
 08/613144 19960308 ABANDONED

**IPC (International Class):** H04N007173; G06F01516; G06F01300

**US Class:** 709218

**Assignments Reported to USPTO:**

**Reel/Frame:** 14396/0827 **Date Signed:** 19980819 **Date Recorded:** 20030626  
**Assignee:** ACTV, INC. 233 PARK AVENUE SOUTH 10TH FLOOR NEW YORK NEW YORK 10003  
**Assignor:** HIDARY, JACK D.; SPIVACK, NOVA T.; ULLMAN, CRAIG  
**Corres. Addr:** JOHN T. KENNEDY SUITE 4700 REPUBLIC PLAZA BUILDING 370 SEVENTEENTH  
 STREET DENVER, CO 80202  
**Brief:** ASSIGNMENT OF ASSIGNORS INTEREST (SEE DOCUMENT FOR DETAILS).

**Legal Status:**

Date	+/-	Code	Description
20030626	()	AS	New owner name: ACTV, INC., NEW YORK; ; ASSIGNMENT OF ASSIGNORS INTEREST;ASSIGNORS:HIDARY, JACK D.;SPIVACK, NOVA T.;ULLMAN, CRAIG;REEL/FRAME:014396/0827;SIGNING DATES FROM 19980818 TO 19980908;

**US5778181A 19980707**

(ENG) Enhanced video programming system and method for incorporating and displaying retrieved integrated internet information segments

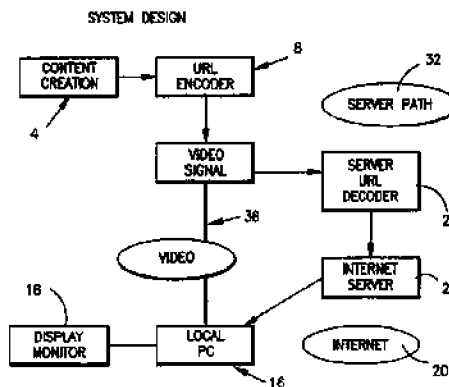
**Assignee:** ACTV INC US

**Inventor(s):** HIDARY JACK D US ; ULLMAN CRAIG US

**Application No:** US 61514396 A

**Filing Date:** 19960314

**Issue/Publication Date:** 19980707



**Abstract:** (ENG) A system for integrating video programming with the vast information resources of the Internet. A computer based system receives a video program with embedded uniform resource locators (URLs). The URLs, the effective addresses of locations or Web sites on the Internet, are interpreted by the system and direct the system to the Web site locations to retrieve related Web pages. Upon receipt of the Web pages by the system, the Web pages are synchronized to the video content for display. The video program signal can be displayed on a video window on a conventional personal computer screen. The actual retrieved Web pages are time stamped to also be displayed, on another portion of the display screen, when predetermined related video content is displayed in the video window.

**Priority Data:** US 61514396 19960314 A N; US 61314496 19960308 A C Y;

**Related Application(s):** 61/3144 19960308 US ABANDONED

**IPC (International Class):** H04N007088; H04N00708; H04L02906; H04N007173



**ECLA (European Class):** H04L02906M6C4; H04L02906; H04L02906M4S4; H04N00708; H04N007088; H04N007173B2; H04N021239H; H04N021258U3; H04N0212665; H04N021462S; H04N0214782; H04N02184; H04N021854; H04N0218547; H04N021858U

**US Class:** 725110; 348E07024; 348E07031; 348E07071; 709219; 725109; 725112

**Publication Language:** ENG

**Filing Language:** ENG

**Agent(s):** Dorsey & Whitney LLP

**Examiner Primary:** Lall, Parshotam S.

**Examiner Assistant:** Vu, Viet

**US Post Issuance:**

—US Litigations: NOTICE OF LITIGATION; NOTICE OF LITIGATION ACTV, Inc., et al v. The Walt Disney Co. , et al, Filed Dec. 19, 2000, D.C. S.D. New York, Doc. No.00 CV 9622; NOTICE OF LITIGATION ACTV, Inc., et al v. The Walt Disney Co. , et al, Filed Sep. 7, 2001, D.C. S.D. New York, Doc. No.01-CV-8402

**Assignments Reported to USPTO:**

**Reel/Frame:** 08875/0607 **Date Signed:** 19971125 **Date Recorded:** 19971215

**Assignee:** ACTV, INC. 1270 AVENUE OF THE AMERICAS, SUITE 2401 ROCKEFELLER CENTER NEW YORK NEW YORK 10020

**Assignor:** EARTHWEB INC.

**Corres. Addr:** DORSEY & WHITNEY LLP SCOTT W. DOYLE 370 SEVENTEENTH ST., SUITE 4400 DENVER, CO 80202

**Brief:** ASSIGNMENT OF ASSIGNORSINTEREST (SEE DOCUMENT FOR DETAILS).

**Reel/Frame:** 10589/0091 **Date Signed:** 19991130 **Date Recorded:** 20000204

**Assignee:** ACTV, INC. ROCKEFELLER CENTER, SUITE 2401 1270 AVENUE OF THE AMERICAS NEW YORK NEW YORK 10020

**Assignor:** HIDARY, JACK D.; ULLMAN, CRAIG

**Corres. Addr:** DORSEY & WHITNEY LLP SCOTT W. DOYLE 370 SEVENTEENTH STREET SUITE 4400 DENVER, CO 80202

**Brief:** ASSIGNMENT OF ASSIGNORSINTEREST (SEE DOCUMENT FOR DETAILS).

**Reel/Frame:** 13269/0225 **Date Signed:** 19961025 **Date Recorded:** 20020906

**Assignee:** EARTH WEB, INC. 3 PARK AVENUE, 38TH FLOOR NEW YORK NEW YORK 10016

**Assignor:** EARTH WEB LLC

**Corres. Addr:** DORSEY & WHITNEY LLP JOHN T. KENNEDY 370 17TH STREET, SUITE 4700 DENVER, CO. 80202-5647

**Brief:** ASSIGNMENT OF ASSIGNORS INTEREST (SEE DOCUMENT FORDETAILS).

**Reel/Frame:** 26905/0468 **Date Signed:** 20101207 **Date Recorded:** 20110914

**Assignee:** OPENTV, INC. 275 SACRAMENTO STREET SAN FRANCISCO CALIFORNIA 94111

**Assignor:** ACTV, INC.

**Corres. Addr:** JOHN D.GUSTAV-WRATHALL 1600 TCF TOWER, 121 S 8TH STREET MINNEAPOLIS, MN 55402



**Brief:** MERGER (SEE DOCUMENT FOR DETAILS).

**Legal Status:**

Date	+/-	Code	Description
19971215	()	AS	New owner name: ACTV, INC., NEW YORK; : ASSIGNMENT OF ASSIGNORS INTEREST;ASSIGNOR:EARTHWEB INC.;REEL/FRAME:008875/0607; Effective date: 19971125;
19971215	()	AS02	ASSIGNMENT OF ASSIGNOR'S INTEREST New owner name: ACTV, INC. 1270 AVENUE OF THE AMERICAS, SUITE 2401; Effective date: 19971125;
19971215	()	AS02	ASSIGNMENT OF ASSIGNOR'S INTEREST New owner name: EARTHWEB INC.; Effective date: 19971125;
19971215	()	AS02	New owner name: ACTV, INC. 1270 AVENUE OF THE AMERICAS, SUITE 2401; Effective date: 19971125;
19971215	()	AS02	New owner name: EARTHWEB INC.; Effective date: 19971125;
20000204	()	AS	ASSIGNMENT New owner name: ACTV, INC. ROCKEFELLER CENTER, SUITE 2401 1270 AVE; : ASSIGNMENT OF ASSIGNORS INTEREST;ASSIGNORS:HIDARY, JACK D.;ULLMAN, CRAIG;REEL/FRAME:010589/0091;SIGNING DATES FROM 19991130 TO 20000105;
20000204	()	AS	New owner name: ACTV, INC., NEW YORK; : ASSIGNMENT OF ASSIGNORS INTEREST;ASSIGNORS:HIDARY, JACK D.;ULLMAN, CRAIG;REEL/FRAME:010589/0091;SIGNING DATES FROM 19991130 TO 20000105;
20000204	()	AS	New owner name: ACTV, INC. ROCKEFELLER CENTER, SUITE 2401 1270 AVE; : ASSIGNMENT OF ASSIGNORS INTEREST;ASSIGNORS:HIDARY, JACK D.;ULLMAN, CRAIG;REEL/FRAME:010589/0091;SIGNING DATES FROM 19991130 TO 20000105;
20011229	()	FPAY	Year of fee payment: 4;
20020906	()	AS	ASSIGNMENT New owner name: EARTH WEB, INC. 3 PARK AVENUE, 38TH FLOORNEW YORK,; : ASSIGNMENT OF ASSIGNORS INTEREST;ASSIGNOR:EARTH WEB LLC /AR;REEL/FRAME:013269/0225; Effective date: 19961025;
20020906	()	AS	New owner name: EARTH WEB, INC., NEW YORK; : ASSIGNMENT OF ASSIGNORS INTEREST;ASSIGNOR:EARTH WEB LLC;REEL/FRAME:013269/0225; Effective date: 19961025;
20020906	()	AS	New owner name: EARTH WEB, INC. 3 PARK AVENUE, 38TH FLOORNEW YORK,; : ASSIGNMENT OF ASSIGNORS INTEREST;ASSIGNOR:EARTH WEB LLC /AR;REEL/FRAME:013269/0225; Effective date: 19961025;
20060109	()	FPAY	Year of fee payment: 8;
20100107	()	FPAY	Year of fee payment: 12;



**US5774664A 19980630**

(ENG) Enhanced video programming system and method for incorporating and displaying retrieved integrated internet information segments

Assignee: ACTV INC US

Inventor(s): HIDARY JACK D US ; ULLMAN CRAIG US ; SPIVACK NOVA T US

Application No: US 62247496 A

Filing Date: 19960325

Issue/Publication Date: 19980630

**Abstract:** (ENG) A system for integrating video programming with the vast information resources of the Internet. A computer-based system receives a video program and uniform resource locators (URLs). The URLs, the effective addresses of locations or Web sites on the Internet, are interpreted by the system and direct the system to the Web site locations to retrieve related Web pages. Web pages related to the video programming appear upon receipt through the user's browser. The video program signal can be displayed on a video window on a conventional personal computer screen. The actual retrieved Web pages can be time stamped to also be displayed, on another portion of the display screen, when predetermined related video content is displayed in the video window. The computer-based system can receive the URLs embedded in the video program or directly through an Internet connection, at times specified by TV broadcasters in advance. The system interprets the URLs and retrieves the appropriate Web pages. The Web pages are synchronized to the video content for display in conjunction with a television program being broadcast to the user at that time. This system allows the URLs to be entered for live transmission to the user.

**Priority Data:** US 62247496 19960325 A N; US 61514396 19960314 A 2 Y; US 61314496 19960308 A C Y;

**Related Application(s):** 08/615143 19960314 US PENDING; 61/3144 19960308 US ABANDONED

**IPC (International Class):** H04N00708; H04L02908; H04L02906; H04N007088; H04N007173

**ECLA (European Class):** H04L02908A7; H04L02906M4S2; H04L02908N1; H04N00708; H04N007088; H04N007173B2; H04N021239H; H04N021258U3; H04N0212665; H04N021462S; H04N0214782; H04N02184; H04N021854; H04N0218547; H04N021858U

**US Class:** 725110; 348E07024; 348E07031; 348E07071; 725109; 725112

**Publication Language:** ENG

**Filing Language:** ENG

**Agent(s):** Dorsey & Whitney LLP

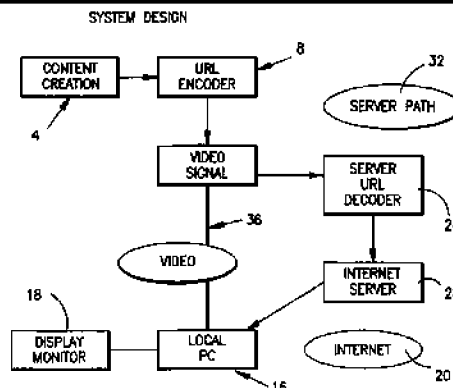
**Examiner Primary:** Lall, Parshotam S.

**Examiner Assistant:** Vu, Viet

**US Post Issuance:**

—US Litigations: NOTICE OF LITIGATION; NOTICE OF LITIGATION ACTV, Inc., et al v. The Walt Disney Co., et al, Filed Dec. 19, 2000, D.C. S.D. New York, Doc. No.00 CV 9622; NOTICE OF LITIGATION ACTV, Inc., et al, v. The Walt Disney Co., et al, Filed Sep. 7, 2001, D.C. S.D. New York, Doc. No.01-CV-8402

**Assignments Reported to USPTO:**



**Reel/Frame:** 08875/0607 **Date Signed:** 19971125 **Date Recorded:** 19971215  
**Assignee:** ACTV, INC. 1270 AVENUE OF THE AMERICAS, SUITE 2401 ROCKEFELLER CENTER  
 NEW YORK NEW YORK 10020

**Assignor:** EARTHWEB INC.

**Corres. Addr:** DORSEY & WHITNEY LLP SCOTT W. DOYLE 370 SEVENTEENTH ST., SUITE 4400  
 DENVER, CO 80202

**Brief:** ASSIGNMENT OF ASSIGNORS INTEREST (SEE DOCUMENT FOR DETAILS).

**Reel/Frame:** 10589/0173 **Date Signed:** 19991103 **Date Recorded:** 20000204  
**Assignee:** ACTV, INC. ROCKEFELLER CENTER, SUITE 2401 1270 AVENUE OF THE AMERICAS  
 NEW YORK NEW YORK 10020

**Assignor:** HIDARY, JACK D.; UIMAN, CRAIG; SPIVACK, NOVA T.

**Corres. Addr:** DORSEY & WHITNEY SCOTT W. DOYLE SUITE 4400 370 SEVENTEENTH STREET  
 DENVER, CO 80202

**Brief:** ASSIGNMENT OF ASSIGNORS INTEREST (SEE DOCUMENT FOR DETAILS).

**Reel/Frame:** 13269/0225 **Date Signed:** 19961025 **Date Recorded:** 20020906  
**Assignee:** EARTH WEB, INC. 3 PARK AVENUE, 38TH FLOOR NEW YORK NEW YORK 10016

**Assignor:** EARTH WEB LLC

**Corres. Addr:** DORSEY & WHITNEY LLP JOHN T. KENNEDY 370 17TH STREET, SUITE 4700  
 DENVER, CO. 80202-5647

**Brief:** ASSIGNMENT OF ASSIGNORS INTEREST (SEE DOCUMENT FOR DETAILS).

**Reel/Frame:** 26905/0468 **Date Signed:** 20101207 **Date Recorded:** 20110914  
**Assignee:** OPENTV, INC. 275 SACRAMENTO STREET SAN FRANCISCO CALIFORNIA 94111

**Assignor:** ACTV, INC.

**Corres. Addr:** JOHN D. GUSTAV-WRATHALL 1600 TCF TOWER, 121 S 8TH STREET  
 MINNEAPOLIS, MN 55402

**Brief:** MERGER (SEE DOCUMENT FOR DETAILS).

#### Legal Status:

Date	+/-	Code	Description
19971215	()	AS	New owner name: ACTV, INC., NEW YORK; : ASSIGNMENT OF ASSIGNORS INTEREST; ASSIGNOR: EARTHWEB INC.; REEL/FRAME: 008875/0607; Effective date: 19971125;
19971215	()	AS02	ASSIGNMENT OF ASSIGNOR'S INTEREST New owner name: ACTV, INC. 1270 AVENUE OF THE AMERICAS, SUITE 2401; Effective date: 19971125;
19971215	()	AS02	ASSIGNMENT OF ASSIGNOR'S INTEREST New owner name: EARTHWEB INC.; Effective date: 19971125;
19971215	()	AS02	New owner name: ACTV, INC. 1270 AVENUE OF THE AMERICAS, SUITE 2401; Effective date: 19971125;
19971215	()	AS02	New owner name: EARTHWEB INC.; Effective date: 19971125;
20000204	()	AS	ASSIGNMENT New owner name: ACTV, INC. ROCKEFELLER CENTER, SUITE 2401 1270 AVE; : ASSIGNMENT OF ASSIGNORS INTEREST; ASSIGNORS: HIDARY, JACK D.; UIMAN, CRAIG; SPIVACK, NOVA T.; REEL/FRAME: 010589/0173; SIGNING DATES FROM 19991103 TO 20000105;



20000204	()	AS	New owner name: ACTV, INC., NEW YORK; : ASSIGNMENT OF ASSIGNORS INTEREST;ASSIGNORS:HIDARY, JACK D.;UIMAN, CRAIG;SPIVACK, NOVA T.;REEL/FRAME:010589/0173;SIGNING DATES FROM 19991103 TO 20000105;
20000204	()	AS	New owner name: ACTV, INC. ROCKEFELLER CENTER, SUITE 2401 1270 AVE; : ASSIGNMENT OF ASSIGNORS INTEREST;ASSIGNORS:HIDARY, JACK D.;UIMAN, CRAIG;SPIVACK, NOVA T.;REEL/FRAME:010589/0173;SIGNING DATES FROM 19991103 TO 20000105;
20011206	()	FPAY	Year of fee payment: 4;
20020906	()	AS	ASSIGNMENT New owner name: EARTH WEB, INC. 3 PARK AVENUE, 38TH FLOORNEW YORK,; : ASSIGNMENT OF ASSIGNORS INTEREST;ASSIGNOR:EARTH WEB LLC /AR;REEL/FRAME:013269/0225; Effective date: 19961025;
20020906	()	AS	New owner name: EARTH WEB, INC., NEW YORK; : ASSIGNMENT OF ASSIGNORS INTEREST;ASSIGNOR:EARTH WEB LLC;REEL/FRAME:013269/0225; Effective date: 19961025;
20020906	()	AS	New owner name: EARTH WEB, INC. 3 PARK AVENUE, 38TH FLOORNEW YORK,; : ASSIGNMENT OF ASSIGNORS INTEREST;ASSIGNOR:EARTH WEB LLC /AR;REEL/FRAME:013269/0225; Effective date: 19961025;
20051230	()	FPAY	Year of fee payment: 8;
20091230	()	FPAY	Year of fee payment: 12;

**US6330595B1 20011211**

(ENG) Enhanced video programming system and method for incorporating and displaying retrieved integrated internet information segments

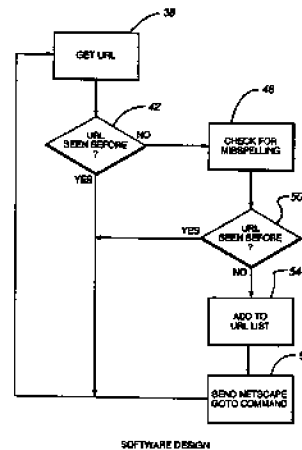
Assignee: ACTV INC US

Inventor(s): UIMAN CRAIG US ; HIDARY JACK D US ; SPIVACK NOVA T US

Application No: US 63334800 A

Filing Date: 20000804

Issue/Publication Date: 20011211



**Abstract:** (ENG) A system for integrating video programming with the vast information resources of the Internet. A computer-based system receives a video program with embedded uniform resource locators (URLs). The URLs, the effective addresses of locations or Web sites on the Internet, are interpreted by the system and direct the system to the Web site locations to retrieve related Web pages. Upon receipt of the Web pages by the system, the Web pages are synchronized to the video content for display. The video program signal can be displayed on a video window on a conventional personal computer screen. The actual retrieved Web pages are time stamped to also be displayed, on another portion of the display



screen, when predetermined related video content is displayed in the video window. As an alternative, the computer-based system receives the URLs directly through an Internet connection, at times specified by TV broadcasters in advance. The system interprets the URLs and retrieves the appropriate Web pages. The Web pages are synchronized to the video content for display in conjunction with a television program being broadcast to the user at that time. This alternative system allows the URLs to be entered for live transmission to the user.

**Priority Data:** US 63334800 20000804 A N; US 47238599 19991223 A 1 Y; US 10994598 19980706 A 1 Y; US 61514396 19960314 A 2 Y; US 61314496 19960308 A C Y;

**Related Application(s):** 09/472385 19991223 US PENDING; 09/109945 19980706 6018768 US GRANTED; 08/615143 19960314 5778181 US GRANTED; 61/3144 19960308 US ABANDONED

**IPC (International Class):** H04N007173; G06F01516; G06F01300

**ECLA (European Class):** H04N021235; H04N021258U3; H04N021262; H04N021435; H04N021462S; H04N0214722; H04N0218547; H04N021858; H04N021858U

**US Class:** 709219; 719329

**Publication Language:** ENG

**Filing Language:** ENG

**Agent(s):** Dorsey & Whitney LLP

**Examiner Primary:** Vu, Viet D.

**Assignments Reported to USPTO:**

**Reel/Frame:** 11062/0989 **Date Signed:** 19980818 **Date Recorded:** 20000804

**Assignee:** ACTV, INC. SUITE 2401 1270 AVENUE OF THE AMERICAS NEW YORK NEW YORK 10020

**Assignor:** HIDARY, JACK D.; SPIVACK, NOVA T.; ULLMAN, CRAIG

**Corres. Addr:** DORSEY & WHITNEY LLP SCOTT W. DOYLE 370 SEVENTEENTH ST., SUITE 4400 DENVER, CO 80202

**Brief:** ASSIGNMENT OF ASSIGNORS INTEREST (SEE DOCUMENT FOR DETAILS).

**Reel/Frame:** 12041/0694 **Date Signed:** 19980818 **Date Recorded:** 20010731

**Assignee:** ACTV, INC. 18TH FLOOR 225 PARK AVENUE SOUTH NEW YORK NEW YORK 10003

**Assignor:** HIDARY, JACK D.; SPIVACK, NOVA T.; ULLMAN, CRAIG

**Corres. Addr:** LEE R. OSMAN SUITE 4700 REPUBLIC PLAZA BUILDING 370 SEVENTEENTH STREET DENVER, CO 80202

**Brief:** ASSIGNMENT OF ASSIGNORS INTEREST (SEE DOCUMENT FOR DETAILS).

**Reel/Frame:** 26905/0468 **Date Signed:** 20101207 **Date Recorded:** 20110914

**Assignee:** OPENTV, INC. 275 SACRAMENTO STREET SAN FRANCISCO CALIFORNIA 94111

**Assignor:** ACTV, INC.

**Corres. Addr:** JOHN D. GUSTAV-WRATHALL 1600 TCF TOWER, 121 S 8TH STREET MINNEAPOLIS, MN 55402

**Brief:** MERGER (SEE DOCUMENT FOR DETAILS).

**Legal Status:**

Date	+/-	Code	Description
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20000804	()	AS	ASSIGNMENT New owner name: ACTV, INC. SUITE 2401 1270 AVENUE OF THE AMERICAS; : ASSIGNMENT OF ASSIGNORS INTEREST;ASSIGNORS:HIDARY, JACK D.;SPIVACK, NOVA T.;ULLMAN, CRAIG;REEL/FRAME:011062/0989;SIGNING DATES FROM 19980818 TO 19980908;
20000804	()	AS	New owner name: ACTV, INC., NEW YORK; : ASSIGNMENT OF ASSIGNORS INTEREST;ASSIGNORS:HIDARY, JACK D.;SPIVACK, NOVA T.;ULLMAN, CRAIG;REEL/FRAME:011062/0989;SIGNING DATES FROM 19980818 TO 19980908;
20000804	()	AS	New owner name: ACTV, INC. SUITE 2401 1270 AVENUE OF THE AMERICAS; : ASSIGNMENT OF ASSIGNORS INTEREST;ASSIGNORS:HIDARY, JACK D.;SPIVACK, NOVA T.;ULLMAN, CRAIG;REEL/FRAME:011062/0989;SIGNING DATES FROM 19980818 TO 19980908;
20010731	()	AS	ASSIGNMENT New owner name: ACTV, INC. 18TH FLOOR 225 PARK AVENUE SOUTH NEW YO; : ASSIGNMENT OF ASSIGNORS INTEREST;ASSIGNORS:HIDARY, JACK D.;SPIVACK, NOVA T.;ULLMAN, CRAIG;REEL/FRAME:012041/0694;SIGNING DATES FROM 19980818 TO 19980908;
20010731	()	AS	ASSIGNMENT New owner name: ACTV, INC. 18TH FLOOR 225 PARK AVENUE SOUTHNEW YOR; : ASSIGNMENT OF ASSIGNORS INTEREST;ASSIGNORS:HIDARY, JACK D. /AR;REEL/FRAME:012041/0694;SIGNING DATESFROM 19980818 TO 19980908;
20010731	()	AS	New owner name: ACTV, INC., NEW YORK; : ASSIGNMENT OF ASSIGNORS INTEREST;ASSIGNORS:HIDARY, JACK D.;SPIVACK, NOVA T.;ULLMAN, CRAIG;REEL/FRAME:012041/0694;SIGNING DATES FROM 19980818 TO 19980908;
20010731	()	AS	New owner name: ACTV, INC. 18TH FLOOR 225 PARK AVENUE SOUTH NEW YO; : ASSIGNMENT OF ASSIGNORS INTEREST;ASSIGNORS:HIDARY, JACK D.;SPIVACK, NOVA T.;ULLMAN, CRAIG;REEL/FRAME:012041/0694;SIGNING DATES FROM 19980818 TO 19980908;
20010731	()	AS	New owner name: ACTV, INC. 18TH FLOOR 225 PARK AVENUE SOUTHNEW YOR; : ASSIGNMENT OF ASSIGNORS INTEREST;ASSIGNORS:HIDARY, JACK D. /AR;REEL/FRAME:012041/0694;SIGNING DATESFROM 19980818 TO 19980908;
20050613	()	FPAY	Year of fee payment: 4;
20090611	()	FPAY	Year of fee payment: 8;



US7243139B2 20070710  
 US7243139B2 20070710  
 US2004236865A1 20041125

(ENG) Enhanced video programming system and method for incorporating and displaying retrieved integrated Internet information segments

Assignee: OPEN TV CORP US

Inventor(s): ULLMAN CRAIG US ; HIDARY JACK D US ; SPIVACK NOVA T US

Application No: US 76135104 A

Filing Date: 20040122

Issue/Publication Date: 20070710

**Abstract:** (ENG) A system for integrating video programming with the vast information resources of the Internet. A computer-based system receives a video program with embedded uniform resource locators (URLs). The URLs, the effective addresses of locations or Web sites on the Internet, are interpreted by the system and direct the system to the Web site locations to retrieve related Web pages. Upon receipt of the Web pages by the system, the Web pages are synchronized to the video content for display. The video program signal can be displayed in a video window on a conventional personal computer screen. The actual retrieved Web pages are time stamped to also be displayed, on another portion of the display screen, when predetermined related video content is displayed in the video window. As an alternative, the computer-based system receives the URLs directly through an Internet connection, at times specified by TV broadcasters in advance. The system interprets the URLs and retrieves the appropriate Web pages. The Web pages are synchronized to the video content for display in conjunction with a television program being broadcast to the user at that time. This alternative system allows the URLs to be entered for live transmission to the user.

**Priority Data:** US 76135104 20040122 A N; US 29411902 20021113 A B Y; US 99859201 20011116 A B Y; US 63334700 20000804 A B Y; US 47238599 19991223 A B Y; US 10994598 19980706 A 1 Y; US 61514396 19960314 A 1 Y; US 61314496 19960308 A B Y;

**Related Application(s):** 10/761351 20040122 20040236865 US; 10/294119 20021113 US ABANDONED; 09/998592 20011116 US ABANDONED; 09/633347 20000804 US ABANDONED; 09/472385 19991223 US ABANDONED; 09/109945 19980706 6018768 US; 08/615143 19960314 5778181 US; 61/3144 19960308 US ABANDONED

**IPC (International Class):** G06F01300; G06F01516

**ECLA (European Class):** H04N021235; H04N021258U3; H04N021262; H04N021435; H04N021462S; H04N0218547; H04N021858; H04N021858U

**US Class:** 709219; 709250; 719328

**Publication Language:** ENG

**Filing Language:** ENG

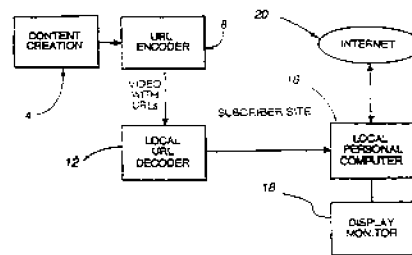
**Agent(s):** Kaufman, Marc S.; Nixon Peabody, LLP

**Examiner Primary:** Vu, Viet D.

**Assignments Reported to USPTO:**

Reel/Frame: 26905/0468 Date Signed: 20101207 Date Recorded: 20110914

Assignee: OPENTV, INC. 275 SACRAMENTO STREET SAN FRANCISCO CALIFORNIA 94111



**Assignor:** ACTV, INC.

**Corres. Addr:** JOHN D.GUSTAV-WRATHALL, 1600 TCF TOWER, 121 S 8TH STREET  
MINNEAPOLIS, MN 55402

**Brief:** MERGER (SEE DOCUMENT FOR DETAILS).

**Legal Status:**

Date	+/-	Code	Description
20110110	()	FPAY	Year of fee payment: 4;

**US2004205822A1 20041014**

(ENG) Enhanced video programming system and method for incorporating and displaying retrieved intergrated Internet information segments

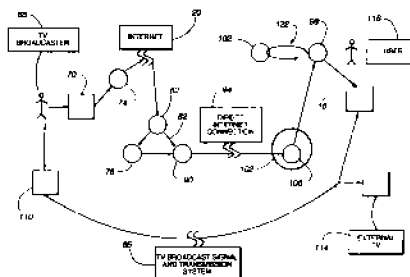
**Assignee:** ACTV INC US

**Inventor(s):** ULLMAN CRAIG US ; HIDARY JACK D US ; SPIVACK NOVA T US

**Application No:** US 77964604 A

**Filing Date:** 20040218

**Issue/Publication Date:** 20041014



**Abstract:** (ENG) A system for integrating video programming with the vast information resources of the Internet. A computer-based system receives a video program with embedded uniform resource locators (URLs). The URLs, the effective addresses of locations or Web sites on the Internet, are interpreted by the system and direct the system to the Web site locations to retrieve related Web pages. Upon receipt of the Web pages by the system, the Web pages are synchronized to the video content for display. The video program signal can be displayed on a video window on a conventional personal computer screen. The actual retrieved Web pages are time stamped to also be displayed, on another portion of the display screen, when predetermined related video content is displayed in the video window. As an alternative, the computer-based system receives the URLs directly through an Internet connection, at times specified by TV broadcasters in advance. The system interprets the URLs and retrieves the appropriate Web pages. The Web pages are synchronized to the video content for display in conjunction with a television program being broadcast to the user at that time. This alternative system allows the URLs to be entered for live transmission to the user.

**Priority Data:** US 77964604 20040218 A N; US 491201 20011102 A B Y; US 63336000 20000804 A B Y; US 47238599 19991223 A B Y; US 10994598 19980706 A I Y; US 61514396 19960314 A I Y; US 61314496 19960308 A B Y;

**Related Application(s):** 10/779646 20040218 10/004912 20011102 ABANDONED 10/004912 20011102 09/633360 20000804 ABANDONED 09/633360 20000804 09/472385 19991223 ABANDONED<RDA continuation> 09/472385 19991223 09/109945 19980706 6018768 US GRANTED 09/109945 19980706 08/615143 19960314 5778181 US GRANTED 08/615143 19960314 08/613144 19960308 ABANDONED

**IPC (International Class):** H04N007173; H04N00716

**US Class:** 725087; 725141

**Legal Status:** There is no Legal Status information available for this patent



**US2002042813A1 20020411**

**(ENG) Enhanced video programming system and method for incorporating and displaying retrieved integrated internet information segments**

[ no drawing available]

**Inventor(s):** ULLMAN CRAIG US ; HIDARY JACK D US ; SPIVACK NOVA T US

**Application No:** US 883501 A

**Filing Date:** 20011206

**Issue/Publication Date:** 20020411

**Abstract:** (ENG) A system for integrating video programming with the vast information resources of the Internet. A computer-based system receives a video program with embedded uniform resource locators (URLs). The URLs, the effective addresses of locations or Web sites on the Internet, are interpreted by the system and direct the system to the Web site locations to retrieve related Web pages. Upon receipt of the Web pages by the system, the Web pages are synchronized to the video content for display. The video program signal can be displayed on a video window on a conventional personal computer screen. The actual retrieved Web pages are time stamped to also be displayed, on another portion of the display screen, when predetermined related video content is displayed in the video window. As an alternative, the computer-based system receives the URLs directly through an Internet connection, at times specified by TV broadcasters in advance. The system interprets the URLs and retrieves the appropriate Web pages. The Web pages are synchronized to the video content for display in conjunction with a television program being broadcast to the user at that time. This alternative system allows the URLs to be entered for live transmission to the user.

**Priority Data:** US 883501 20011206 A N; US 63335000 20000804 A 1 Y; US 47238599 19991223 A 1 Y; US 10994598 19980706 A 1 Y; US 61514396 19960314 A 2 Y; US 61314496 19960308 A C Y;

**Related Application(s):** 09/472385 19991223 09/109945 19980706; 08/615143 19960314<RDA continuation-in-part> 08/613144 19960308

**IPC (International Class):** G06F01516

**US Class:** 709203; 705014; 725060

**Assignments Reported to USPTO:**

**Reel/Frame:** 12379/0048 **Date Signed:** 19980819 **Date Recorded:** 20011206

**Assignee:** ACTV, INC. 18TH FLOOR 225 PARK AVENUE SOUTH NEW YORK NEW YORK 10003

**Assignor:** HIDARY, JACK D.; SPIVACK, NOVA T.; ULLMAN, CRAIG

**Corres. Addr:** LEE R. OSMAN 370 SEVENTEENTH STREET, SUITE 4700 REPUBLIC PLAZA BUILDING DENVER, CO 80202

**Brief:** ASSIGNMENT OF ASSIGNORS INTEREST (SEE DOCUMENT FOR DETAILS).

**Legal Status:**

Date	+/-	Code	Description
20011206	()	AS	New owner name: ACTV, INC., NEW YORK; : ASSIGNMENT OF ASSIGNORS INTEREST;ASSIGNORS:HIDARY, JACK D.;SPIVACK, NOVA T.;ULLMAN, CRAIG;REEL/FRAME:012379/0048;SIGNING DATES FROM 19980818 TO 19980908;



**US2001037376A1 20011101**

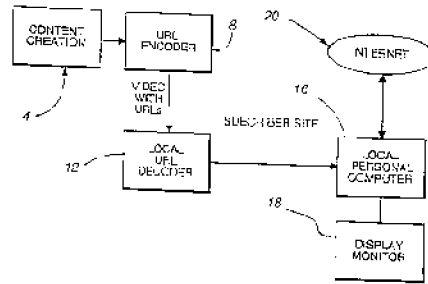
**(ENG) Enhanced video programming system and method for incorporating and displaying retrieved integrated internet information segments**

**Inventor(s):** ULLMAN CRAIG US ; HIDARY JACK D US ; SPIVACK NOVA T US

**Application No:** US 88787601 A

**Filing Date:** 20010622

**Issue/Publication Date:** 20011101



**Abstract:** (ENG) A system for integrating video programming with the vast information resources of the Internet. A computer-based system receives a video program with embedded uniform resource locators (URLs). The URLs, the effective addresses of locations or Web sites on the Internet, are interpreted by the system and direct the system to the Web site locations to retrieve related Web pages. Upon receipt of the Web pages by the system, the Web pages are synchronized to the video content for display. The video program signal can be displayed on a video window on a conventional personal computer screen. The actual retrieved Web pages are time stamped to also be displayed, on another portion of the display screen, when predetermined related video content is displayed in the video window. As an alternative, the computer-based system receives the URLs directly through an Internet connection, at times specified by TV broadcasters in advance. The system interprets the URLs and retrieves the appropriate Web pages. The Web pages are synchronized to the video content for display in conjunction with a television program being broadcast to the user at that time. This alternative system allows the URLs to be entered for live transmission to the user.

**Priority Data:** US 88787601 20010622 A N; US 63334800 20000804 A 1 Y; US 47238599 19991223 A 1 Y; US 10994598 19980706 A 1 Y; US 61514396 19960314 A 2 Y; US 61314496 19960308 A C Y;

**Related Application(s):** 09/472385 19991223 09/109945 19980706 6018768 US GRANTED; 08/615143 19960314 5778181 US GRANTED 08/613144 19960308

**IPC (International Class):** H04N007173; H04N00716; G06F01516

**US Class:** 709218; 709219; 725112; 725136

**Assignments Reported to USPTO:**

**Reel/Frame:** 12041/0694 **Date Signed:** 19980818 **Date Recorded:** 20010731

**Assignee:** ACTV, INC. 18TH FLOOR 225 PARK AVENUE SOUTH NEW YORK NEW YORK 10003

**Assignor:** HIDARY, JACK D.; SPIVACK, NOVA T.; ULLMAN, CRAIG

**Corres. Addr:** LEE R. OSMAN SUITE 4700 REPUBLIC PLAZA BUILDING 370 SEVENTEENTH STREET DENVER, CO 80202

**Brief:** ASSIGNMENT OF ASSIGNORS INTEREST (SEE DOCUMENT FOR DETAILS).

**Legal Status:**

Date	+/-	Code	Description
20010731	()	AS	New owner name: ACTV, INC., NEW YORK; : ASSIGNMENT OF ASSIGNORS INTEREST;ASSIGNORS:HIDARY, JACK D.;SPIVACK, NOVA T.;ULLMAN, CRAIG;REEL/FRAME:012041/0694;SIGNING DATES FROM 19980818 TO 19980908;



**WO9733434A1 19970912**

**(ENG) AN INTEGRATED INTERACTIVE VIDEO AND INTERNET SYSTEM**

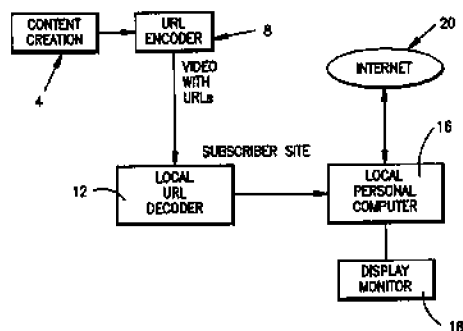
**Assignee:** ACTV INC US

**Inventor(s):** HIDARY JACK D US ; ULLMAN CRAIG US ; SPIVACK NOVA T US

**Application No:** US 9703525 W

**Filing Date:** 19970307

**Issue/Publication Date:** 19970912



**Abstract:** (ENG) A system for integrating video programming with the vast information resources of the Internet (20). A computer-based system (16, 114) receives a video program and uniform resource locators (URLs). The URLs are interpreted by the system (12) to direct the system to the Web site locations to retrieve related Web pages (98). The video program signal can be displayed on a video window on a conventional personal computer screen (18). The actual retrieved Web pages can be time stamped and displayed, on another portion of the display screen (18), when predetermined related video content is displayed in the video window. The computer-based system can receive the URLs embedded in the video program (86) or directly through an Internet connection (94), at times specified by TV broadcasters in advance.

**Priority Data:** US 61314496 19960308 A Y; US 61514396 19960314 A Y; US 62247496 19960325 A Y;

**IPC (International Class):** H04N007088; H04N00708; H04L02906; H04N007173; H04N00716

**ECLA (European Class):** H04L02906; H04N00708; H04N007088; H04N007173B2

**Designated Countries:**

—Designated States: (national) AL AM AT AU AZ BA BB BG BR BY CA CH CN CU CZ DE DK EE ES FI GB GE GH HU IL IS JP KE KG KP KR KZ LC LK LR LS LT LU LV MD MG MK MN MW MX NO NZ PL PT RO RU SD SE SG SI SK TJ TM TR TT UA UG US UZ VN YU AM AZ BY KG KZ MD RU TJ TM

—Regional Treaties: (ARIPO) AP GH KE LS MW SD SZ UG

—EPO Extension States: (EPO) EP AT BE CH DE DK ES FI FR GB GR IE IT LU MC NL PT SE

—Elected States (PCT): (OAPI) OA BF

**Publication Language:** ENG

**Filing Language:** ENG

**Agent(s):** WEILACHER, Robert, G, Beveridge, DeGrandi, Weilacher & Young, L.L. P., Suite 800, 1850 M Street, N.W., Washington, DC 20036, US US

**Legal Status:**

Date	+/-	Code	Description
19970912		AK	DESIGNATED STATES Kind code of corresponding patent document: A1; List of designated states: AL AM AT AU AZ BA BB BG BR BY CA CH CN CU CZ DE DK EE ES FI GB GE GH HU IL IS JP KE KG KP KR KZ LC LK LR LS LT LU LV MD MG MK MN MW MX NO NZ PL PT RO RU SD SE SG SI SK TJ TM TR TT UA UG US UZ VN YU AM AZ BY KG KZ MD RU TJ TM;
19970912		AL	DESIGNATED COUNTRIES FOR REGIONAL PATENTS Kind code of corresponding patent document: A1; List of designated states: GH KE LS MW SD SZ UG AT BE CH DE DK ES FI FR GB GR IE IT LU MC NL PT SE BF;



19971120	( )	DFPE	REQUEST FOR PRELIMINARY EXAMINATION FILED PRIOR TO EXPIRATION OF 19TH MONTH FROM PRIORITY DATE (PCT APPLICATION FILED BEFORE 20040101)
19971203	( )	121	EP: THE EPO HAS BEEN INFORMED BY WIPO THAT EP WAS DESIGNATED IN THIS APPLICATION
19980911		WWE	WIPO INFORMATION: ENTRY INTO NATIONAL PHASE Corresponding patent document: 1997908915; Country code of corresponding patent document: EP;
19981204	( )	NENP	NON-ENTRY INTO THE NATIONAL PHASE IN: Corresponding country code for PRS Code (EP REG): JP; Corresponding patent document: 97531942;
19981223		WWP	WIPO INFORMATION: PUBLISHED IN NATIONAL OFFICE Corresponding patent document: 1997908915; Country code of corresponding patent document: EP;
19990114	( )	REG	REFERENCE TO NATIONAL CODE Corresponding country code for PRS Code (EP REG): DE; Corresponding EP Code 1 for PRS Code (EP REG): 8642;
19990830	( )	ENP	ENTRY INTO THE NATIONAL PHASE IN: Corresponding country code for PRS Code (EP REG): CA; Corresponding patent document: 2282299; Kind code of corresponding patent document: A;
20010808		WWG	WIPO INFORMATION: GRANT IN NATIONAL OFFICE Corresponding patent document: 1997908915; Country code of corresponding patent document: EP;

**US6611738B2 20030826**  
**US2002156556A1 20021024**

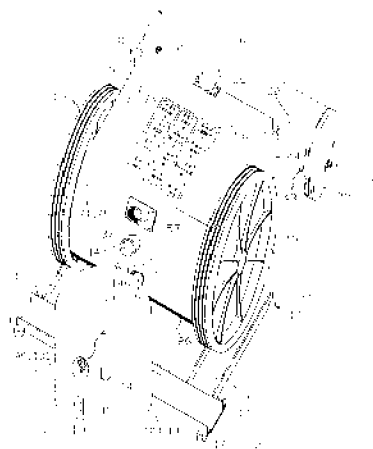
**(ENG) Multifunctional mobile appliance**

**Inventor(s):** RUFFNER BRYAN J US

**Application No:** US 98859201 A

**Filing Date:** 20011120

**Issue/Publication Date:** 20030826



**Abstract:** (ENG) A user can place the multifunctional mobile appliance in a work area bounded by a set of impulse radio, or GPS, transceivers. The appliance independently and accurately maps the work area and proceeds to perform one or more tasks over that area, as directed by the user. These tasks include, but are not limited to, mowing, vacuuming, scrubbing, waxing, and polishing. The user may control, through the World Wide Web, what tasks are performed where and when. Both the user and the appliance can make use of services that are provided on the Internet to enhance the performance of the appliance. The appliance is safe, silent, self-sufficient, nimble, and non-polluting. It is equipped with sensors to enable it to avoid obstacles and other less than optimal operating conditions.



**Priority Data:** US 98859201 20011120 A Y; US 35151099 19990712 A 2 N;

**Related Application(s):** 09/351510 19990712 6338013 US A GRANTED (PATENT)

**IPC (International Class):** G01S01927; G01S00102; A01D03400; A01B06904; G01S00502; G05D00102; G01S00512; G01S00514; G01S01941; G01S01943

**US Class:** 701023; 701213; 701209; 34235706; 34235717; 05601020A; 05601020F; 318581

**Agent(s):** Diller, Ramik & Wight

**Examiner Primary:** Black, Thomas G.

**Examiner Assistant:** To, Tuan C

**Legal Status:**

Date	+/-	Code	Description
20061103	()	FPAY	Year of fee payment: 4;
20101110	()	FPAY	Year of fee payment: 8;

**US6650975B2 20031118**  
**US2002049521A1 20020425**

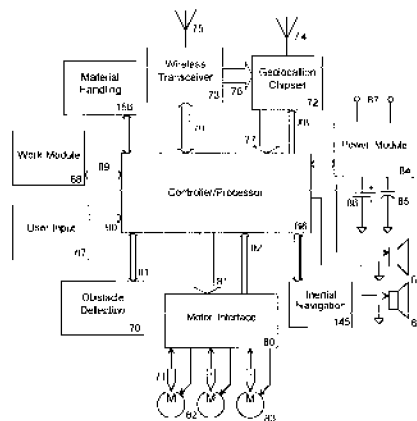
**(ENG) Multifunctional mobile appliance**

**Inventor(s):** RUFFNER BRYAN JOHN US

**Application No:** US 98863701 A

**Filing Date:** 20011120

**Issue/Publication Date:** 20031118



**Abstract:** (ENG) The invention is a multifunctional, mobile appliance capable of performing a variety of tasks safely, quietly, without pollution, and out of sight of its owner. Such tasks might include lawn mowing, fertilizing, and edging, floor vacuuming, waxing, and polishing, or rug shampooing. In its preferred implementation, the mobile unit 1 would obtain precise real time and position information using the Real Time Kinematic Global Positioning System. The user initially guides the appliance around the work-area perimeters. The device then uses this information to determine the full working area. Proximity detectors and impact sensors help the appliance avoid unexpected obstacles. The device is quiet enough to perform its task in the middle of the night while its owner is asleep, but can be programmed to work continuously or during any user-specified time interval. The small turning radius of the appliance allows it to follow intricate perimeters.

**Priority Data:** US 98863701 20011120 A N; US 35151099 19990712 A 3 Y; US 12510599 19990319 P Y;

**Related Application(s):** 09/351510 19990712 6338013 US A GRANTED (PATENT); 60/125105 19990319 00

**IPC (International Class):** A01D03400; A01B06904

**US Class:** 701023; 701002; 701209; 34235715; 05601020A; 05601020F





**Agent(s):** Diller, Ramik & Wight

**Examiner Primary:** Black, Thomas G.

**Examiner Assistant:** To, Tuan C

**Legal Status:**

Date	+/-	Code	Description
20061212	()	FPAY	Year of fee payment: 4;
20110502	()	FPAY	Year of fee payment: 8;

**US6502017B2 20021231**  
**US2002049522A1 20020425**

**(ENG) Multifunctional mobile appliance**

**Inventor(s):** RUFFNER BRYAN JOHN US

[ no drawing available]

**Application No:** US 98864101 A

**Filing Date:** 20011120

**Issue/Publication Date:** 20021231

**Abstract:** (ENG) The invention is a multifunctional, mobile appliance capable of performing a variety of tasks safely, quietly, without pollution, and out of sight of its owner. Such tasks might include lawn mowing, fertilizing, and edging, floor vacuuming, waxing, and polishing, or rug shampooing. In its preferred implementation, the mobile unit 1 would obtain precise real time and position information using the Real Time Kinematic Global Positioning System. The user initially guides the appliance around the work-area perimeters. The device then uses this information to determine the full working area. Proximity detectors and impact sensors help the appliance avoid unexpected obstacles. The device is quiet enough to perform its task in the middle of the night while its owner is asleep, but can be programmed to work continuously or during any user-specified time interval. The small turning radius of the appliance allows it to follow intricate perimeters. In the instance of a mowing application, the cutting blades are surrounded by a cage that allows grass to enter, but excludes sticks, stones, fingers or toes. The mowing blade assembly can trim over the top of yard edging. The battery-powered device can recharge itself and a wireless link enables the appliance to communicate with its user and a user support network via the World Wide Web.

**Priority Data:** US 98864101 20011120 A N; US 35151099 19990712 A 3 Y; US 12510599 19990319 P Y;

**Related Application(s):** 60/125105 19990319 00

**IPC (International Class):** A01D03400; A01B06904

**US Class:** 701023; 340988; 3409951; 701207; 701209; 701213

**Agent(s):** Diller, Ramik & Wight

**Examiner Primary:** Cuchlinski, Jr., William A.

**Examiner Assistant:** To, Tuan C

**Legal Status:**

Date	+/-	Code	Description
20060303	()	FPAY	Year of fee payment: 4;
20091231	()	FPAY	Year of fee payment: 8;



**US6600981B2 20030729**  
**US2002049517A1 20020425**

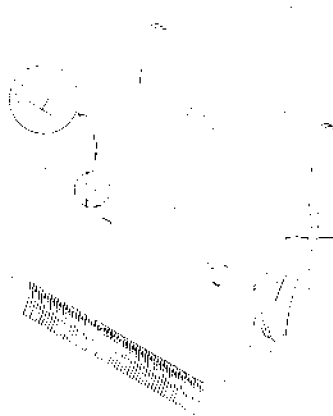
**(ENG) Multifunctional mobile appliance**

**Inventor(s):** RUFFNER BRYAN JOHN US

**Application No:** US 98864201 A

**Filing Date:** 20011120

**Issue/Publication Date:** 20030729



**Abstract:** (ENG) The invention is a multifunctional, mobile appliance capable of performing a variety of tasks safely, quietly, without pollution, and out of sight of its owner. Such tasks might include lawn mowing, fertilizing, and edging, floor vacuuming, waxing, and polishing, or rug shampooing. In its preferred implementation, the mobile unit 1 would obtain precise real time and position information using the Real Time Kinematic Global Positioning System. The user initially guides the appliance around the work-area perimeters. The device then uses this information to determine the full working area. Proximity detectors and impact sensors help the appliance avoid unexpected obstacles. The device is quiet enough to perform its task in the middle of the night while its owner is asleep, but can be programmed to work continuously or during any user-specified time interval. The small turning radius of the appliance allows it to follow intricate perimeters. In the instance of a mowing application, the cutting blades are surrounded by a cage that allows grass to enter, but excludes sticks, stones, fingers or toes. The mowing blade assembly can trim over the top of yard edging. The battery-powered device can recharge itself and a wireless link enables the appliance to communicate with its user and a user support network via the World Wide Web.

**Priority Data:** US 98864201 20011120 A N; US 35151099 19990712 A 3 Y; US 12510599 19990319 P Y;

**Related Application(s):** 09/351510 19990712 6338013 US A GRANTED (PATENT); 60/125105 19990319 00

**IPC (International Class):** A01D03400; A01B06904

**US Class:** 701023; 0560168; 056202; 05601640A; 056320; 056295

**Agent(s):** Diller, Ramik & Wight

**Examiner Primary:** Black, Thomas G.

**Examiner Assistant:** To, Tuan C

**Legal Status:**

Date	+/-	Code	Description
20061103	()	FPAY	Year of fee payment: 4;
20101110	()	FPAY	Year of fee payment: 8;



**US2002035614A1 20020321**

**(ENG) Enhanced video programming system and method for incorporating and displaying retrieved integrated internet information segments**

[ no drawing available]

**Inventor(s):** ULLMAN CRAIG US ; HIDARY JACK D US ; SPIVACK NOVA T US

**Application No:** US 99857201 A

**Filing Date:** 20011116

**Issue/Publication Date:** 20020321

**Abstract:** (ENG) A system for integrating video programming with the vast information resources of the Internet. A computer-based system receives a video program with embedded uniform resource locators (URLs). The URLs, the effective addresses of locations or Web sites on the Internet, are interpreted by the system and direct the system to the Web site locations to retrieve related Web pages. Upon receipt of the Web pages by the system, the Web pages are synchronized to the video content for display. The video program signal can be displayed on a video window on a conventional personal computer screen. The actual retrieved Web pages are time stamped to also be displayed, on another portion of the display screen, when predetermined related video content is displayed in the video window. As an alternative, the computer-based system receives the URLs directly through an Internet connection, at times specified by TV broadcasters in advance. The system interprets the URLs and retrieves the appropriate Web pages. The Web pages are synchronized to the video content for display in conjunction with a television program being broadcast to the user at that time. This alternative system allows the URLs to be entered for live transmission to the user.

**Priority Data:** US 99857201 20011116 A N; US 63334900 20000804 A 1 Y; US 47238599 19991223 A 1 Y; US 10994598 19980706 A 1 Y; US 61514396 19960314 A 2 Y; US 61314496 19960308 A C Y;

**Related Application(s):** 09/472385 19991223 09/109945 19980706 6018768 US GRANTED; 08/615143 19960314 5778181 US GRANTED 08/613144 19960308

**IPC (International Class):** H04N007173; G06F01516

**US Class:** 709218; 709203; 709245; 725110

**Assignments Reported to USPTO:**

**Reel/Frame:** 12342/0913 **Date Signed:** 19980819 **Date Recorded:** 20011116

**Assignee:** ACTV, INC. 18TH FL.R. 225 PARK AVE. S. NEW YORK NEW YORK 10003

**Assignor:** HIDARY, JACK D.; SPIVACK, NOVA T.; ULLMAN, CRAIG

**Corres. Addr:** LEE R. OSMAN STE. 4700 370 17TH ST. DENVER, CO 80202

**Brief:** ASSIGNMENT OF ASSIGNORS INTEREST (SEE DOCUMENT FOR DETAILS).

**Legal Status:**

Date	+/-	Code	Description
20011116	()	AS	New owner name: ACTV, INC., NEW YORK; : ASSIGNMENT OF ASSIGNORS INTEREST; ASSIGNORS: HIDARY, JACK D.; SPIVACK, NOVA T.; ULLMAN, CRAIG; REEL/FRAME: 012342/0913; SIGNING DATES FROM 19980818 TO 19980908;



**US2002035615A1 20020321**

**(ENG) Enhanced video programming system and method for incorporating and displaying retrieved integrated internet information segments**

[ no drawing available]

**Inventor(s):** ULLMAN CRAIG US ; HIDARY JACK D US ; SPIVACK NOVA T US

**Application No:** US 99858701 A

**Filing Date:** 20011116

**Issue/Publication Date:** 20020321

**Abstract:** (ENG) A system for integrating video programming with the vast information resources of the Internet. A computer-based system receives a video program with embedded uniform resource locators (URLs). The URLs, the effective addresses of locations or Web sites on the Internet, are interpreted by the system and direct the system to the Web site locations to retrieve related Web pages. Upon receipt of the Web pages by the system, the Web pages are synchronized to the video content for display. The video program signal can be displayed on a video window on a conventional personal computer screen. The actual retrieved Web pages are time stamped to also be displayed, on another portion of the display screen, when predetermined related video content is displayed in the video window. As an alternative, the computer-based system receives the URLs directly through an Internet connection, at times specified by TV broadcasters in advance. The system interprets the URLs and retrieves the appropriate Web pages. The Web pages are synchronized to the video content for display in conjunction with a television program being broadcast to the user at that time. This alternative system allows the URLs to be entered for live transmission to the user.

**Priority Data:** US 99858701 20011116 A N; US 63334600 20000804 A 1 Y; US 47238599 19991223 A 1 Y; US 10994598 19980706 A 1 Y; US 61514396 19960314 A 2 Y; US 61314496 19960308 A C Y;

**Related Application(s):** 09/472385 19991223 09/109945 19980706 6018768 US GRANTED; 08/615143 19960314 5778181 US GRANTED 08/613144 19960308

**IPC (International Class):** H04N00550; G06F01516

**US Class:** 709218; 725110

**Assignments Reported to USPTO:**

**Reel/Frame:** 12353/0595 **Date Signed:** 19980819 **Date Recorded:** 20011116

**Assignee:** ACTV, INC. 18TH FLOOR 225 PARK AVENUE SOUTH NEW YORK NEW YORK 10003

**Assignor:** HIDARY, JACK D.; SPIVACK, NOVA T.; ULLMAN, CRAIG

**Corres. Addr:** LEE R. OSMAN STE. 4700 REPUBLIC PLAZA BLDG. 370 17TH ST. DENVER, CO 80202

**Brief:** ASSIGNMENT OF ASSIGNORS INTEREST (SEE DOCUMENT FOR DETAILS).

**Legal Status:**

Date	+/-	Code	Description
20011116	()	AS	New owner name: ACTV, INC., NEW YORK; : ASSIGNMENT OF ASSIGNORS INTEREST;ASSIGNORS:HIDARY, JACK D.;SPIVACK, NOVA T.;ULLMAN, CRAIG;REEL/FRA:012353/0595;SIGNING DATES FROM 19980818 TO 19980908;



**US2002035600A1 20020321**

**(ENG) Enhanced video programming system and method for incorporating and displaying retrieved integrated internet information segments**

[ no drawing available]

**Inventor(s):** ULLMAN CRAIG US ; HIDARY JACK D US ; SPIVACK NOVA T US

**Application No:** US 99858801 A

**Filing Date:** 20011116

**Issue/Publication Date:** 20020321

**Abstract:** (ENG) A system for integrating video programming with the vast information resources of the Internet. A computer-based system receives a video program with embedded uniform resource locators (URLs). The URLs, the effective addresses of locations or Web sites on the Internet, are interpreted by the system and direct the system to the Web site locations to retrieve related Web pages. Upon receipt of the Web pages by the system, the Web pages are synchronized to the video content for display. The video program signal can be displayed on a video window on a conventional personal computer screen. The actual retrieved Web pages are time stamped to also be displayed, on another portion of the display screen, when predetermined related video content is displayed in the video window. As an alternative, the computer-based system receives the URLs directly through an Internet connection, at times specified by TV broadcasters in advance. The system interprets the URLs and retrieves the appropriate Web pages. The Web pages are synchronized to the video content for display in conjunction with a television program being broadcast to the user at that time. This alternative system allows the URLs to be entered for live transmission to the user.

**Priority Data:** US 99858801 20011116 A N; US 63335900 20000804 A 1 Y; US 47238599 19991223 A 1 Y; US 10994598 19980706 A 1 Y; US 61514396 19960314 A 2 Y; US 61314496 19960308 A C Y;

**Related Application(s):** 09/472385 19991223 09/109945 19980706 6018768 US GRANTED; 08/615143 19960314 5778181 US GRANTED 08/613144 19960308

**IPC (International Class):** H04N00716; G06F01516

**US Class:** 709203; 709245; 725136

**Assignments Reported to USPTO:**

**Reel/Frame:** 12353/0663 **Date Signed:** 19980818 **Date Recorded:** 20011116

**Assignee:** ACTV, INC. 18TH FLOOR 225 PARK AVENUE SOUTH NEW YORK NEW YORK 10003

**Assignor:** HIDARY, JACK D.; SPIVACK, NOVA T.; ULLMAN, CRAIG

**Corres. Addr:** LEE R. OSMAN 370 SEVENTEENTH STREET SUITE 4700, REPUBLIC PLAZA BUILDING DENVER, CO 80202

**Brief:** ASSIGNMENT OF ASSIGNORS INTEREST (SEE DOCUMENT FOR DETAILS).

**Legal Status:**

Date	+/-	Code	Description
20011116	()	AS	New owner name: ACTV, INC., NEW YORK; : ASSIGNMENT OF ASSIGNORS INTEREST;ASSIGNORS:HIDARY, JACK D.;SPIVACK, NOVA T.;ULLMAN, CRAIG;REEL/FRAME:012353/0663;SIGNING DATES FROM 19980818 TO 19980908;



**US2002038344A1 20020328**

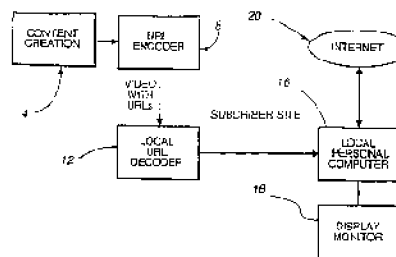
**(ENG) Enhanced video programming system and method for incorporating and displaying retrieved integrated internet information segments**

**Inventor(s):** ULLMAN CRAIG US ; HIDARY JACK D US ; SPIVACK NOVA T US

**Application No:** US 99859001 A

**Filing Date:** 20011116

**Issue/Publication Date:** 20020328



**Abstract:** (ENG) A system for integrating video programming with the vast information resources of the Internet. A computer-based system receives a video program with embedded uniform resource locators (URLs). The URLs, the effective addresses of locations or Web sites on the Internet, are interpreted by the system and direct the system to the Web site locations to retrieve related Web pages. Upon receipt of the Web pages by the system, the Web pages are synchronized to the video content for display. The video program signal can be displayed on a video window on a conventional personal computer screen. The actual retrieved Web pages are time stamped to also be displayed, on another portion of the display screen, when predetermined related video content is displayed in the video window. As an alternative, the computer-based system receives the URLs directly through an Internet connection, at times specified by TV broadcasters in advance. The system interprets the URLs and retrieves the appropriate Web pages. The Web pages are synchronized to the video content for display in conjunction with a television program being broadcast to the user at that time. This alternative system allows the URLs to be entered for live transmission to the user.

**Priority Data:** US 99859001 20011116 A N; US 63335100 20000804 A 1 Y; US 47238599 19991223 A 1 Y; US 10994598 19980706 A 1 Y; US 61514396 19960314 A 2 Y; US 61314496 19960308 A C Y;

**Related Application(s):** 09/472385 19991223 09/109945 19980706 6018768 US GRANTED; 08/615143 19960314 5778181 US GRANTED 08/613144 19960308

**IPC (International Class):** H04N00716; G06F01516

**US Class:** 709203; 709245; 725136

**Assignments Reported to USPTO:**

**Reel/Frame:** 12353/0582 **Date Signed:** 19980819 **Date Recorded:** 20011116

**Assignee:** ACTV, INC. 18TH FLOOR 225 PARK AVENUE SOUTH NEW YORK NEW YORK 10003

**Assignor:** HIDARY, JACK D.; SPIVACK, NOVA T.; ULLMAN, CRAIG

**Corres. Addr:** LEE R. OSMAN REPUBLIC PLAZA BUILDING, SUITE 4700 370 SEVENTEENTH STREET DENVER, CO 80202

**Brief:** ASSIGNMENT OF ASSIGNORS INTEREST (SEE DOCUMENT FOR DETAILS).

**Legal Status:**

Date	+/-	Code	Description
20011116	()	AS	New owner name: ACTV, INC., NEW YORK; : ASSIGNMENT OF ASSIGNORS INTEREST;ASSIGNORS:HIDARY, JACK D.;SPIVACK, NOVA T.;ULLMAN, CRAIG;REEL/FRAME:012353/0582;SIGNING DATES FROM 19980818 TO 19980908;



**US2002035601A1 20020321**

**(ENG) Enhanced video programming system and method for incorporating and displaying retrieved integrated internet information segments**

[ no drawing available]

**Inventor(s):** ULLMAN CRAIG US ; HIDARY JACK D US ; SPIVACK NOVA T US

**Application No:** US 99859201 A

**Filing Date:** 20011116

**Issue/Publication Date:** 20020321

**Abstract:** (ENG) A system for integrating video programming with the vast information resources of the Internet. A computer-based system receives a video program with embedded uniform resource locators (URLs). The URLs, the effective addresses of locations or Web sites on the Internet, are interpreted by the system and direct the system to the Web site locations to retrieve related Web pages. Upon receipt of the Web pages by the system, the Web pages are synchronized to the video content for display. The video program signal can be displayed on a video window on a conventional personal computer screen. The actual retrieved Web pages are time stamped to also be displayed, on another portion of the display screen, when predetermined related video content is displayed in the video window. As an alternative, the computer-based system receives the URLs directly through an Internet connection, at times specified by TV broadcasters in advance. The system interprets the URLs and retrieves the appropriate Web pages. The Web pages are synchronized to the video content for display in conjunction with a television program being broadcast to the user at that time. This alternative system allows the URLs to be entered for live transmission to the user.

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**Related Application(s):** 09/472385 19991223 09/109945 19980706 6018768 US GRANTED; 08/615143 19960314 5778181 US GRANTED 08/613144 19960308

**IPC (International Class):** H04N00716; G06F01516

**US Class:** 709203; 709245; 725136

**Assignments Reported to USPTO:**

**Reel/Frame:** 12341/0729 **Date Signed:** 19980819 **Date Recorded:** 20011116

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**Brief:** ASSIGNMENT OF ASSIGNORS INTEREST (SEE DOCUMENT FOR DETAILS).

**Legal Status:**

Date	+/-	Code	Description
20011116	()	AS	New owner name: ACTV, INC., NEW YORK; : ASSIGNMENT OF ASSIGNORS INTEREST;ASSIGNORS:HIDARY, JACK D.;SPIVACK, NOVA T.;ULLMAN, CRAIG;REEL/FRAME:012341/0729;SIGNING DATES FROM 19980818 TO 19980908;



USPTO Maintenance Report

Patent Bibliographic Data 02/12/2013 02:20 PM

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Issue Date:	01/25/2000	Filing Date:	07/06/1998		
Title:	ENHANCED VIDEO PROGRAMMING SYSTEM AND METHOD FOR INCORPORATING AND DISPLAYING RETRIEVED INTEGRATED INTERNET INFORMATION SEGMENTS				
Status:	4th, 8th and 12th year fees paid	Entity:	LARGE		
Window Opens:	N/A	Surcharge Date:	N/A	Expiration:	N/A
Fee Amt Due:	Window not open	Surchg Amt Duc:	Window not open	Total Amt Duc:	Window not open
Fee Code:					
Surcharge Fee Code:					
Most recent events (up to 7):	07/25/2011	Payment of Maintenance Fee, 12th Year, Large Entity.			
	07/25/2007	Payment of Maintenance Fee, 8th Year, Large Entity.			
	07/01/2003	Payment of Maintenance Fee, 4th Year, Large Entity.			
		— End of Maintenance History —			
Address for fee purposes:	SCHWEGMAN, LUNDBERG & WOESSNER/OPEN TV P.O. BOX 2938 MINNEAPOLIS MN 55402-0938				