FILE HISTORY

US 6,118,449

PATENT:	6,118,449
INVENTORS:	Rosen, James Samuel Schmitter, Thomas A. Hall, Mark S.
TITLE:	Server system and method for modifying a cursor image
APPLICATION NO:	US1999400038A
FILED:	21 SEP 1999
ISSUED:	12 SEP 2000
COMPILED:	19 MAY 2017

AMAZON.COM, INC.
EXHIBIT 1011
US 5,995,102

jc617 U.S. P
09/400038
09/21/
345
Class
ISSUE CLASS

U.S. UTILITY PATENT APPLICATION

O.I.P.E.	PATENT DATE
SCANNED SLB TM2 Q.A. RG	

SECTOR	CLASS	SUBCLASS	ART UNIT	EXAMINER
	345	[illegible]	2 3	C. Jackson

FILED WITH: ☐ DISK (CRF) ☐ FICHE
(Attached in pocket on right inside flap)

PREPARED AND APPROVED FOR ISSUE

ISSUING CLASSIFICATION

ORIGINAL		CROSS REFERENCE(S)						
CLASS	SUBCLASS	CLASS	SUBCLASS (ONE SUBCLASS PER BLOCK)					
345	339	345	334	145				
INTERNATIONAL CLASSIFICATION		707	513					
G06F	3/14							
	/							
	/							
	/							
	/			☐ Continued on Issue Slip Inside File Jacket				

☑ TERMINAL DISCLAIMER	DRAWINGS			CLAIMS ALLOWED	
	Sheets Drwg.	Figs. Drwg.	Print Fig.	Total Claims	Print Claim for O.G.
09/400,038	9	9	8	132	1

☐ a) The term of this patent subsequent to _____ (date) has been disclaimed.

☑ b) The term of this patent shall not extend beyond the expiration date of U.S Patent. No. 5,995,102

☐ c) The terminal ____ months of this patent have been disclaimed.

Chadwick A. Jackson 12/17/99
(Assistant Examiner) (Date)

RAYMOND J. BAYERL
PRIMARY EXAMINER
ART UNIT 2773

[signature] 20 Dec 1999
(Primary Examiner) (Date)

Brian Hillard 12-21-99
(Legal Instruments Examiner) (Date)

NOTICE OF ALLOWANCE MAILED
12-20-99

ISSUE FEE

Amount Due	Date Paid
605.00	3/20/00

ISSUE BATCH NUMBER
494

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Form PTO-436A
(Rev. 10/97)

ISSUE FEE IN FILE

Formal Drawings (___ shts) set (LABEL AREA) Formal Drawings (___ shts) set

(FACE)

6,118,449

SERVER SYSTEM AND METHOD FOR MODIFYING A CURSOR IMAGE

Transaction History

Date	Transaction Description
09-21-1999	Preliminary Amendment
09-21-1999	Information Disclosure Statement (IDS) Filed
09-21-1999	Information Disclosure Statement (IDS) Filed
09-27-1999	Initial Exam Team nn
10-08-1999	IFW Scan & PACR Auto Security Review
10-14-1999	Application Dispatched from OIPE
12-06-1999	Case Docketed to Examiner in GAU
12-13-1999	Terminal Disclaimer Filed
12-17-1999	Terminal Disclaimer Approved in TC
12-20-1999	Mail Notice of Allowance
12-20-1999	Notice of Allowance Data Verification Completed
12-20-1999	Mail Examiner's Amendment
12-20-1999	Examiner's Amendment Communication
01-21-2000	Workflow - File Sent to Contractor
01-24-2000	Workflow - Incoming Correspondence - Begin
01-24-2000	Workflow - Incoming Correspondence - Finish
01-24-2000	UnMatched Papers in Pubs
03-13-2000	Amendment after Notice of Allowance (Rule 312)
03-17-2000	Date Forwarded to Examiner
03-20-2000	Issue Fee Payment Verified
03-20-2000	Workflow - Drawings Finished
03-20-2000	Workflow - Drawings Matched with File at Contractor
03-20-2000	Incoming Letter Pertaining to the Drawings
03-20-2000	Workflow - Drawings Received at Contractor
03-20-2000	Workflow - Drawings Sent to Contractor
03-22-2000	Mail Response to 312 Amendment (PTO-271)
03-22-2000	Response to Amendment under Rule 312
04-18-2000	Application Is Considered Ready for Issue
08-02-2000	Workflow - Complete WF Records for Drawings
08-28-2000	Issue Notification Mailed
09-12-2000	Recordation of Patent Grant Mailed
01-23-2004	Information Disclosure Statement (IDS) Filed
01-23-2004	Information Disclosure Statement (IDS) Filed
12-08-2015	File Marked Found
01-14-2016	File Marked Found
01-29-2016	File Marked Found
02-03-2016	File Marked Found
02-16-2016	File Marked Found
02-17-2016	File Marked Found
02-19-2016	File Marked Found
02-19-2016	File Marked Found
11-18-2016	File Marked Found

PATENT APPLICATION

09400038

jc617 U.S. PTO
09/400038
09/21/99

INITIALS _____

OCT 0 59926

CONTENTS

	Date received (incl. C. of M.) or Date Mailed		Date received (incl. C. of M.) or Date Mailed
1. Application #9 papers.		42.	
2. IDS STATEMENT	9/21/99	43.	
3. PRE, AMEND A	9/21/99	44.	
4. Journal Disclaimer	12/13/99	45.	
5. Examiner's Amdt B	12/20/99	46.	
6. Amdt C (R1.312)	3-12-00	47.	
7. Notice of Entry	3-22-00	48.	
8. Ltr. to Draftsman	3-20-00	49.	
9. Formal Drawings (9 sheet) set 1	3-20-00	50.	
10. SDS	1-23-04	51.	
11.		52.	
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41.		82.	

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ISSUE SLIP STAPLE AREA (for additional cross references)

POSITION	INITIALS	ID NO.	DATE
FEE DETERMINATION	BT		9-29-99
O.I.P.E. CLASSIFIER		8	10-5-99
FORMALITY REVIEW		69055	10-13-99

INDEX OF CLAIMS

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

Claim Final	Claim Original	Date 16 Dec 99
1	1	
2	2	
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Claim Final	Claim Original	Date 16 Dec 99
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Claim Final	Claim Original	Date 16 Dec 99
101	110	
102	112	
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If more than 150 claims or 10 actions
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[redacted]

SEARCHED

Class	Sub.	Date	Exmr.
345	145	12/9/99	CJ
	328		
	329		
	302		
	331		
	334		
	335		
	339		
	345		
	348		
709	203	12/9/99	
	217		
	218		
	219		
707	513	12/12/99	CJ

SEARCH NOTES
(INCLUDING SEARCH STRATEGY)

Consultation w/	Date	Exmr.
Raymond Bayerl	12/9/99	CJ
John Greene CPPE 2773		
EAST BRS SEARCH	12/9/99	CJ

INTERFERENCE SEARCHED

Class	Sub.	Date	Exmr.
345	145	12/16/99	CJ
	302		
	328		
	329		
	331		
	334		
	335		
	339		
	345		
	348		
709	203		
	217		
	218		
	219		
707	513		

(RIGHT OUTSIDE)

US006118449A

United States Patent [19]

Rosen et al.

[11] **Patent Number: 6,118,449**

[45] **Date of Patent: *Sep. 12, 2000**

[54] **SERVER SYSTEM AND METHOD FOR MODIFYING A CURSOR IMAGE**

[75] Inventors: **James Samuel Rosen**, New York, N.Y.; **Thomas A. Schmitter**, Charlestown, Mass.; **Mark S. Hall**, South Orange, N.J.

[73] Assignee: **Comet Systems, Inc.**, New York, N.Y.

[*] Notice: This patent is subject to a terminal disclaimer.

[21] Appl. No.: **09/400,038**

[22] Filed: **Sep. 21, 1999**

Related U.S. Application Data

[63] Continuation of application No. 08/882,580, Jun. 25, 1997, Pat. No. 5,995,102.

[51] **Int. Cl.**[7] **G06F 3/14**

[52] **U.S. Cl.** **345/339**; 345/334; 345/145; 707/513

[58] **Field of Search** 345/145, 328, 345/329, 302, 331, 334, 335, 339, 345, 348; 709/203, 217, 218, 219; 707/513

[56] **References Cited**

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5,969,708	10/1999	Walls	345/145
5,995,102	11/1999	Rosen et al.	345/339

OTHER PUBLICATIONS

* The Java Language Environment—May 1995, *A White Paper*, by James Gosling and Henry McGilton (65 pp.).

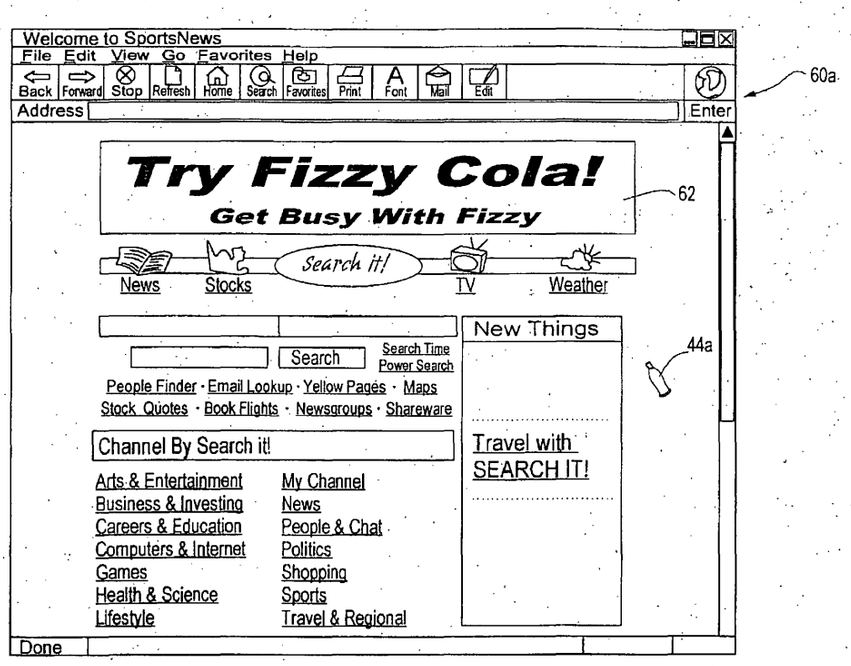
* *WWW Plug-Ins Companion*, Written by Mark R. Brown and Simeon M. Greene, Galen Grimes, John Jung, Bernie Roehl, David Wall and Joe Weber, (21 pp.).

Primary Examiner—Raymond J. Bayerl
Assistant Examiner—Chadwick A. Jackson
Attorney, Agent, or Firm—Weingarten, Schurgin, Gagnebin & Hayes LLP

[57] **ABSTRACT**

A system for modifying a cursor image, as displayed on a video monitor of a remote terminal, to a specific image having a desired shape and appearance. The system stores cursor image data corresponding to the specific image, and a cursor display code. The cursor display code contains information in response to which the cursor image is modified to the specific image. A server computer transmits specified information to the remote terminal. The information includes at least one cursor display instruction. The cursor display instruction is operable to modify, in conjunction with the cursor information and the cursor image data, a cursor image displayed by a display of the remote terminal in the shape and appearance of the specific image.

132 Claims, 9 Drawing Sheets



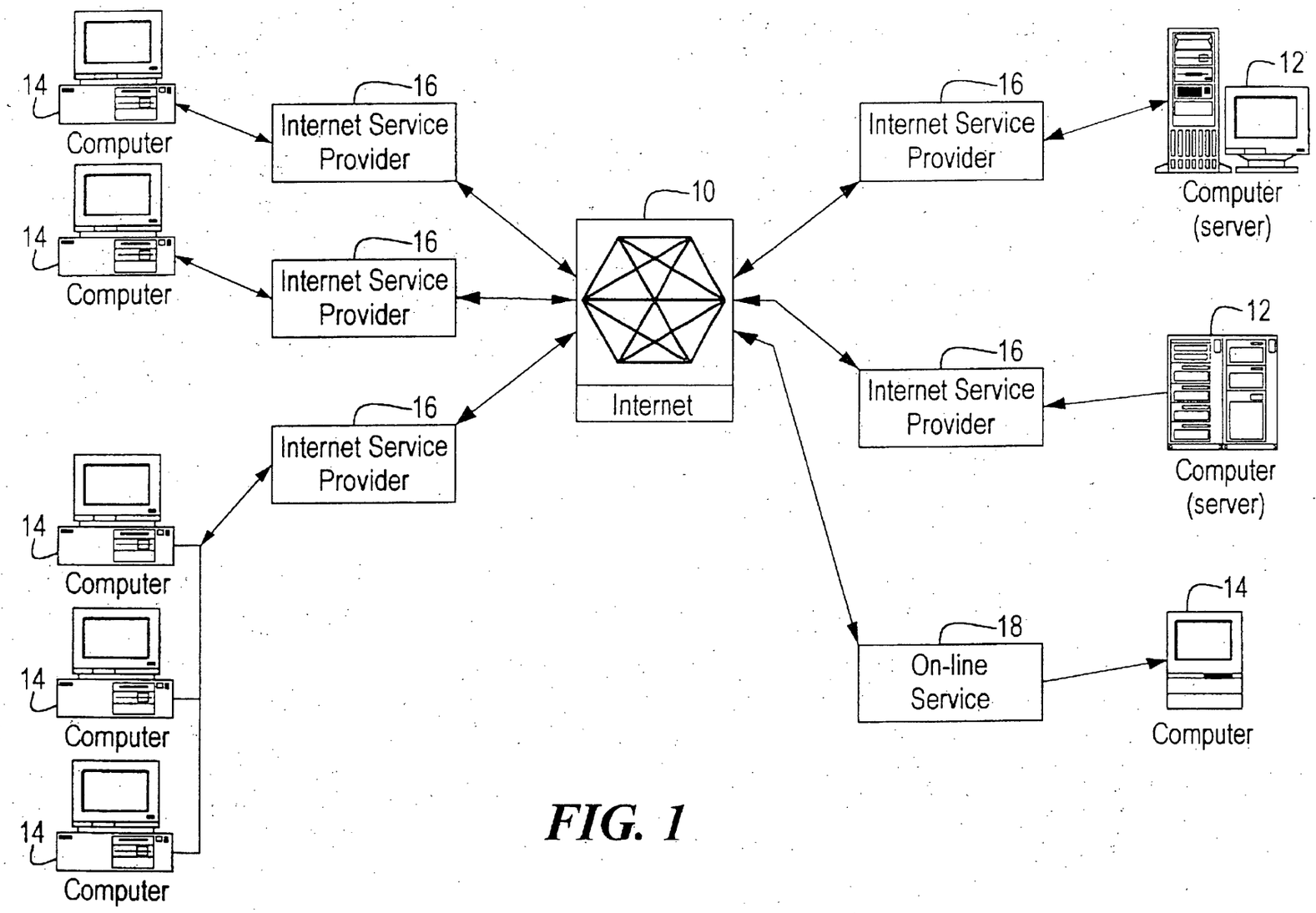

14
Computer
14
Computer
14
Computer
14
Computer
14
Computer
16
Internet Service Provider
16
Internet Service Provider
16
Internet Service Provider
10
Internet
16
Internet Service Provider
16
Internet Service Provider
18
On-line Service
12
Computer (server)
12
Computer (server)
14
Computer

FIG. 1

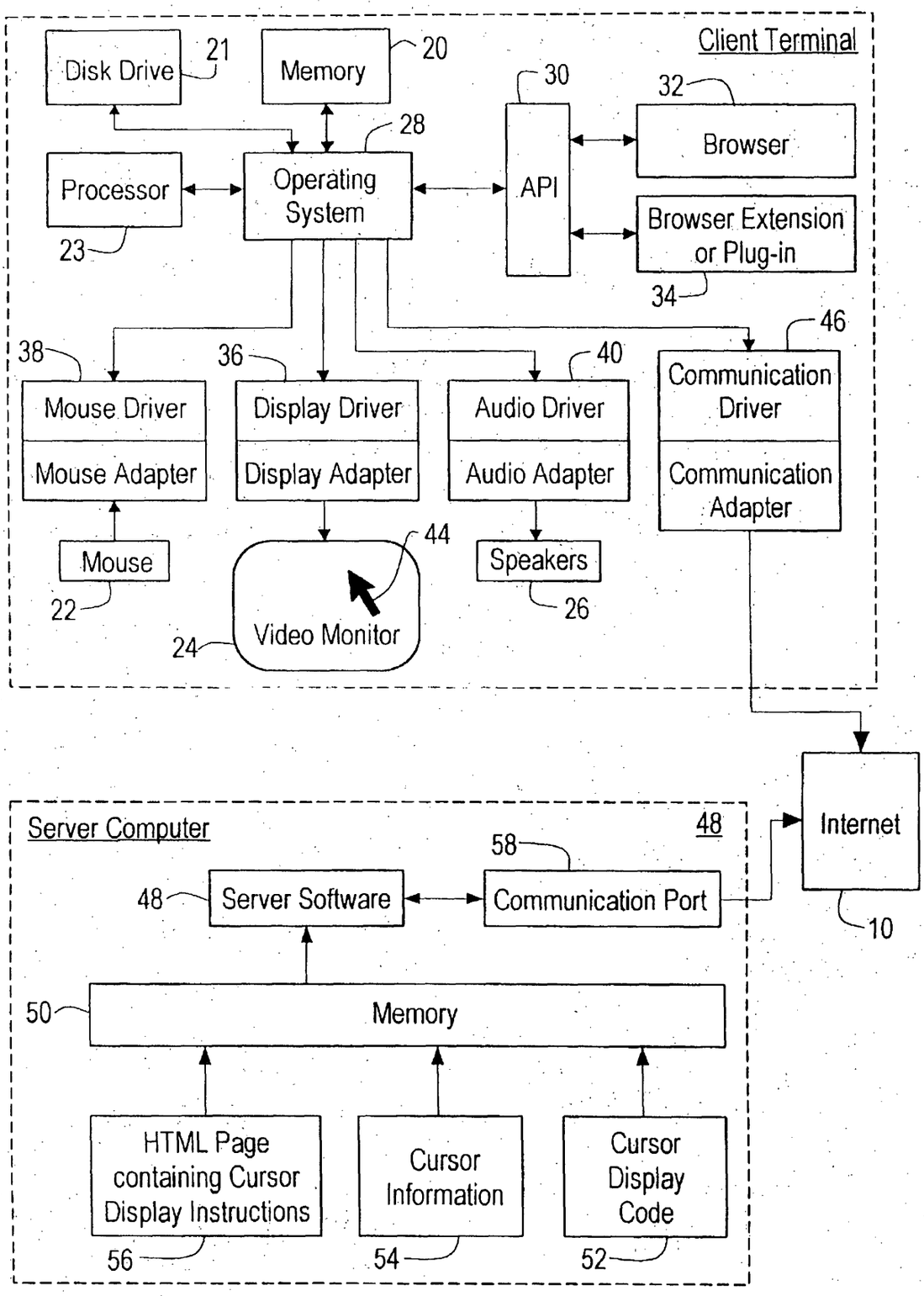

Client Terminal
Disk Drive
21
Memory
20
30
32
Browser
28
Processor
Operating System
API
Browser Extension or Plug-in
23
34
46
38
36
40
Mouse Driver
Mouse Adapter
Display Driver
Display Adapter
Audio Driver
Audio Adapter
Communication Driver
Communication Adapter
Mouse
22
44
Video Monitor
24
Speakers
26
Internet
10
Server Computer
48
58
48
Server Software
Communication Port
50
Memory
HTML Page containing Cursor Display Instructions
Cursor Information
Cursor Display Code
56
54
52

FIG. 2

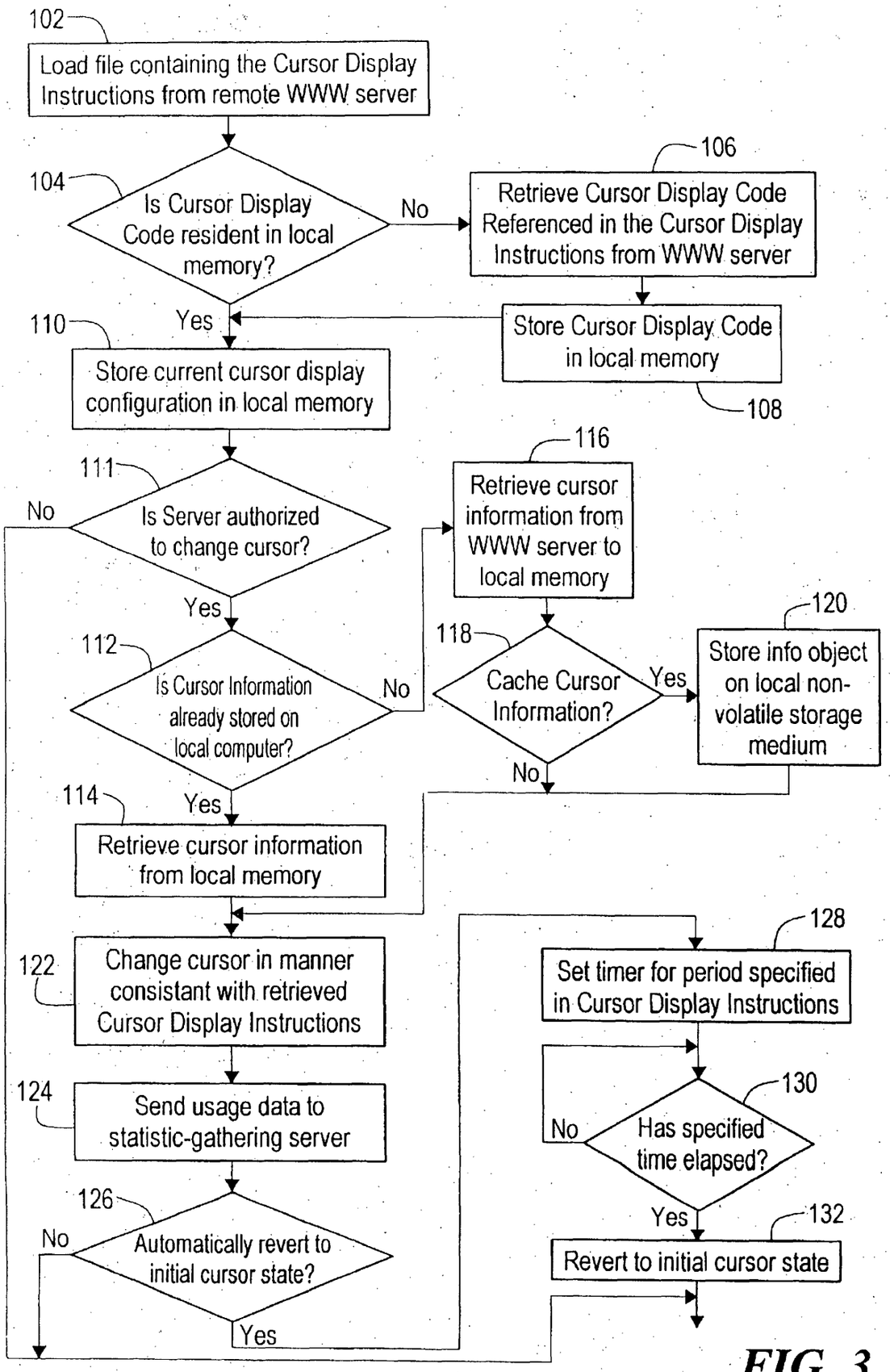

102
Load file containing the Cursor Display Instructions from remote WWW server
104
Is Cursor Display Code resident in local memory?
No
106
Retrieve Cursor Display Code Referenced in the Cursor Display Instructions from WWW server
Store Cursor Display Code in local memory
108
Yes
110
Store current cursor display configuration in local memory
111
Is Server authorized to change cursor?
No
Yes
112
Is Cursor Information already stored on local computer?
No
Yes
114
Retrieve cursor information from local memory
116
Retrieve cursor information from WWW server to local memory
118
Cache Cursor Information?
Yes
No
120
Store info object on local non-volatile storage medium
122
Change cursor in manner consistant with retrieved Cursor Display Instructions
124
Send usage data to statistic-gathering server
126
Automatically revert to initial cursor state?
No
Yes
128
Set timer for period specified in Cursor Display Instructions
130
Has specified time elapsed?
No
Yes
132
Revert to initial cursor state

FIG. 3

```
<OBJECT
        202.ID=cc1
        203.TYPE="application/x-oleobject"
        204.CLASSID="clsid:CB005660-D0C7-11cf-B7F6-00AA00A3F278"
        205.CODEBASE="http://cometsystems.com/controls/cc.cab#ver=4,70,
           0,1122"
        206.<PARAM NAME="CursorType" VALUE="1"
        207.<PARAM NAME="CursorImage"
           VALUE="http://cometsystems.com/library/images/acme.cur">
        208.<PARAM NAME="Counter" VALUE="http://
           cometsystems.com/accounting">
        209.<PARAM NAME="DisplayDuration" VALUE="5">
        210.<PARAM NAME="CacheCursor" VALUE="1">
        211.<PARAM NAME="ServerSignature" VALUE="54F5254A23BD988AB54">
        212.<PARAM NAME="DormantDelay" VALUE="600">
        213.<PARAM NAME="CursorTrajectoryMap" VALUE="http://
           cometsystems.com/maps/trajectory">
        214.<PARAM NAME="CursorPositionMap" VALUE="http://
           cometsystems.com/maps/position">
        215.<PARAM NAME="CursorVelocityMap"
           VALUE="http://cometsystems.com/maps/velocity">
        216.<PARAM NAME="CursorPositionMap" VALUE="http://
           cometsystems.com/maps/velocity">
        217.<PARAM NAME="CursorButtonMap" VALUE="http://
           cometsystems.com/maps/buttonstate">
        218.<PARAM NAME="ContentType" VALUE="5">
        219.<PARAM NAME="PriorityLevel" VALUE="1">
        220.<PARAM NAME="StreamBufferSize" VALUE="0">
        221.<PARAM NAME="SatelliteImage"
           VALUE="http://cometsystems.com/library/images/acmesat.bmp">
        222.<PARAM NAME="SatelliteXDisplacement" VALUE="-50">
        223.<PARAM NAME="SatelliteYDisplacement" VALUE="50">
        224.<PARAM NAME="ExtraDisplayParameters"
           VALUE="http://cometsystems.com/library/params/acme.prm">
</OBJECT>
```

FIG. 4

```
<script language="VBScript">
<!--\1`;
302.Sub window_onLoad()
303.    ccl.RememberCurrentCursor()
304.    ccl.SetNormalCursor("http://cometsystems.com/library/
           images/acme.cur")
305.end sub

306.Sub window_onUnload()
307.    ccl.Reset()
308.end sub
-->
</script>
```

FIG. 5

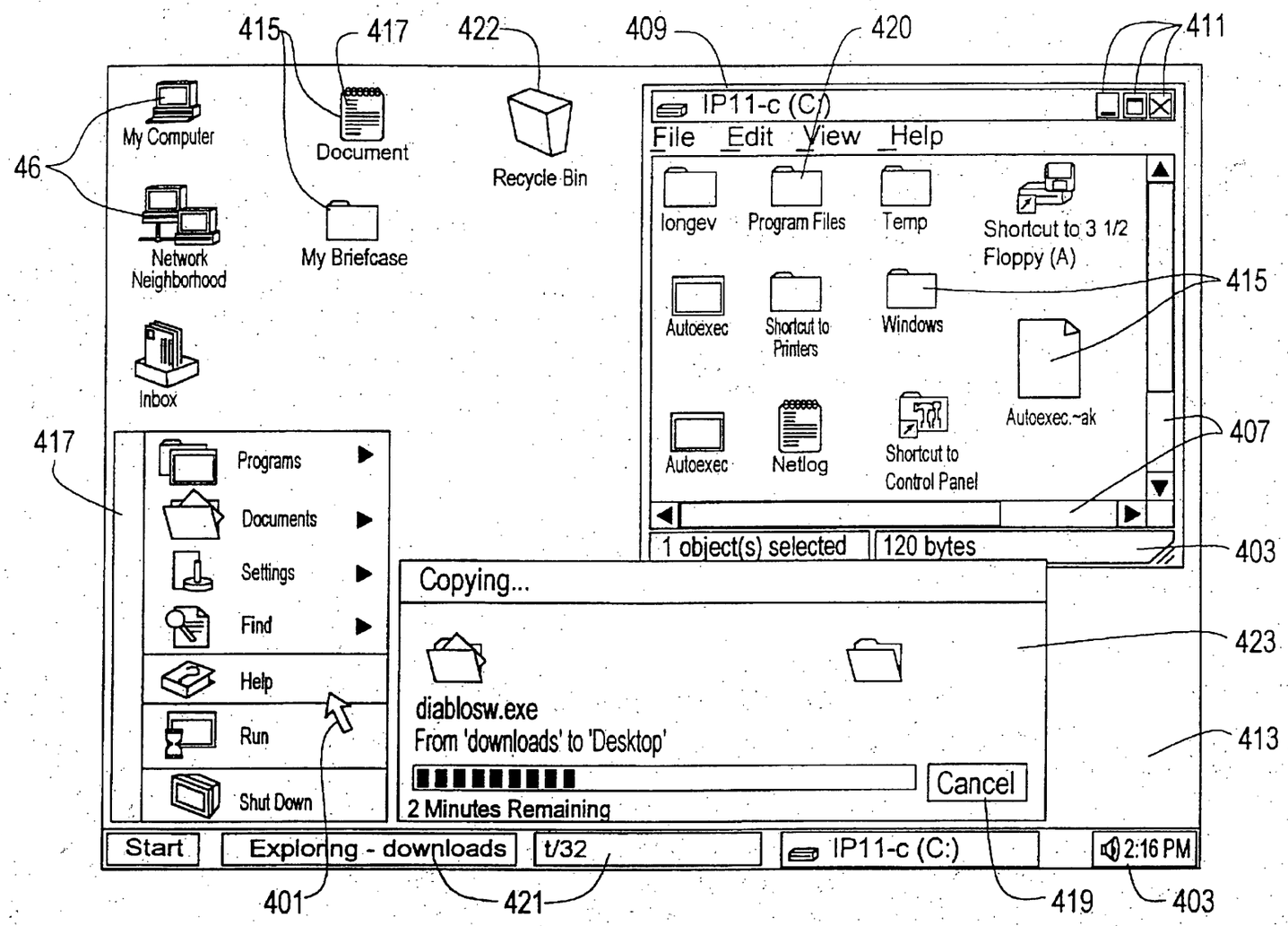

415
417
422
409
420
411
46
My Computer
Document
Recycle Bin
Network Neighborhood
My Briefcase
Inbox
IP11-c (C:)
File Edit View Help
longev
Program Files
Temp
Shortcut to 3 1/2 Floppy (A)
Autoexec
Shortcut to Printers
Windows
Autoexec.~ak
Autoexec
Netlog
Shortcut to Control Panel
407
1 object(s) selected
120 bytes
403
417
Programs
Documents
Settings
Find
Help
Run
Shut Down
Copying...
423
diablosw.exe
From 'downloads' to 'Desktop'
413
Cancel
2 Minutes Remaining
Start
Exploring - downloads
t/32
IP11-c (C:)
2:16 PM
401
421
419
403

FIG. 6

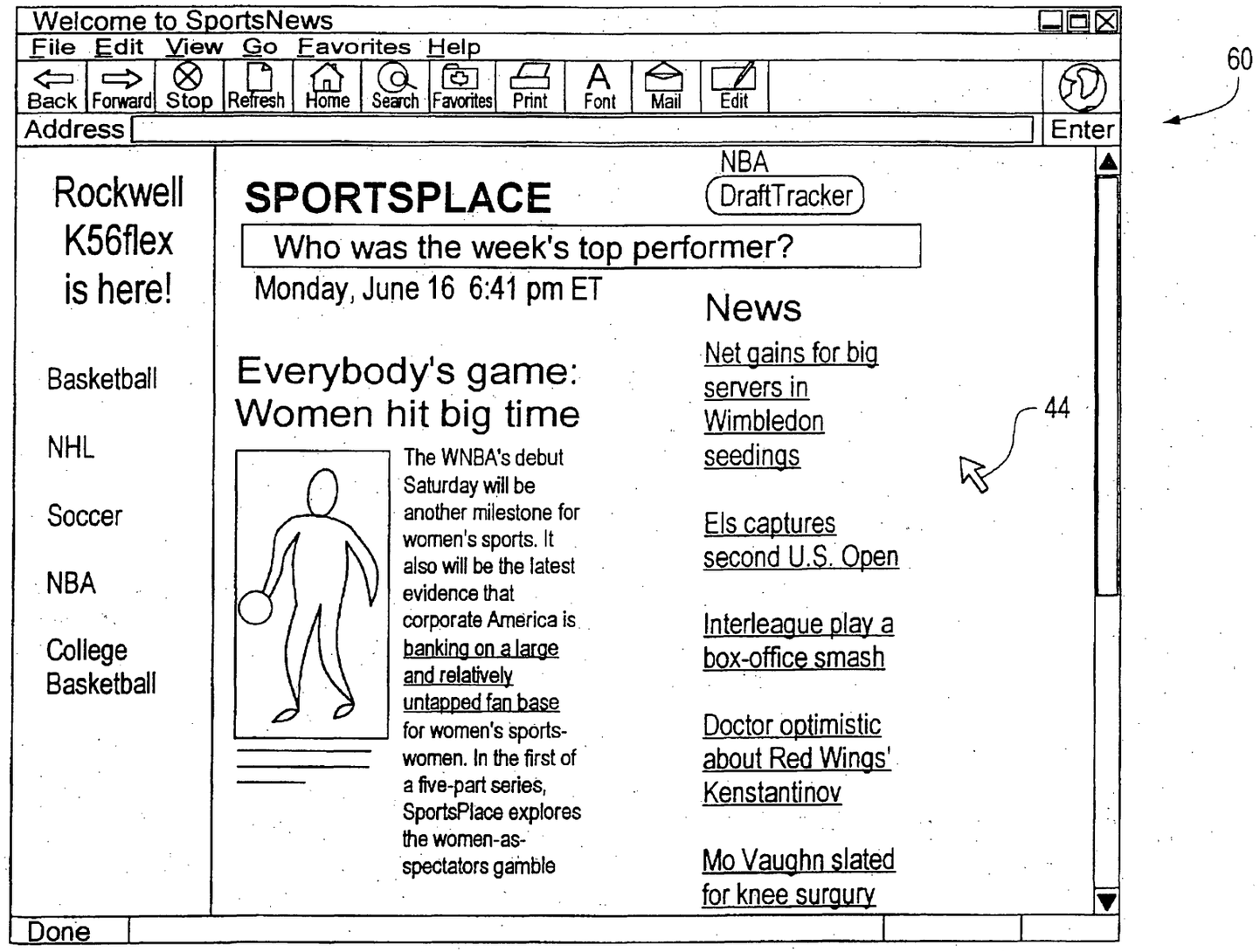

Welcome to SportsNews
File Edit View Go Favorites Help
Back Forward Stop Refresh Home Search Favorites Print Font Mail Edit
Address
Enter
60
Rockwell K56flex is here!
Basketball
NHL
Soccer
NBA
College Basketball
SPORTSPLACE
NBA DraftTracker
Who was the week's top performer?
Monday, June 16 6:41 pm ET
Everybody's game: Women hit big time
The WNBA's debut Saturday will be another milestone for women's sports. It also will be the latest evidence that corporate America is banking on a large and relatively untapped fan base for women's sports-women. In the first of a five-part series, SportsPlace explores the women-as-spectators gamble
News
Net gains for big servers in Wimbledon seedings
Els captures second U.S. Open
Interleague play a box-office smash
Doctor optimistic about Red Wings' Kenstantinov
Mo Vaughn slated for knee surgury
44
Done

FIG. 7

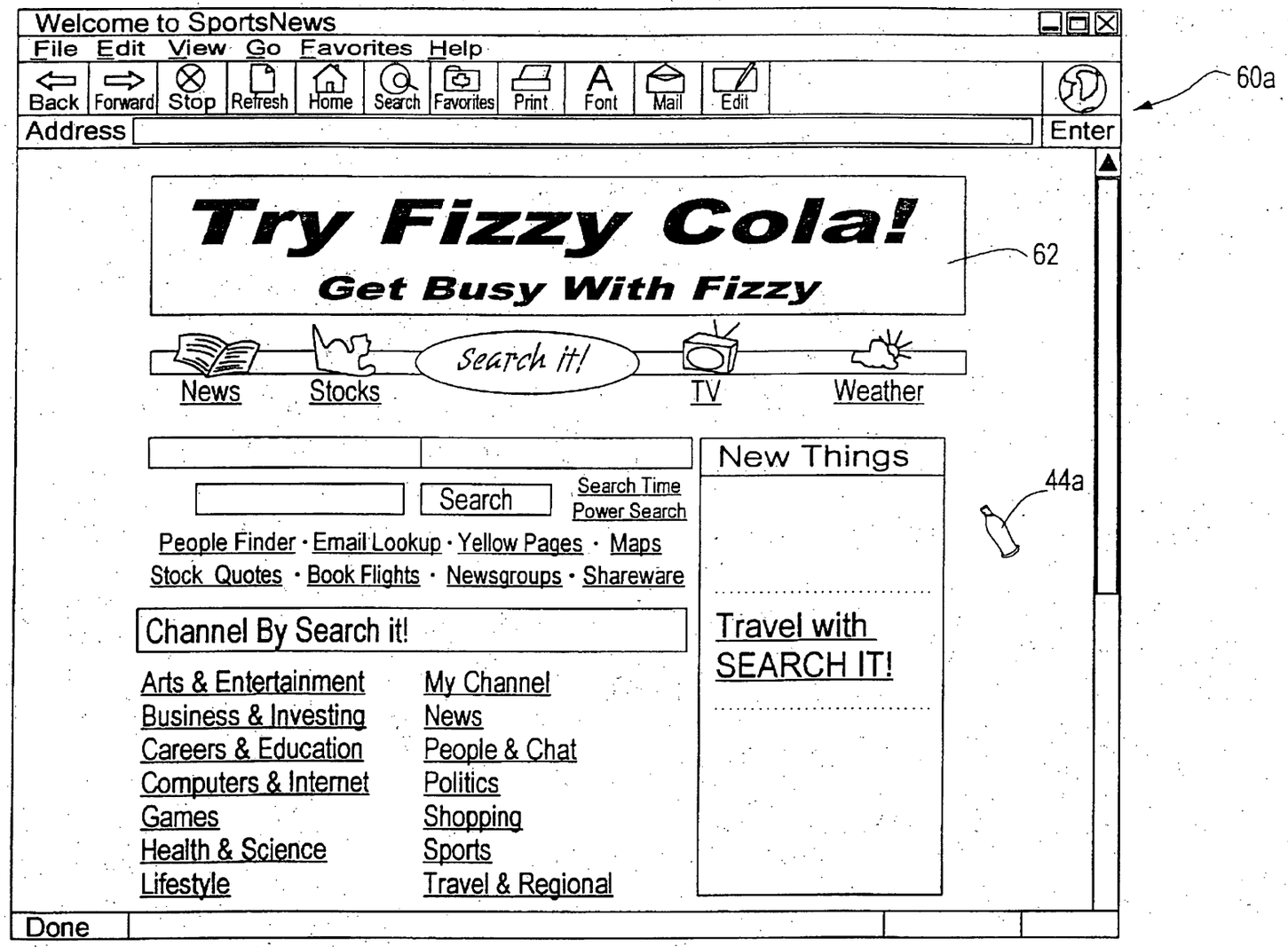

Welcome to SportsNews
File Edit View Go Favorites Help
Back Forward Stop Refresh Home Search Favorites Print Font Mail Edit
Address
Enter
60a
Try Fizzy Cola!
Get Busy With Fizzy
62
News Stocks Search it! TV Weather
Search
Search Time
Power Search
People Finder · Email Lookup · Yellow Pages · Maps
Stock Quotes · Book Flights · Newsgroups · Shareware
Channel By Search it!
Arts & Entertainment
Business & Investing
Careers & Education
Computers & Internet
Games
Health & Science
Lifestyle
My Channel
News
People & Chat
Politics
Shopping
Sports
Travel & Regional
New Things
Travel with SEARCH IT!
44a
Done

FIG. 8

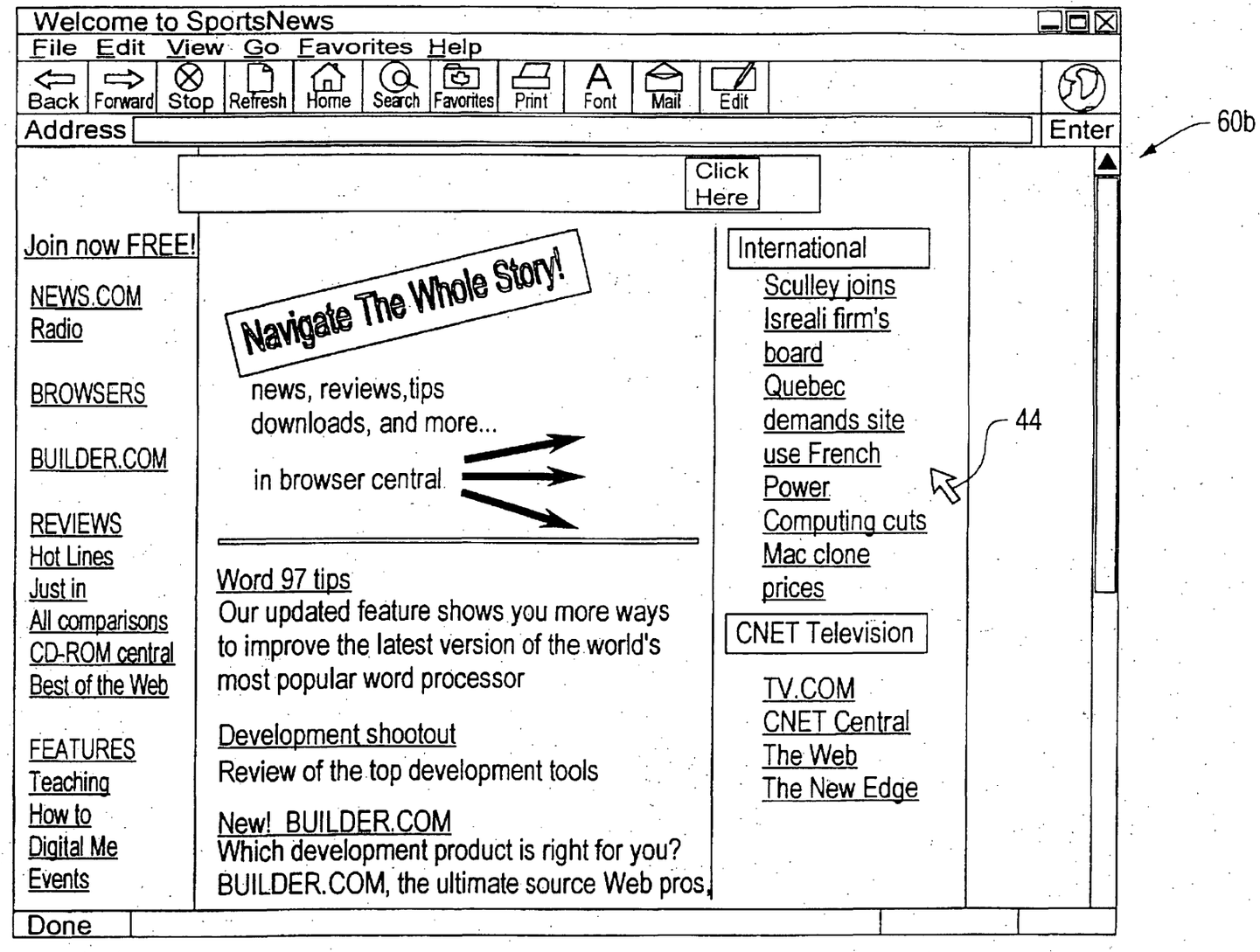

Welcome to SportsNews
File Edit View Go Favorites Help
Back Forward Stop Refresh Home Search Favorites Print Font Mail Edit
Address
Enter
60b
Click Here
Join now FREE!
NEWS.COM
Radio
BROWSERS
BUILDER.COM
REVIEWS
Hot Lines
Just in
All comparisons
CD-ROM central
Best of the Web
FEATURES
Teaching
How to
Digital Me
Events
Navigate The Whole Story!
news, reviews,tips
downloads, and more...
in browser central
Word 97 tips
Our updated feature shows you more ways to improve the latest version of the world's most popular word processor
Development shootout
Review of the top development tools
New! BUILDER.COM
Which development product is right for you?
BUILDER.COM, the ultimate source Web pros,
International
Sculley joins
Isreali firm's
board
Quebec
demands site
use French
Power
Computing cuts
Mac clone
prices
44
CNET Television
TV.COM
CNET Central
The Web
The New Edge
Done

FIG. 9

SERVER SYSTEM AND METHOD FOR MODIFYING A CURSOR IMAGE

This is a Continuation of application Ser. No. 08/882,580 filed on Jun. 25, 1997 now U.S. Pat. No. 5,995,102.

FIELD OF THE INVENTION

This invention relates to computer networks and software, and more particularly, to a server system capable of modifying a cursor image displayed on a remote client computer.

BACKGROUND OF THE INVENTION

The World Wide Web ("WWW" or "web") and online services such as America Online, in conjunction with faster and more powerful personal computers, have rendered the Internet and other interactive online computer networks accessible to millions of people all over the world. Concomitant with the emergence of this new communication medium, digital content providers have proliferated, providing online news, entertainment, games and all sorts of other content. As with other mass mediums, such as television, radio, and print publications, the entities that create such content seek to offset their expenses by selling advertising. With reference to the WWW, online advertising has become a multimillion dollar business, to the amount of approximately $300 million dollars in 1996.

The most common type of online advertisement exists in the form of "banner advertisements". Users of online services routinely encounter banner ads on the top, sides, and/or bottom of their video monitor screens when viewing a web page. Banner ads are generally square or rectangular boxes provided with some combination of graphics, color and text directed to the product or service being advertised. As such, the intention of these banner advertisements is to create impressions among online users and to convey some advertising message and/or logo. Banner ads are usually provided on a web page in the form of a "hyperlink", in which users who yield to the advertisement's solicitation to "Click Here" are transported to the web site of the manufacturer of the product or service being advertised, or to some other screen which provides additional information about the product or service.

Unfortunately, banner ads occupy only a small portion of a web page. As the user scrolls down a page the banner ad disappears. Although online advertisers and content publishers have attempted to optimize the visibility of banner advertisements by placing them on a popular web page where they will have a greater chance of being seen, Internet users, nevertheless, can easily ignore or find ways to remove and eliminate from their view the banner ads which exist on the web pages they are viewing. As such, the banner ads are rendered ineffective in their aim to provide information about a product or service. Additionally, money spent to advertise a product may be wasted if users are able to ignore or remove the advertisements from the web pages they are viewing.

Another method of online advertising involves the use of "frames" on a web page. Frames are a feature supported by the recent versions of leading web navigating programs known as browsers, such as Netscape Navigator® and Microsoft's Internet Explorer®. Frames generally divide up a user's screen so that the user can, for example, independently scroll down each of numerous frames which appear on the web page being viewed on the user's screen. Like banner advertisements, frames can be aesthetically unappealing as well as confusing to the user. Additionally, placement of advertising frames on a web page generally results in cramping or decreasing the size of the main content frame which oftentimes renders the content in the main frame difficult to read. As a result, users have developed ways to reduce the size or even eliminate frames from the web page being viewed.

Another type of online advertising involves the self-appearing window which generally appears on its own as a user is using the Internet or browsing on the WWW. Such advertisements are relatively easy for a user to avoid as a user may simply re-size the window to make it smaller, drag another window or object in front of it to obscure it from view, close the advertising window, or simply ignore it and continue with the task being undertaken online. Recently, online advertisers have begun using self-appearing screens which are delivered via dialog boxes which dominate the main part of the screen. Although these dialog boxes can be removed when the user clicks on the appropriate place(s) on the dialog box, the self-appearing dialog boxes have a much higher rate of being seen by users. This follows because the dialog boxes take control of the user's screen for a preset amount of time and/or until the user clicks on the appropriate place(s) to make the dialog box disappear. The recent prevalence in the use of self-appearing dialog box advertising has resulted in a more intrusive method of advertising which has resulted in resentment among users who are accustomed to more passive online advertising methods such as the frames and banner advertisements which are more easily avoided and/or ignored.

Accordingly, there is a need for a simple means to deliver advertising elements, i.e. logos, animations, sound, impressions, text, etc., without the annoyance of totally interrupting and intrusive content delivery, and without the passiveness of ordinary banner and frame advertisements which can be easily ignored.

OBJECTS AND SUMMARY OF THE INVENTION

It is thus a general object of the present invention to provide a means for delivering online advertisements which are unintrusive and which are not easily ignored by a user.

A more specific object of the present invention is to provide a server system for modifying a cursor image to a specific image displayed on a video monitor of a remote user's terminal.

It is another object of the present invention to provide a server system for modifying a cursor image to a specific image displayed on a video monitor of a remote user's terminal for the purposes of providing on-screen advertising.

It is a further object of the present invention to provide a means for providing on-screen advertising transmitted online which does not interrupt the delivery of content and which is aesthetically appealing and which affords the advertiser a great degree of unintrusive exposure.

It is still a further object of the present invention to provide a system and a method for causing a remote user terminal to display a cursor image as specified by a server terminal.

It is also an object of the present invention to provide a system and method for causing a remote user terminal to display a cursor image as specified by a server terminal, wherein the cursor image corresponds to the content retrieved by the user terminal.

It is a further object of the present invention to provide a system and method for causing a remote user terminal to

display a cursor image such as a corporate name or logo, a brand logo, an advertising or marketing icon or slogan, an animated advertising image, and a related audio clip, that relate to an advertisement, such as a banner advertisement, that is included in the information content being retrieved by the user terminal.

It is an additional object of the present invention to provide a means for changing a cursor's appearance by sending data and control signals from a remote computer so that the cursor or pointer's appearance is associated with a portion of, or the entire content being displayed on the user's screen.

It is still an additional object of the present invention to provide a means for changing the appearance of a computer's cursor or pointer by sending data and control signals from a remote computer so that the cursor or pointer's appearance is associated with advertising messages.

These and other objects of the invention are realized in various embodiments of the present invention by providing a system for delivering advertising elements online without the annoyance resulting from the interruption of content delivery and without the passiveness of ordinary banner and frame advertisements which can be too easily ignored or bypassed or removed. An exemplary embodiment of the present invention is directed to a system that provides online advertising content using the on-screen cursor which is generally controlled by an input of positioning device known as a "mouse" or "mouse pointer". Nearly all online computer interfaces utilize a wired or remote control positioning device such as a mouse or roller or track ball which controls the cursor's movement on the screen. It is the cursor controlled by the mouse or positioning device which a user uses to "navigate" or move the cursor over objects, buttons, menus, scroll bars, etc., which appear on-screen and then clicking or in some cases double-clicking in order to activate a screen or task, or to commence an application or some function.

As a result of the prevalence of the use of the mouse, by many millions of users of online systems, a great deal of time is spent focused on the icons which represent the cursor or pointer as it may appear in some cases. Presently, pointer icons change from application to application and can also change within an application depending upon where on the screen the pointer is located, what state the computer exists in at a given moment, and what tools are being used, among other factors. Generally, pointers change shape to reflect an internal state of the computer or the present function within an application. While it is not new for pointers and cursors to change shape, pointers are not presently used to convey advertising. In conventional systems, the appearance of the cursor or pointer does not change to Correspond with on-line content being displayed on the screen.

The present invention provides a means for enabling cursors and pointers to change color, shape, appearance, make sounds, display animation, etc., when the user's terminal or computer, known as the "client" or "user" terminal, which has a network connection, receives certain instructions from a remote or "server" computer attached to the network. In an exemplary embodiment of the present invention, the generic cursor or pointer icons used in many networking applications, such as black arrows, hands with a pointing finger, spinning wheels, hourglasses, wristwatches, and others, will change appearance, and in some cases may incorporate sound or animation, in a way that is linked and related to the content, such as a web page, which is being transmitted to and displayed on the client computer. The cursor or pointer may appear as a corporate or a brand logo which relates to advertising content within the web page being transmitted and displayed. The cursor or pointer image may also appear in a specified shape or color that is intended to convey a message that relates to the advertising, content within the web page being transmitted and displayed.

An exemplary embodiment of the present invention comprises a combination of hardware and enabling software residing on the transmitting (server) computer or network server and/or on the receiving (client or user) computer or terminal which brings about the stated effect of enabling a computer's cursor or pointer to change appearance and in certain cases provide sound and animation which is linked and related to the content being transmitted to and displayed on the client computer or terminal. The transmitting computer and receiving computer or terminal advantageously include a processor, an operating system (OS) loaded thereon, a video monitor used to display a graphical user interface (GUI) and a Hypertext Transfer Protocol (HTTP) compliant web browser capable of loading and displaying hypertext documents transmitted over the Internet, although the invention is not limited in scope in that respect. For example, the receiving terminal may be any device that is able to communicate with a remote server, such as a user computer terminal, a user dumb terminal, or a television based system, such as a Web TV® terminal and other devices.

Preferably, coded information for bringing about the change in appearance of the cursor are embedded within the web page being loaded and viewed. In one embodiment of the present invention, the web page is written in Hypertext Markup Language (HTML) which is one of the most common standard page description languages used to develop web pages. Typically a web browser retrieves a web page to be loaded on a user's terminal. The retrieved web page in accordance with one embodiment of the invention contains a set of predetermined instructions referred to herein as cursor display instructions. The browser or browser extension interprets the information contained in cursor display instructions and instructs the operating system of the user's terminal via an application programming interface (API) to check its memory to determine if the user terminal is capable of loading the coded image, animation, and/or soundbite. If the image, etc. has been previously cached in the client computer memory, the cursor display instructions instruct one or more of the many devices controlled by the operating system in the user's terminal, such as the video monitor and audio speakers to display the desired images, animation and play desired sounds. If the image, etc. has not been previously cached in the client computer's memory, the browser or browser extension retrieves the Information corresponding to the desired image from a remote server.

The present invention may serve to enhance banner advertisements which appear on a web page so as to remind users which company is sponsoring the particular page being viewed and to draw the user's attention to the banner advertisement. The present invention can also serve as a stand-alone branding vehicle as part of a "ubiquity campaign" to generate massive impressions among an audience of online users or can be simply used to make web sites more entertaining by providing animated, colorful cursors which may incorporate sound and/or animation, and which are configured so as to connote a relationship with the topic or subject of the web site.

The foregoing sets forth certain objects, features and advantages provided by exemplary embodiments of the present invention. Other objects and features of the present

invention will become apparent from the following detailed description considered in conjunction with the accompanying drawings. It is to be understood, however, that the drawings are designed solely for the purposes of illustration and not as a definition of the limits of the invention, for which reference should be made to the appended claims.

DETAILED DESCRIPTION OF THE DRAWINGS

In the drawings in which like reference characters denote similar elements throughout the several views:

FIG. **1** illustrates a diagrammatic representation of a computer network illustrating the interconnection of a plurality of computers in which the present invention is implemented;

FIG. **2** illustrates a client-server computer network supporting the hardware and software of the present invention;

FIG. **3** illustrates a flowchart diagram of an exemplary method of the present invention for obtaining information from a remote site for modifying a cursor image and implementing such information at numerous user sites;

FIG. **4** illustrates a portion of the Cursor Display Instructions which is referenced as a resource within an HTML document according to one embodiment of the present invention;

FIG. **5** illustrates a set of exemplary codes that cause the user terminal's cursor to be modified, then revert to its original shape in accordance with one embodiment of the present invention;

FIG. **6** illustrates a plurality of user interface attributes that may be remotely modified in accordance with one embodiment of the present invention, and

FIGS. **7–9** illustrate the appearance of a cursor prior to, during and after linking to a web page that contains cursor display instructions.

DETAILED DESCRIPTION OF THE PRESENTLY REFERRED EMBODIMENT

FIG. **1** illustrates a computer network, such as Internet **10**, based on the client-server model. Internet **10** comprises a worldwide network of computers known as "servers" **12** which are accessible by "client computers" or "user terminals" **14**, which are typically used by individual users or comprise a collection of personal computers interconnected via a Local Area Network or LAN, which are capable of accessing the Internet via a private Internet service or access provider (ISP) **16**, such as the AT&T Worldnet Service® or the IBM Global Network®, or via an online service provider **18**, such as America Online®, Compuserve®, the Microsoft Network® or Prodigy® (to name the most popular online service providers). One of the most common applications of the Internet is to support the World Wide Web ("WWW" or "the web"), which is a collection of servers on the Internet that utilize the Hypertext Transfer Protocol (HTTP), a known application protocol that facilitates data exchange between client and server and provides users or clients **14** access to files which can include text, graphics, sound, video, etc., using a standard page description language referred to as Hypertext Markup Language (HTML).

Each client computer **14** as indicated in FIG. **1**, includes a "web browser" or browser loaded on the client computer's hard drive **21**. A browser is a common software tool which allows graphical user interface (GUI)-based access to Internet network servers **12** through Internet Service Providers, ISPs, **16** or online service providers **18**. A server **12** functions as a so-called "web site" which supports and maintains a plurality of files in the form of documents and pages. A Uniform Resource Locator or URL identifies a specific network path to a server **12** or some resource located on that server which has a known syntax for defining the network connection. The fundamental intrinsic capabilities of the browser are: (1) the ability to communicate with other computers using HTTP, and (2) the ability to process and present HTML documents to the user via a graphical user interface, GUI.

Recent versions of most browsers provide a plethora **6f** other features beyond these two capabilities. For example, to increase its flexibility, the browser's intrinsic capabilities may be further extended through the use of software components, often called "controls" or "plug-ins". While the intrinsic capabilities of the browser are linked at compile-time ("statically"), the code which implements the capabilities of the control or plug-in component is linked with the browser's code at run-time ("dynamically"). By supporting these components through standard interface definitions, the browser's capabilities can be extended in ways never anticipated by its original manufacturer.

Another type of flexibility is offered when the browser implements some sort of command interpreter which is capable of interpreting and executing a code stream at run-time. In this case, the browser acts as a sort of "virtual machine" whose run-time behavior is completely governed by the code stream which it processes. The total scope of capabilities which can be realized with this approach is defined by the set of operations supported by the command interpreter.

Individually and collectively, these mechanisms provide a powerful and flexible platform which supports a wide range of Internet-based applications. Currently, some of the emerging standards govern the operation of these mechanisms, although the invention is not limited in scope in that respect. For example, Microsoft has created an interface definition for Windows "dynamic link libraries" and for ActiveX software components. Sun Microsystems has defined a software component model called JavaBeans. Sun has also created a virtual machine architecture and language called Java, which is supported via a variety of commercially available compilers. While a Java compiler translates source code into pseudo-code output called an "applet", which is in turn processed by the Java virtual machine, Microsoft, Sun, and others have also defined a set of HTML scripting languages whose source code is embedded directly in an HTML page. Microsoft's VBScript, JScript and Sun's JavaScript are examples of these embedded scripting languages.

The standard web page description language, HTML, provides basic document formatting and permits the web site developer to create and specify "links" or "hyperlinks" to other servers and files. Obtaining a web page or connecting to a web site requires the specification of a URL using an HTML-compliant client browser. After specifying the URL, client computer **14** initiates a request to server **12** identified in the link and connects to the web site and receives a web page. The request by client computer **14** to server **12** via the link is advantageously communicated via a TCP/IP (Transfer Control Protocol/Internet Protocol) communication, although the invention is not limited in this respect and other network connections or Internet protocols may be used.

Although an exemplary embodiment of the present invention is described based on the arrangement illustrated in FIG. **1**, it is noted that the invention is not limited in scope in that

arrangement and other types of system connections may be employed. For example, a plurality of user terminals may be connected to an online provider via dedicated communication channels, such as telephone lines. In accordance with this embodiment, the server system provides certain information that causes the cursor image on the video monitor of the user terminal to display an image as specified by the server system. As a result, the server system remotely defines and manages the shape and appearance of the cursor image in accordance with a pre-specified condition. The shape and appearance of the cursor image may correspond to the actual content of the data being provided to the user. Furthermore, regardless of the actual content of the data being provided to the user, the shape and appearance of the cursor image may be specified by the server system such that a plurality of user terminals at a desired point in time receive appropriate instructions to display the specified cursor image.

FIG. **2** provides a block diagram of hardware and software which is representative of a client-server network system connected via the Internet according to one embodiment of the present invention. The user or client computer or user terminal **14** typically includes a number of hardware components and software subsystems which cooperate to deliver the wide range of capabilities demanded by a modern computer application or program. These include not only the basic computational processor **23** and memory **20**, but also a variety of input and output devices such as the keyboard (not shown), mouse **22**, video display monitor **24**, audio speakers **26**, non-volatile storage such as a hard drive **21** and network communications systems **46** such as a modem among other devices. User terminal **14** is controlled via an operating system ("OS") **28** which serves to organize all the disparate elements within the computer **14** and expose them in a consistent and organized way to a program which may need some or all of these capabilities. The interface between a program, which is generally loaded within the computer's memory **20**, and the systems under the control of the operating system **28** is commonly referred to as the Application Programming Interface ("API") **30**, which is essentially a library of functions which the program ("application") can invoke when it needs to interact with any of these hardware subsystems.

As illustrated, user terminal **14** contains a browser **32** loaded within the computer's memory **20**, and is adapted to communicate with a browser extension or browser plug-in **34**, both which are adapted to communicate with the operating system **28** via the application programming interface API **30**. As illustrated, operating system **28** is supplemented by a set of "drivers" which control and provide the operating system **28** with access to peripheral devices which are a part of user terminal **14**. The drivers include display driver **36** which controls and provides the operating system **28** with access to the cursor image or pointer **44** projected on video display monitor **24**, a mouse driver **38** which controls and provides the operating system **28** with access to mouse **22**, an audio driver **40** which controls and provides the operating system **28** with access to speakers **26**. Operating system **28** is configured to provide animated images to the video monitor. Furthermore, in accordance with another embodiment of the invention, the display driver may be configured to provide animated images to the video monitor. Operating system **28** also provides access to a communication port **46** such as a modem which serves as a communication interface to the Internet **10**.

With continued reference to FIG. **2**, user terminal **14** is connected to Internet **10** via a modem or some other communication interface such that information may be transmitted between user terminal **14** and Internet **10** via communication lines such as telephone cables or fiber optic networks, among other types of transmission systems. Internet **10** is also connected to numerous network servers, such as a simplified representation of a WWW server which is indicated as **48**. Server **48** is provided with memory **50** into which the contents of certain data files are loaded. Such data files, among others, include Cursor Display Code **52**, Cursor Information **54**, and an HTML page containing Cursor Display Instructions **56**, all of which are discussed in greater detail herein below. As illustrated in FIG. **2**, these data files **52**, **54**, **56** are shown residing on the same server computer. However, the interconnected nature of the WWW allows these data files **52**, **54**, **56** to exist anywhere on Internet **10** For example, files **52** containing cursor display codes may be stored in various server systems, while files **54** containing cursor information may be stored in the same or other server systems, and files **56** containing HTML pages containing cursor display instructions may be stored in the same or yet other server systems.

In operation, WWW server **48** includes software which recognizes file requests received from WWW clients or users by communication port **58** and fulfills these requests by retrieving data stored in data files, i.e., Cursor Display Code **52**, Cursor Information **54**, and an HTML page containing Cursor Display Instructions **56**.

One of the characteristics of most recent software systems is the graphically oriented user interface (GUI) which is viewable on video monitor **24**. This graphical user interface helps to organize and filter the vast quantities of information which is accessible in a user terminal **14**. Fundamental to the graphical user interface is the pointing device, generally mouse **22** which allows the user to manipulate or input information into the user terminal **14**. Movement of mouse **22** is monitored by user terminal **14** which translates this movement into a corresponding movement of cursor **44** viewable on video monitor **24**. As such, operating system **28** may expose, as some subset of its API **30**, a set of functions which can be used to control aspects of the behavior and/or appearance of cursor **44**.

By combining the capabilities of browser extensions, such as indicated by **34** in FIG. **2**, with the capabilities to modify cursor **44**, it is possible for a WWW server, such as that indicated by **48** in FIG. **2**, to control the display characteristics of cursor **44** displayed on video monitor **24** of the user's computer **14**. By doing so, a cursor control arrangement is established which is capable of delivering information which supplements, enhances, or is completely independent of, other information transmitted from a server, such as indicated by **48**, through traditional means as via a communications port **58**. The basic conceptual components of such exemplary system for modifying cursor **44** comprises Cursor Display Code **52**, Cursor Information **54**, and Cursor Display Instructions **56**, discussed hereinabove with reference to FIG. **2**. Preferably, Cursor Display Code **52** comprises a set of instructions which are executed on the user terminal **14** and which interact directly with application programming interface **30** of the user terminal **14** and operating system **28** so as to accomplish the actual change of cursor **44**. Cursor Information **54** is, advantageously, a set of data which identifies the actual cursor image or images and corresponding audio content if desired. In one embodiment of the invention, Cursor Display Instruction **56** includes data that convey information that is used by Cursor Display Code **52** to control drivers, such as **36**, **40**, **46**, and to identify such things, which among others consist of: the

physical location of Cursor Information **54**, the format of its representation, the intended manner and duration of its display, and information pertaining to how (and for how long) any cached Cursor Information **54** should be stored.

In general, the fundamental elements of the process of changing cursor **44** displayed on video monitor **24** of user terminal **14** are as follows: Cursor Display Instructions **56** are initially embedded inside an HTML document, e.g. a web page. When browser **32** of the user terminal **14** encounters Cursor Display Instructions **56**, Cursor Display Code **52** is retrieved then invoked. As part of the invocation, the browser passes to the Cursor Display Code coded information sufficient to specify the manner of the display. Cursor Display Code **52** then retrieves Cursor Information **54** either from within memory **20** of user terminal **14** or from storage at a remote site and then causes the Cursor Information to interact with the display system, such as display driver **36**, of user terminal **14** via the application programming interface **30** of operating system **28**. This interaction causes Cursor Information **54** to be accessed by the display driver **36** in order to accomplish the intended effect, e.g., the change or transformation of cursor **44** visible on video monitor **24**, and a corresponding sound information may be heard on speakers **26**.

FIG. **4** illustrates the Cursor Display Instruction as a resource within an HTML document which is retrieved from a remote server. The Cursor Display Instructions as shown in FIG. **4** are written for ActiveX® technology, although the invention is not limited in scope to that technology. Among the information included within this resource definition is an identifier of the Cursor Display Code (the ActiveX® control), and the ActiveX® control's physical location on the Internet. This information is listed in lines **202–205** which generally identifies the Cursor Display Code. Line **204** of the Cursor Display Instruction is an identifier which comprises a globally unique name, often called a "Class ID", and which allows a particular ActiveX® control to be distinguished from all other ActiveX® controls, such that the wrong ActiveX® control is prevented from being utilized or retrieved. The remainder of the Cursor Display Instruction listed in lines **206–224** include the ActiveX® parameters or argument list as discussed hereinafter with reference to FIG. **3**. The argument list includes parameters which provide information such as the type of cursor image (line **206**), where the image can be retrieved from if not already resident on the user computer (line **207**), where usage statistics are to be transmitted to (line **208**), how long a changed image should remain before reverting, if at all, to the initial image (line **209**), whether the cursor image is cached in the user terminal (line **210**), whether the transmitting server is authorized to send cursor display instructions (line **211**), the dormant delay duration (line **212**), the URL of a file which specifies cursor trajectory path (line **213**), the URL of a file which specifies how the cursor's shape should change based on its location on the screen (line **214**), the URL of a file which specifies how the cursor's shape should change based on its velocity (line **215**), the URL of a file which specifies how the cursor's shape should change based on modifications to the mouse button or keyboard state (line **217**), specification of the type of modification intended (line **218**), specification of the priority of intended modification (line **219**), specification that the modifications will occur as a result of the transfer of a series of data files (line **220**), the URL of a file which specifies the display of a satellite image that tracks the movement of the cursor image (line **221–223**), and location of additional display instructions (line **224**). It is noted that the invention is not limited in scope in this respect and other features may be included in the Cursor Display Instructions data.

One embodiment of this method in accordance with the present invention is set forth in greater detail in the flowchart illustrated in FIG. **3**. This embodiment is discussed with reference to the use of ActiveX® technology currently promoted by the Microsoft Corp. The ActiveX® technology provides a mechanism for defining the format of Cursor Display Instructions **56**, for defining, identifying, and in some instances dynamically retrieving Cursor Display Code **52**, and for implementing the interaction between Cursor Display Instructions **56** and the Cursor Display Code **52** as previously described. Although the flowchart in FIG. **3** is discussed with reference to ActiveX® technology, the invention is not limited in this respect, and other technologies for use with browser extensions or "plug-ins" may be utilized in accordance with various embodiments of the present invention as illustrated in FIG. **3**. Furthermore, additional embodiments in accordance with the principles of the present invention may be incorporated within other application software employed in the user terminal. For example, the operating system or the browser itself may be configured to incorporate the mechanism for receiving and recognizing the Cursor Display Instructions and in return provide additional instructions for changing the image or appearance of the cursor display.

With reference to FIG. **3**, in step **102**, browser **32** of user terminal **14** retrieves an HTML file containing Cursor Display Instructions **56**. The HTML file is retrieved when the user directs browser **32** to a remote WWW server site (such as, for example server **48** as indicated in FIG. **2**) by specifying the uniform resource locator, URL, of the site on the Internet where the HTML file is located. When the HTML file is retrieved, it is loaded from the remote WWW server site at which point browser **32** of user terminal **14** begins its routine parsing of the HTML document and eventually encounters a reference to an ActiveX® control or some other information coded in an appropriate programming language such as Sun Microsystem Inc.'s Java® or VBScript®, which is embedded in the Cursor Display Instructions **56** within the HTML document. The Cursor Display Code is capable of interacting with tile application programming interface **30** of operating system **28** for the purpose of performing the change, transformation or "swap" of cursor **44** as it is presently displayed on video monitor **24**.

Upon encountering Cursor Display Instructions **56**, browser **32** recognizes Cursor Display Instructions **56** as a request to invoke the particular ActiveX® control with a particular argument list or set of parameters as illustrated in FIG. **4**. At step **104**, browser **32** examines Cursor Display Instructions **56** and uses a unique class identification within the Cursor Display Instructions **56** to determine whether Cursor Display Code **52** (ActiveX® control) is already resident within local memory **20** of user computer **14**.

If the Cursor Display Code **52** is not resident in local memory **14**, generally in the form of a browser extension or plug-in **34**, or if local memory contains an obsolete version of Cursor Display Code **52**, browser **32** attempts, at step **106**, to retrieve the ActiveX® control from a remote server on the Internet and store the Cursor Display Code in local memory **20** of user terminal **14** at step **108** With reference to FIG. **4**, these steps correspond to lines **202–205**.

Cursor Display Code **52** retrieved in step **106** may be client-platform specific and may also be browser specific such that browser **32** may transmit specific details to the remote server so that the remote server can deliver the appropriate Cursor Display Code **52**.

In accordance with another embodiment of the invention, browser extension or plug-in **34** may be configured such that it can recognize Cursor Display Instructions based on any one of the available technologies, such as Active X, JavaBeans, JavaScript or VBScript.

Furthermore, it is understood that data compression techniques may be used in order to reduce the amount of network traffic involved in the transmission of data over the Internet.

After Cursor Display Code **52** has been recognized by user terminal **14** as at step **104** or retrieved and loaded therein at steps **106** and **108**, operating system **28** is queried to determine the current cursor display configuration and this information is temporarily cached in local memory **20** of user terminal **14** at step **110** so that the cursor configuration may eventually be restored to its original state. Before any changes are made to cursor **44**, the system at step **111** determines whether server **48** is authorized to change cursor **44**. If authorization is not confirmed, no changes to cursor **44** transpire.

Step **112** is the first step which is executed from within the code of the ActiveX® control. At step **112**, the ActiveX® control determines whether the image specified (Cursor Information **54**) in the ActiveX® argument list which is to become the new cursor image exists in local memory **20** of user terminal **14**. If the specified image in the ActiveX® argument list exists in local memory **20**, it is retrieved therefrom at step **114**. An additional argument in the ActiveX® argument list (line **207**) identifies the location of this data on a remote server. If the specified image does not exist in local memory **20**, this data is utilized by the ActiveX® control to retrieve Cursor Information **54** at step **116** from the specified location.

At step **118**, an additional argument added within the ActiveX® control can be used to determine whether and for how long Cursor Information **54** should be cached in local memory **20**. At step **120** Cursor Information **54** is cached in local memory **20**. At step **122**, the cursor is caused to change in the manner consistent with the retrieved Cursor Display Instructions **56**. In an alternative embodiment, an additional step may be included which provides the user with the option of saving and storing the retrieved Cursor Information **54** in the computer's permanent memory on hard drive **21** even after the retrieved cursor is displayed. Storing the retrieved Cursor Information **54** in the computer's permanent memory saves time on the next occasion when the user loads a web page which requires the same cursor since the cursor is already stored within the computer's memory and need not be retrieved from a remote server.

Cursor Display Instructions **56** cause the invocation of an operating system function which causes the cursor to be displayed on video monitor **24**. More specifically, the ActiveX® control invokes the application programming interface **30** of operating system **28** which causes the cursor image displayed on video monitor **24** to change to the form intended as recited in the argument list. The changed cursor is not limited to image, and may also include animation as well as sound. It should also be appreciated that most computers utilize a multitude of cursor images depending upon the application and task which is being run on the computer. The invention is not limited to changing only a single cursor image and any and all cursor images controlled by the computer's display driver **36** may be caused to change.

At step **124** the ActiveX® control may send usage information to a particular remote server as coded in Cursor Display Instruction **56** or Cursor Display Code **52**. This information can be used to calculate the usage statistics of particular cursor images or cursor information and the context in which they are retrieved and viewed by users. In this particular embodiment, this information is conveyed as a data file transmitted to the remote server via HTTP. The invention is not, however, limited in the type of information and/or statistics which may be transmitted to the server, nor is the invention limited to being conveyed via HTTP as those skilled in the art will understand that such information may be conveyed via other transfer protocols. With reference to FIG. **4**, this step corresponds to line **208**. Additionally, the information may contain an identifying code for the server which issued the web page which contained the Cursor Display Instructions. This information could be used, for example, to verify that the issuing server has been granted the appropriate license to use the technology, by comparing a list of authorized servers or through digital signature validation.

In accordance with one embodiment of the present invention, the licensing arrangement is described in more detail, hereinafter. It is noted that licensing enforcement of the cursor display technology could be accomplished in several ways, and the invention is not limited in scope in that respect. As discussed previously, the server that transmits a web page may include the identity of the server in the form of a server ID within the Cursor Display Instructions. The user terminal then transmits the server ID to another server that among other things functions as a licensing body ("Licensing Body") so as to authenticate the server that transmits the web page as a valid licensee. Should this authentication fail, the execution of Cursor Display Instructions may not occur. In an alternative implementation, the execution of Cursor Display Instructions may be allowed to execute even if the issuer fails authentication. Such an infraction could be logged by the Licensing Body for use in enforcement through traditional channels. For performance reasons it may be desirable to collect the usage information for a plurality of Cursor Display Instructions as the user accesses multiple servers, and transmit the collection of information in batch form to the Licensing Body.

An alternative embodiment would involve the inclusion of an encrypted authentication code within the Cursor Display Instructions, as illustrated in line **211** of FIG. **4**, or via a separate exchange of data between the client and server. In order to ensure that this code could not be re-used by other, non-authorized sites, it could for example be derived from the server's IP address, the date and time at which it is generated, the argument list, or some other information that is accessible to the client. Another possibility would involve the transmission of a unique or pseudo-unique code, from the client to the server. Upon receipt of this authentication code, the client would perform a decryption and verify its authenticity. Under such circumstances, the server software could be augmented with an Authentication Code Module supplied by the Licensing Body which generates and encrypts this code. The mechanism by which this augmentation could occur is similar to that discussed previously in the context of extending the client browser. For example, the server software could be modified and statically linked to the Authentication Code. Alternatively, it could be dynamically linked at run-time. Another alternative would be to implement the Authentication Code as its own process on the server and facilitate an inter-process communication protocol such as the Common Gateway Interface ("CGI").

At step **126**, an ActiveX® control argument is used to determine whether the changed cursor should revert to its initial configuration. If it is intended to revert the changed

cursor to its initial configuration, the reversion is paused at step **128** for a specified time period. After it is determined at step **130** that the specified time period has lapsed, the changed cursor reverts to its original configuration at step **132**.

Whether the cursor is caused to revert to its initial configuration is of concern to many users so as to ensure that the user's computer configuration is not permanently altered as a result of the process of changing the cursor. As such, additional alternative measures may be added into Cursor Display Instructions **54** such that the changed cursor could be restored to its original configuration when the ActiveX® control is loaded or unloaded, when the computer starts up, is rebooted or is shut down, when the browser is activated or shut down, when an animated cursor completes its animation sequence, when instructed by a remote server, or as a result of some user input such as setting an option in the browser or accessing another web page or site. An alternative to adding parameters to the Cursor Display Instructions would be to control the process of changing the cursor to its initial state by a control program downloaded by and executed on the client computer. An example written in VBScript and interacting with an ActiveX control is included in FIG. **5**.

Additionally, one of the significant attributes of this embodiment is the manner in which Cursor Display Code **52** is retrieved from a remote server if it is not located in the computer's local memory. Since Cursor Display Code **52** may be operating system or browser specific, it may be necessary that the server with which the user computer **14** is communicating be informed by user terminal **14** of the specific type of Cursor Display Code **52** which is desired. In another embodiment of the invention, browser extension or plug-in **34** may be configured such that it can recognize Cursor Display Instructions based on any available technology such as ActiveX and JavaScript.

The operation of steps **102–132** as set forth in FIG. **3**, may be illustrated pictorially in FIGS. **7–9**. FIG. **7** illustrates an example of a typical web page **60** as it would appear on a user's video monitor **24** having the standard arrow cursor **44**. In FIG. **8**, there is illustrated a different web page **60***a* having a banner advertisement **62** for Fizzy Cola which contains Cursor Display Instructions. When web page **60***a* loads, the Cursor Display Instructions cause arrow cursor **44** to change into a Fizzy cola bottle shaped cursor **44***a* in conjunction with the Fizzy Cola banner advertisement. As illustrated in FIG. **9**, if the user then loads a new web page **60***b* which is not provided with Cursor Display Instructions, the cola bottle shaped cursor of FIG. **8**, reverts to the standard arrow cursor **44**.

It is also understood that ActiveX® is but one of numerous technologies utilized over the Internet with which a user's computer may interact in bringing about the change or transformation of the cursor displayed on video monitor **24**. Other implementations may utilize different technologies such as Windows dynamic link libraries, VBScript and JScript from Microsoft, as well as Java, JavaScript and JavaBeans from Sun Microsystems Inc. While these examples represent the dominant standards-based definitions, proprietary implementations could also be developed . Accordingly, while ActiveX® represents one embodiment of distributing and invoking Cursor Display Information **54** on a user's computer **14**, it is to be appreciated that there are a variety of alternative implementations, and this particular implementation should not be considered a limitation of the invention. For example, alternative versions of browser **32** may encapsulate the appropriate operating system application programming interface call within their own code modules such that a browser extension **34** is not required.

In yet another embodiment of the invention the tasks described in steps **102** through **132** may be employed cooperatively between browser and browser extension or plug-in **34**. Furthermore, browser **32** may employ a computational or processing engine such as an interpreter (as is the case with the Java® programming language, for example) which can extend the capabilities of browser **32** to a virtually unlimited degree.

It is also to be understood that in the course of carrying out the process of changing the cursor as discussed hereinabove, user terminal **14** may communicate with a multitude of remote servers as opposed to just a single server. For example, Cursor Display Codes may be retrieved from one remote server, Cursor Instructions may be retrieved from a second remote server, and the user terminal **14** may also be in communication with a third server to which it is transmitting the usage statistics.

Features identified in reference with FIG. **4** are described in more detail hereinafter. It is noted that in accordance with one embodiment of the invention, it may be desirable to modify the Cursor Display Code to improve its performance or enhance its capabilities. The server may transmit version information in the Cursor Display Instructions as illustrated in line **205** of FIG. **4**. The Cursor Display Code could compare this information with its own version information in order to determine whether it has been rendered obsolete by a more recent version. If so, the Cursor Display Code could retrieve the current version from a remote server and invoke execution on the new version.

In an alternative embodiment of the present invention the position, as well as the image, of the user terminal's cursor may be controlled by a remote server. This embodiment would be implemented within the Cursor Display Code **52** such that additional information could be passed to Cursor Display Code **52** via Cursor Display Instructions **56**. The additional information passed to Cursor Display Code **52** would contain code which indicates: (1) that the cursor position control is intended, (2) the conditions under which the cursor should be moved, and (3) the source of the data which specifies the particular movement that is intended. The latter could be stored in memory on a remote server and retrieved in a manner similar to retrieving Cursor Display Instructions **56** or the Cursor Display Code **52**. For example, if no user input is received for a specified interval, the cursor image could change and the position of the cursor could be set such that it follows a specified trajectory for several seconds, then reverts to its original state as illustrated by line **213** of FIG. **4**.

In accordance with another embodiment of the invention it is possible to vary the modification to the cursor as a function of cursor position. For example, the cursor pointer could be controlled such that it "points" to a specific location on the screen regardless of the cursor's location on the screen as illustrated in line **214** of FIG. **4**.

In accordance with another embodiment of the invention it is possible to vary the modification to the cursor as a function of cursor velocity. For example, the cursor image could change from a stationary bird to a bird with flapping wings only when the cursor is moved quickly across the screen as illustrated in line **215** of FIG. **4**. Furthermore, it is possible to vary the modification to the system-level user interface attributes as a function of mouse button state or keyboard state. For example, the image of a cube could be

replaced with that of a jack-in-the-box when the mouse button is depressed.

In accordance with another embodiment of the invention, it is possible to modify other "system-level" attributes of the client computer's user interface, hereafter called "system-level user interface attributes". These attributes, as illustrated in FIG. **6** are typically under the control of the operating system and, as such, they exist independently of the "user applications" (programs) and data which are stored on the computer and interact with that operating system. User applications interact with the operating system to deliver the computer's functionality to the user. Examples of user applications include word-processors, spreadsheets, web browsers, games, etc. The operating system may contribute certain user interface elements to the user interface of the applications running on it.

Because many of these attributes are inherited from the operating system by all applications running on that operating system, applications tend to exhibit a degree of commonality in their user interfaces. Examples of these attributes include: the shape and color of the cursor **401**, the shape and color of a status bar which displays current state information to the user **403**, the shape and color of the scroll bar which indicates the relative position and scope of the displayed sub-image to that of the underlying larger image to the user **407**, the shape and color of the title bar which displays current state information **409**, the shape and color of icons representing standard window operations such as close, minimize display size, restore display size, etc. **411**. Thus, these system level attributes may also be modified in response to Cursor Display Instructions data.

In addition, the operating system itself may have a user interface. Examples include: the images and sounds displayed when the computer starts or shuts down, the background image ("wallpaper") against which other graphical elements are displayed **413**, file catalogs and file selection mechanisms **415**, system icons **416**, file invocation mechanisms **417**, buttons **419**, process selection mechanisms **421**, etc. Further examples include the icons representing various system elements or information such as files **418**, groups of files **420**, files marked for deletion **422**, as well as standard, information bearing "dialog boxes", such as cancel, warning, illegal operation, stop, accept, continue, etc. **423**. The system may also support a set of audibly distinct waveforms which may be used to convey similar information to the user. These operating system user interfaces may also be modified in response to a Cursor Display Instruction data.

In yet another exemplary embodiment of the present invention a plurality of modifications to the system-level user interface attributes may occur simultaneously. For example, the cursor could animate while an audio waveform is playing, as the minimize display icon changes to a specific image.

A further feature of the invention is to accumulate information regarding the user's exposure time to various system-level user interface attribute modifications, and to vary the exposure to those modifications accordingly. For example, tie client could transmit exposure data to the server and the server would select a version of the image based on that data. Furthermore, the exposure data could be transmitted as part of the usage statistics discussed previously.

Another feature of the invention is to monitor the load being placed on the client system by the user and schedule data exchange with the servers so that it occurs when it is least disruptive to the user's activities.

It is also possible to allow the user to control the level of interface modification he or she wishes to entertain. For example, the user could specify that only those modifications of specific types, as illustrated on line **218** of FIG. **4** or of specific priority should be delivered, or even that none be delivered, as illustrated at lines **218** and **219** of FIG. **4**. This specification could be implemented directly by the user on the client system, or could be implemented through communication with a remote server.

In accordance with another embodiment of the invention it is possible to transmit the image and/or audio data which specifies the modification as a series of data files which are delivered in a continuous stream to the client, as illustrated at line **220** of FIG. **4**. These files are exposed to the user before the complete set of data has been delivered, thereby providing the capability for the initiation of long animations or audio files before the entire quantity of data has been received by the client.

A further feature of the invention is to support the display of a "satellite" image which tracks the cursor's position on the screen. For example, the cursor image could be replaced with that of a mouse, and the image of a cat could be displayed near that mouse. When the cursor is moved, the satellite image moves accordingly at a specific offset, as illustrated at lines **221–223** of FIG. **4**.

A further feature of the invention is to provide a mechanism for the user to quickly establish a connection with a specific server based on the specific user interface attribute modification which is in effect when the mechanism is invoked. For example, the user could press a specific key sequence on the keyboard and immediately jump to the web site related to the cursor image which is currently displayed.

In accordance with another embodiment of the invention, it is possible to convey additional detailed Cursor Display Instructions as a separate file which is explicitly retrieved from a server by the Cursor Display Code, as illustrated at line **224** of FIG. **4**.

For each modification to the system-level user interface attributes, an appropriate set of display instructions must be transmitted to the client. These could take the form of additional parameters in the Cursor Display Instructions as discussed previously, or they could be represented within a code module which is received by and executed on the client. As discussed previously, Java, and its related technologies could be used for such a purpose, but use of these technologies should not considered a limitation of the invention.

It is noted that there are numerous ways in which a system-level user interface attribute modification is accomplished in accordance with the principles of the present invention. It is further noted that system level user interface attributes may be modified independently or in conjunction with cursor modification. Furthermore, the system-level user interface attribute modification may be related to specific information displayed on the rest of the user's screen (hereafter referred to as "specific information") in many different ways. Thus, the present invention is not limited in scope to how content providers may relate the system-level user interface attribute with the specific information. Rather, at least one of the goals of the present invention is to enable the content providers to modify the system-level user interface attribute whenever and wherever they see fit. For example, content providers may modify system-level user interface attributes at a remote user's terminal for advertising, entertainment, information delivery, celebrating an event, or other reasons, and therefore, the invention is not

limited in scope in that respect. Furthermore, when a content provider elects to display a specified system-level user interface attribute in conjunction with and corresponding to specific information conveyed via the user's terminal, the cursor image and the background display data are deemed related.

Additional examples intended to illustrate some applications of the present invention are explained below, although the invention is not limited in scope to any one of these examples.

Thus, in accordance with one embodiment of the invention, a modified cursor might take the appearance of a "Fizzy Cola" bottle when a "Fizzy Cola" banner advertisement appears among the display data of a popular search engine's site. Similarly, the cursor can be modified for advertising purposes to represent Fizzy Cola's logo, its corporate mascot, images of its products or services, slogans, icons, brand images, advertising messages (the word "Thirsty?", for example), abstract suggestions (such as a straw or glass), etc.

Alternatively, Fizzy Cola, on its own site, or homepage, might have a picture of a bottle of Fizzy in the middle of the page (in the display data). A dynamic cursor image could then be used to show a person holding a straw in such a way that the straw always points from the user toward the top of the Fizzy bottle, no matter where the cursor moves on the screen. The straw, in this case, might be "attached" to the cursor image (part of the same image) or could be separate, "satellite" image, a "sprite," whose movement on the screen (in this case) is related to the movement of the cursor. Sprites, which can appear and disappear as desired, can enhance the invention by enabling the use of graphical elements which are associated with the cursor but which reside outside the limited cursor "space" (which in some systems may be, at maximum, 32 by 32 pixels). For the purposes of the invention, however, there should be no limitation to the size of the cursor.

Additional examples of modification to the cursor include rendering the cursor as a baseball bat (on a site with sports information), a pink but otherwise standard-shaped pointer (on a site about the Pink Panther), a witch-on-a-stick to celebrate Halloween, the Statue of Liberty to celebrate the Fourth of July, etc. All of the foregoing cursor images could be enhanced with related animations, such as the bat hitting the ball.

Similarly, the present invention can be used to replace not just the standard arrow but other standard cursors as well, such as the generic hand with pointing index finger (the icon commonly used in browsers to indicate that the pointer is positioned above a hot link). A site for children might, for example, replace this generic pointing-hand cursor with the pointing "paw" of a furry animal. A site dealing with horror movies might choose to replace this pointing hand with a bony skeleton-like hand.

Additional examples involve cursors with text or numbers. For example, the cursor might contain the text "Right-Click Now!" prompting users to click the right button of their mouse (where right-clicking on the mouse could, for example, trigger the delivery of a new page of display data). It may also be desirable in certain cases to put alphanumeric data in the cursor "space" to convey information to users, such as stock prices, baseball game scores, the temperature in Florida, etc. The data can be static, semi-static (i.e. updated periodically), or dynamic (updated frequently-possibly incorporating available streaming-data and data-compression technologies).

Use of associated sound, sprites, animations, and modified system display elements are provided as enhancements to the basic invention. For example, a Fizzy cola mascot could appear in the cursor space in conjunction with the speakers, attached to the user's machine, playing the sound of the mascot saying, "drink Fizzy!" Any time a content provider elects to incorporate said enhancements in conjunction with a new modified cursor image, the cursor image and said enhancements have been deemed related.

The present invention allows users to change cursor images, it also allows them to change them back. It may be desirable to revert the pointer to a previous or generic pointer image. Given the Fizzy Cola example above, if the page containing display data changes and there is no longer an advertisement for Fizzy, but rather an advertisement for its rival, Jazzy Cola, it may be desirable to ensure the removal of the Fizzy cursor image(s) and accompanying enhancements.

The foregoing examples are not intended to suggest limited uses for this invention; to the contrary, the examples are intended to illustrate the wide range of uses for this invention. The collective creativity of the online advertising, art, design, commerce, content publishing, and related industries will develop many novel and unforeseen ways to use the present invention. The versatility of the present invention should not be regarded as a limitation on its scope.

Thus, while there have been shown and described and pointed out fundamental novel features of the invention as applied to preferred embodiments thereof, it will be understood that various omissions and substitutions and changes in the form and details of the disclosed invention may be made by those skilled in the art without departing from the spirit of the invention. It is the intention, therefore, to be limited only as indicated by the scope of the claims appended hereto.

It is to be understood that the drawings are not necessarily drawn to scale, but that they are merely conceptual in nature.

We claim:

1. A server system for modifying a cursor image to a specific image having a desired shape and appearance displayed on a display of a remote user's terminal, said system comprising:

cursor image data corresponding to said specific image;

cursor display code, said cursor display code operable to modify said cursor image; and

a first server computer for transmitting specified content information to said remote user terminal, said specified content information including at least one cursor display instruction indicating a location of said cursor image data, said cursor display instruction and said cursor display code operable to cause said user terminal to display a modified cursor image on said user's display in the shape and appearance of said specific image, wherein said specified content information is transmitted to said remote user terminal by said first server computer responsive to a request from said user terminal for said specified content information, and wherein said specified content information further comprises information to be displayed on said display of said user's terminal, said specific image including content corresponding to at least a portion of said information to be displayed on said display of said user's terminal, and wherein said cursor display code is operable to process said cursor display instruction to modify said cursor image to said cursor image in the shape and appearance of said specific image in

response to movement of said cursor image over a display of said at least a portion of said information to be displayed on said display of said user's terminal, and wherein said specific image relates to at least a portion of said information to be displayed on said display of said remote user's terminal.

2. The server system in accordance with claim **1**, wherein said specific image comprises advertising material related to at least a portion of said information to be displayed on said display of said user's terminal.

3. The server system in accordance with claim **2**, wherein said advertising material further comprises a brand logo.

4. The server system in accordance with claim **2**, wherein said advertising material further comprises a corporate mascot.

5. The server system in accordance with claim **2**, wherein said advertising material further comprises images of a good or a service corresponding to said information to be displayed on said display of said user's terminal.

6. The server system in accordance with claim **2**, wherein said advertising material further comprises messages relating to said information to be displayed on said display of said user's terminal.

7. The server system in accordance with claim **1**, wherein said specific image has a shape and appearance corresponding to said information to be displayed on said display of said user's terminal.

8. The server system in accordance with claim **1**, wherein at least a portion of said cursor image data and said cursor display code are disposed locally to said first server computer.

9. The server system in accordance with claim **1**, wherein at least a portion of said cursor image data and said cursor display code are disposed within a second server computer located remotely to said first server computer.

10. The server system in accordance with claim **1**, wherein at least a portion of said cursor image data and said cursor display code are disposed locally to said user's terminal.

11. The server system in accordance with claim **9** wherein said first server computer in response to a request from said user terminal transmits information stored in said second server computer to said user terminal.

12. The server system in accordance with claim **1**, wherein said specified content information is transmitted in the form of HTML files that define a web page.

13. The server system in accordance with claim **12**, wherein said cursor image data includes at least in part an advertisement for goods or services contained in said web page.

14. The server system in accordance with claim **1**, wherein said user terminal includes a browser application responsive to said cursor display instruction, said browser application executing said cursor display code using parameters defined in said cursor display instruction.

15. The server system in accordance with claim **1**, said cursor display instruction further comprising an image identifier indicating said cursor image data corresponding to said specific image.

16. The server system in accordance with claim **1** wherein said first server computer transmits said cursor image data in response to a request received from said remote user terminal indicating that a copy of said cursor image data is not stored in said remote user terminal.

17. The server system in accordance with claim **1** wherein said cursor display instruction further comprises an image identifier that corresponds to a graphic animation sequence.

18. The server system in accordance with claim **17**, wherein said cursor display instruction further comprises instructions operable to modify said specific image to display said graphic animation sequence.

19. The server system in accordance with claim **1**, wherein said cursor display instruction further comprises an audio identifier that corresponds to an audio information sequence.

20. The server system in accordance with claim **19**, wherein said cursor display instruction further comprises instructions operable to play an audio clip corresponding to said audio information sequence.

21. The server system in accordance with claim **1**, wherein said cursor display instruction further comprises information that controls a duration of time said specific image is displayed on said display of said remote user's terminal.

22. The server system in accordance with claim **1**, wherein said specified content information is transmitted in the form of one or more hypertext objects.

23. The server system in accordance with claim **1**, wherein said specified content information includes instructions executable by a virtual machine on said user terminal.

24. The server system in accordance with claim **1**, wherein said specified content information includes HTML tags recognized by said cursor display code.

25. The server system in accordance with claim **1**, wherein said cursor display code generates usage data for calculating usage statistics of said specific image.

26. The server system in accordance with claim **1**, wherein said cursor display instruction transmitted to said remote user terminal initiates communication with a plurality of server systems for obtaining additional cursor image data.

27. A server system for modifying a cursor image to a specific image having a desired shape and appearance displayed on a display of a remote user's terminal, said system comprising:

cursor image data corresponding to said specific image;

cursor display code, said cursor display code operable to modify said cursor image; and

a first server computer for transmitting specified content information to said remote user terminal, said specified content information including at least one cursor display instruction indicating a location of said cursor image data, said cursor display instruction and said cursor display code operable to cause said user terminal to display a modified cursor image on said user's display in the shape and appearance of said specific image, wherein said specified content information is transmitted to said remote user terminal by said first server computer responsive to a request from said user terminal for said specified content information, and wherein said specified content information further comprises information to be displayed on said display of said user's terminal, said specific image including content corresponding to at least a portion of said information to be displayed on said display of said user's terminal, and wherein said cursor display code is operable to process said cursor display instruction to modify said cursor image to said cursor image in the shape and appearance of said specific image in response to movement of said cursor image over a specified location on said display of said user's terminal, and wherein said specific image relates to at least a portion of said information to be displayed on said display of said remote user's terminal.

28. The server system in accordance with claim 27, wherein said specific image comprises advertising material related to at least a portion of said information to be displayed on said display of said user's terminal.

29. The server system in accordance with claim 28, wherein said advertising material further comprises a brand logo.

30. The server system in accordance with claim 28, wherein said advertising material further comprises a corporate mascot.

31. The server system in accordance with claim 28, wherein said advertising material further comprises images of a good or a service corresponding to said information to be displayed on said display of said user's terminal.

32. The server system in accordance with claim 28, wherein said advertising material further comprises messages relating to said information to be displayed on said display of said user's terminal.

33. The server system in accordance with claim 27, wherein said specific image has a shape and appearance corresponding to said information to be displayed on said display of said user's terminal.

34. The server system in accordance with claim 27, wherein at least a portion of said cursor image data and said cursor display code are disposed locally to said first server computer.

35. The server system in accordance with claim 27, wherein at least a portion of said cursor image data and said cursor display code are disposed within a second server computer located remotely to said first server computer.

36. The server system in accordance with claim 27, wherein at least a portion of said cursor image data and said cursor display code are disposed locally to said user's terminal.

37. The server system in accordance with claim 35 wherein said first server computer in response to a request from said user terminal transmits information stored in said second server computer to said user terminal.

38. The server system in accordance with claim 27, wherein said specified content information is transmitted in the form of HTML files that define a web page.

39. The server system in accordance with claim 38, wherein said cursor image data includes at least in part an advertisement for goods or services contained in said web page.

40. The server system in accordance with claim 27, wherein said user terminal includes a browser application responsive to said cursor display instruction, said browser application executing said cursor display code using parameters defined in said cursor display instruction.

41. The server system in accordance with claim 27, said cursor display instruction further comprising an image identifier indicating said cursor image data corresponding to said specific image.

42. The server system in accordance with claim 27 wherein said first server computer transmits said cursor image data in response to a request received from said remote user terminal indicating that a copy of said cursor image data is not stored in said remote user terminal.

43. The server system in accordance with claim 27 wherein said cursor display instruction further comprises an image identifier that corresponds to a graphic animation sequence.

44. The server system in accordance with claim 43, wherein said cursor display instruction further comprises instructions operable to modify said specific image to display said graphic animation sequence.

45. The server system in accordance with claim 27, wherein said cursor display instruction further comprises an audio identifier that corresponds to an audio information sequence.

46. The server system in accordance with claim 45, wherein said cursor display instruction further comprises instructions operable to play an audio clip corresponding to said audio information sequence.

47. The server system in accordance with claim 27, wherein said cursor display instruction further comprises information that controls a duration of time said specific image is displayed on said display of said remote user's terminal.

48. The server system in accordance with claim 27, wherein said specified content information is transmitted in the form of one or more hypertext objects.

49. The server system in accordance with claim 27, wherein said specified content information includes instructions executable by a virtual machine on said user terminal.

50. The server system in accordance with claim 27, wherein said specified content information includes HTML tags recognized by said cursor display code.

51. The server system in accordance with claim 27, wherein said cursor display code generates usage data for calculating usage statistics of said specific image.

52. The server system in accordance with claim 27, wherein said cursor display instruction transmitted to said remote user terminal initiates communication with a plurality of server systems for obtaining additional cursor image data.

53. A method for modifying an initial cursor image displayed on a display of a user terminal connected to at least one server, comprising:

receiving a request at said at least one server to provide specified content information to said user terminal;

providing said specified content information to said user terminal in response to said request, said specified content information including at least one cursor display instruction and at least one indication of cursor image data corresponding to a specific image; and

transforming said initial cursor image displayed on said display of said user terminal into the shape and appearance of said specific image in response to said cursor display instruction, wherein said specified content information includes information that is to be displayed on said display of said user's terminal, wherein said specific image includes content corresponding to at least a portion of said information that is to be displayed on said display of said user's terminal, and wherein said cursor display instruction indicates a cursor display code operable to process said cursor display instruction to modify said cursor image to said cursor image in the shape and appearance of said specific image in response to movement of said cursor image over a display of said at least a portion of said information to be displayed on said display of said user's terminal, and wherein said specific image has a shape and appearance relating to said information to be displayed.

54. The method in accordance with claim 53, wherein said transforming further comprises executing said cursor display code so as to display said specific cursor image while at least a portion of said information to be displayed is displayed on said display of said user's terminal.

55. The method in accordance with claim 53, wherein said displaying of said specific image further comprises displaying advertising material related to at least a portion of said information to be displayed.

56. The method in accordance with claim 55, wherein said advertising material further comprises a brand logo.

57. The method in accordance with claim 55, wherein said advertising material further comprises a corporate mascot.

58. The method in accordance with claim 55, wherein said advertising material further comprises images of a good or a service corresponding to said information to be displayed.

59. The method in accordance with claim 55, wherein said advertising material further comprises messages relating to said information to be displayed.

60. The method in accordance with claim 53, wherein said specified content information further comprises HTML files that define a web page.

61. The method in accordance with claim 60, wherein said cursor image data corresponds to an advertisement for goods or services contained in said web page.

62. The method in accordance with claim 53, wherein said transforming further comprises:

employing a browser application including said cursor display code responsive to said cursor display instruction; and

executing said cursor display code by employing parameters defined in said cursor display instruction.

63. The method in accordance with claim 53 wherein said specified content information comprises an image identifier that corresponds to the location of data representing said specific image.

64. The method in accordance with claim 53, further comprising transmitting said cursor image data in response to a request received from said remote user terminal indicating that a copy of said cursor image data is not stored in said remote user terminal.

65. The method in accordance with claim 53, wherein said cursor display instructions further comprises an image identifier that corresponds to a graphic animation sequence.

66. The method in accordance with claim 65, further comprising modifying said remote user terminal's cursor to display said graphic animation sequence.

67. The server system in accordance with claim 53, wherein said cursor display instruction further comprises an audio identifier that corresponds to an audio information sequence.

68. The server system in accordance with claim 67, further comprising playing an audio clip corresponding to said audio information sequence responsive to displaying said specific image.

69. The method in accordance with claim 53 further comprising controlling a duration of time said specific image is displayed on said remote user's display.

70. The method in accordance with claim 53, further comprising providing usage data by said cursor display code for calculating usage statistics of said specific image, responsive to said cursor display instruction.

71. A computer storage device readable by a machine, tangibly embodying a program of instructions executable by the machine to perform the method steps in claim 53.

72. A method for modifying an initial cursor image displayed on a display of a user terminal connected to at least one server, comprising:

receiving a request at said at least one server to provide specified content information to said user terminal;

providing said specified content information to said user terminal in response to said request, said specified content information including at least one cursor display instruction and at least one indication of cursor image data corresponding to a specific image; and

transforming said initial cursor image displayed on said display of said user terminal into the shape and appearance of said specific image in response to said cursor display instruction, wherein said specified content information includes information that is to be displayed on said display of said user's terminal, wherein said specific image includes content corresponding to at least a portion of said information that is to be displayed on said display of said user's terminal, and wherein said cursor display instruction indicates a cursor display code operable to process said cursor display instruction to modify said cursor image to said cursor image in the shape and appearance of said specific image in response to movement of said cursor image over a specified location on said display of said user's terminal, and wherein said specific image has a shape and appearance relating to said information to be displayed.

73. The method in accordance with claim 72, wherein said transforming further comprises executing said cursor display code so as to display said specific cursor image while at least a portion of said information to be displayed is displayed on said display of said user's terminal.

74. The method in accordance with claim 72, wherein said displaying of said specific image further comprises displaying advertising material related to at least a portion of said information to be displayed.

75. The method in accordance with claim 74, wherein said advertising material further comprises a brand logo.

76. The method in accordance with claim 74, wherein said advertising material further comprises a corporate mascot.

77. The method in accordance with claim 74, wherein said advertising material further comprises images of a good or a service corresponding to said information to be displayed.

78. The method in accordance with claim 74, wherein said advertising material further comprises messages relating to said information to be displayed.

79. The method in accordance with claim 72, wherein said specified content information further comprises HTML files that define a web page.

80. The method in accordance with claim 79, wherein said cursor image data corresponds to an advertisement for goods or services contained in said web page.

81. The method in accordance with claim 72, wherein said transforming further comprises:

employing a browser application including said cursor display code responsive to said cursor display instruction; and

executing said cursor display code by employing parameters defined in said cursor display instruction.

82. The method in accordance with claim 72 wherein said specified content information comprises an image identifier that corresponds to the location of data representing said specific image.

83. The method in accordance with claim 72, further comprising transmitting said cursor image data in response to a request received from said remote user terminal indicating that a copy of said cursor image data is not stored in said remote user terminal.

84. The method in accordance with claim 72, wherein said cursor display instructions further comprises an image identifier that corresponds to a graphic animation sequence.

85. The method in accordance with claim 84, further comprising modifying said remote user terminal's cursor to display said graphic animation sequence.

86. The server system in accordance with claim 72, wherein said cursor display instruction further comprises an audio identifier that corresponds to an audio information sequence.

87. The server system in accordance with claim 86, further comprising playing an audio clip corresponding to said audio information sequence responsive to displaying said specific image.

88. The method in accordance with claim 72 further comprising controlling a duration of time said specific image is displayed on said remote user's display.

89. The method in accordance with claim 72, further comprising providing usage data by said cursor display code for calculating usage statistics of said specific image, responsive to said cursor display instruction.

90. A computer storage device readable by a machine, tangibly embodying a program of instructions executable by the machine to perform the method steps in claim 72.

91. An internet browser computer program stored on a computer readable medium, said internet browser configured to modify a cursor image to a shape and appearance a desired shape and appearance displayed on a display of a remote user's terminal, said internet browser comprising:

program code operable to receive specified content information from a remote server, said specified content information comprising information to be displayed on said remote user's terminal and at least one cursor display instruction, wherein said specific image includes content corresponding to at least a portion of said information to be displayed on said remote user's terminal, and wherein said cursor display instruction indicates cursor image data corresponding to said specific image;

program code operable to recognize said cursor display instruction in connection with processing said information to be displayed on said display; and

program code operable to execute a cursor display code, in response to said cursor display instruction and movement of said cursor image over a display of said at least a portion of said information to on said remote user's terminal, said cursor display code being operable to modify said cursor image to said specific image, and wherein said specific image corresponds to at least a portion of said information to be displayed on said display of said user's terminal.

92. The internet browser in accordance with claim 91 further comprising program code operable to retrieve said cursor image data from a prespecified server, when said cursor image data is not stored in said user terminal.

93. The internet browser in accordance with claim 91 further comprising program code operable to retrieve said cursor display code from a prespecified server, when said cursor display code is not stored in said user terminal.

94. The internet browser in accordance with claim 91 further comprising program code operable to determine whether cursor display instructions received by said user terminal were transmitted by an authorized server.

95. The internet browser in accordance with claim 91 further comprising program code operable to transmit statistical information to a prespecified server so as to provide information relating to the usage of said specific image.

96. The internet browser in accordance with claim 91, wherein said specific image reverts back to its original shape and appearance after a prespecified duration.

97. The internet browser in accordance with claim 95 further comprising program code operable to store said cursor display code in a memory located locally to said user terminal.

98. The internet browser in accordance with claim 91 further comprising program code operable to provide audio clips corresponding to said display of said specific image.

99. The internet browser in accordance with claim 98 wherein information relating to said audio clips is contained within said cursor display instruction.

100. The internet browser in accordance with claim 91 further comprising program code operable to provide animated images corresponding to said specific image.

101. The internet browser in accordance with claim 104 wherein information relating to said animated images are contained within said cursor display instruction.

102. The internet browser in accordance with claim 91, wherein said specific image comprises advertising material related to at least a portion of said information to be displayed on said display of said user's terminal.

103. The internet browser in accordance with claim 102, wherein said advertising material further comprises a brand logo.

104. The internet browser in accordance with claim 102, wherein said advertising material further comprises a corporate mascot.

105. The internet browser in accordance with claim 102, wherein said advertising material further comprises images of a good or a service corresponding to said information to be displayed on said display of said user's terminal.

106. The internet browser in accordance with claim 102, wherein said advertising material further comprises messages relating to said information to be displayed on said display of said user's terminal.

107. The internet browser in accordance with claim 91, wherein said specific image has a shape and appearance related to said information to be displayed on said display of said display of said user's terminal.

108. The internet browser in accordance with claim 91, wherein said specified content information is transmitted in the form of at least one HTML file that defines a web page.

109. The internet browser in accordance with claim 91, wherein said specified content information is transmitted in the form of one or more hypertext objects.

110. The internet browser in accordance with claim 91; wherein said specified information content is executable at least in part by a virtual machine on said user terminal.

111. The internet browser in accordance with claim 91, wherein said specified information content includes at least one instruction in an interpreted programming language.

112. An internet browser computer program stored on a computer readable medium, said internet browser configured to modify a cursor image to a specific image having a desired shape and appearance displayed on a display of a remote user's terminal, said internet browser comprising:

program code operable to receive specified content information from a remote server, said specified content information comprising information to be displayed on said remote user's terminal and at least one cursor display instruction, wherein said specific image includes content corresponding to at least a portion of said information to be displayed on said remote user's terminal, and wherein said cursor display instruction indicates cursor image data corresponding to said specific image;

program code operable to recognize said cursor display instruction in connection with processing said information to be displayed on said display; and

program code operable to execute a cursor display code, in response to said cursor display instruction and movement of said cursor image over a specified location on said display, said cursor display code being operable to modify said cursor image to said specific image, and wherein said specific image corresponds to at least a

portion of said information to be displayed on said display of said user's terminal.

113. The internet browser in accordance with claim **112** further comprising program code operable to retrieve said cursor image data from a prespecified server, when said cursor image data is not stored in said user terminal.

114. The internet browser in accordance with claim **112** further comprising program code operable to retrieve said cursor display code from a prespecified server, when said cursor display code is not stored in said user terminal.

115. The internet browser in accordance with claim **112** further comprising program code operable to determine whether cursor display instructions received by said user terminal were transmitted by an authorized server.

116. The internet browser in accordance with claim **112** further comprising program code operable to transmit statistical information to a prespecified server so as to provide information relating to the usage of said specific image.

117. The internet browser in accordance with claim **112**, wherein said specific image reverts back to its original shape and appearance after a prespecified duration.

118. The internet browser in accordance with claim **116** further comprising program code operable to store said cursor display code in a memory located locally to said user terminal.

119. The internet browser in accordance with claim **112** further comprising program code operable to provide audio clips corresponding to said display of said specific image.

120. The internet browser in accordance with claim **118** wherein information relating to said audio clips is contained within said cursor display instruction.

121. The internet browser in accordance with claim **112** further comprising program code operable to provide animated images corresponding to said specific image.

122. The internet browser in accordance with claim **121** wherein information relating to said animated images are contained within said cursor display instruction.

123. The internet browser in accordance with claim **112**, wherein said specific image comprises advertising material related to at least a portion of said information to be displayed on said display of said user's terminal.

124. The internet browser in accordance with claim **123**, wherein said advertising material further comprises a brand logo.

125. The internet browser in accordance with claim **123**, wherein said advertising material further comprises a corporate mascot.

126. The internet browser in accordance with claim **123**, wherein said advertising material further comprises images of a good or a service corresponding to said information to be displayed on said display of said user's terminal.

127. The internet browser in accordance with claim **123**, wherein said advertising material further comprises messages relating to said information to be displayed on said display of said user's terminal.

128. The internet browser in accordance with claim **112**, wherein said specific image has a shape and appearance related to said information to be displayed on said display of said display of said user's terminal.

129. The internet browser in accordance with claim **112**, wherein said specified content information is transmitted in the form of at least one HTML file that defines a web page.

130. The internet browser in accordance with claim **112**, wherein said specified content information is transmitted in the form of one or more hypertext objects.

131. The internet browser in accordance with claim **112**, wherein said specified information content is executable at least in part by a virtual machine on said user terminal.

132. The internet browser in accordance with claim **112**, wherein said specified information content includes at least one instruction in an interpreted programming language.

* * * * *

SERIAL NUMBER	FILING DATE	CLASS	GROUP ART UNIT	ATTORNEY DOCKET NO.
09/400,038	09/21/99	345	2773	COMET-001CX

APPLICANT

JAMES SAMUEL ROSEN, NEW YORK, NY; THOMAS A. SCHMITTER, CHARLESTOWN, MA; MARK S. HALL, SOUTH ORANGE, NJ.

CONTINUING DOMESTIC DATA********
VERIFIED THIS APPLN IS A CON OF 08/882,580 06/25/97 US PAT NO 5,995,102

cj

371 (NAT'L STAGE) DATA******** None
VERIFIED

cj

FOREIGN APPLICATIONS******** None
VERIFIED

cj

IF REQUIRED, FOREIGN FILING LICENSE GRANTED 10/13/99 ** SMALL ENTITY **

Foreign Priority claimed / 35 USC 119 (a-d) conditions met / Verified and Acknowledged	STATE OR COUNTRY	SHEETS DRAWING	TOTAL CLAIMS	INDEPENDI CLAIMS
☐yes ☑no / ☐yes ☑no ☐Met after Allowance / cj (Examiner's Initials) (Initials)	NY	9	132	6

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TITLE

SERVER SYSTEM AND METHOD FOR MODIFYING A CURSOR IMAGE

FILING FEE RECEIVED		
$1,505	FEES: Authority has been given in Paper No. _____ to charge/credit DEPOSIT ACCOUNT NO. _____ for the following:	☐ All Fees ☐ 1.16 Fees (Filing) ☐ 1.17 Fees (Processing Ext. of time) ☐ 1.18 Fees (Issue) ☐ Other _____ ☐ Credit

PATENT APPLICATION SERIAL NO. _____

U.S. DEPARTMENT OF COMMERCE
PATENT AND TRADEMARK OFFICE
FEE RECORD SHEET

10/01/1999 DTHOMAS 00000060 09400038

01 FC:201	380.00	OP
02 FC:202	117.00	OP
03 FC:203	1008.00	OP

PTO-1556
(5/87)
*U.S. GPO 1998-433-214/80404

12/96 FORM 1

TRANSMITTAL FORM FOR FILING PATENT APPLICATION

Attorney
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Date: September 21, 1999

First Named Inventor or
Application Identifier: James S. Rosen

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

Sir:

Transmitted herewith under 37 CFR § 1.53 for filing is the patent application of:

Inventors: James S. Rosen, Thomas A. Schmitter, and Mark S. Hall

Entitled: SERVER SYSTEM AND METHOD FOR MODIFYING A CURSOR IMAGE

[X] This is a request for filing a [X] **continuation** [ ] **divisional** [ ] **continuation in-part** application under §1.53(b) of prior Application No.08/882,580, filed June 25, 1997 entitled: SERVER SYSTEM AND METHOD FOR MODIFYING A CURSOR IMAGE

Enclosed are:

[X] 67 pages of written description, claims and Abstract, inclusive

[X] 9 sheets of [X] informal [ ] formal drawings of Figs. 1-9 (one set)

[X] Oath or Declaration
- [ ] Newly executed (original or copy)
- [X] Copy from prior application (37 CFR 1.63(d)) (for continuation/divisional). The entire disclosure of the prior application, from which a copy of the oath or declaration is supplied, is considered as being part of the disclosure of the accompanying application and is hereby incorporated by reference therein.
- [ ] To be filed later

[ ] Cover sheet and Assignment of the invention to:

[ ] Certified copy of a _____ application (if foreign priority is claimed) with letter claiming priority under Rule 55.

[X] Information Disclosure Statement with 16 citations (copies in parent case)
[X] Preliminary amendment is enclosed.
[X] Return receipt postcard
[X] Revocation of Power of Attorney and Appointment of A New Power of Attorney
[X] Verified statement of Small Entity was filed in prior application. Status still proper and desired.
[X] Change of Correspondence Address Application

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TRANSMITTAL FORM FOR FILING PATENT APPLICATION (CONTINUED)

Attorney
Docket No.: COMET-001CX

[X] Priority is claimed under 35 USC § 120 as indicated on the attached sheet 4.

[ ] Priority is claimed under 35 USC §119(a)-(d) as indicated on the attached sheet 4.

[ ] Priority is claimed under 35 USC §119 (e) as indicated on the attached sheet 4.

[X] David A. Dagg is hereby appointed Associate Attorney by:
Registration No.: 37,809

Attorney of Record: Victor B. Lebovici
Registration No.: 30,864

[ ] **Power of Attorney** in the originally-filed application has been granted to one or more of the registered attorneys listed below. The attorneys listed below not previously granted power in the originally-filed application, as well as _____, are hereby given associate power:
Registration No.:

Stanley M. Schurgin, Reg. No. 20,979
Charles L. Gagnebin III, Reg. No. 25,467
Paul J. Hayes, Reg. No. 28,307
Victor B. Lebovici, Reg. No. 30,864
Eugene A. Feher, Reg. No. 33,171
Beverly E. Hjorth, Reg. No. 32,033
Holliday C. Heine, Reg. No. 34,346
Gordon R. Moriarty, Reg. No. 38,973

[ ] Cancel in this application original claims _____of the prior application before calculating the filing fee. (At least one original independent claim must be retained for filing purposes.)

[ ] Add in this application claims _____ per amendment before calculating fee.

CLAIMS FILED:	MINUS BASE:	EXTRA CLAIMS:	RATE:	BASIC FEE:
				$760.00
Independent	6 - 3	= 3	x $78.00 =	234.00
Total	132 - 20	= 112	x $18.00 =	2,016.00
[ ] Multiple Dependent Claims (1st presentation)			+ $260.00 =	0.00
				$3,010.00
Small Entity filing, divide by 2. (Note: verified statement must be attached per §1.9, §1.27, §1.28.)				$1,505.00
				$1,505.00

[X] The filing fee has been calculated above; a check in the amount of $1,505.00 is enclosed.
[ ] The filing fee will be submitted at a later date.

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12/96 FORM 1

Attorney Docket No.: COMET-001CX

TRANSMITTAL FOR FILING PATENT APPLICATION (CONTINUED)

[X] In the event a Petition for Extension of Time under 37 CFR §1.17 is required by this paper and not otherwise provided, such Petition is hereby made and authorization is provided herewith to charge Deposit Account No. 23-0804 for the cost of such extension.

[X] The Commissioner is hereby authorized to charge payment of any additional filing fees under 37 CFR §1.16 associated with this communication or credit any overpayment to Deposit Account No. 23-0804.

Address all future communications to:

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Attorney Docket No.: COMET-001CX

TRANSMITTAL FOR FILING PATENT APPLICATION (CONTINUED)

[X] Priority is claimed under 35 USC § 120 of prior Application(s) No. 08/882,580, filed June 25, 1997, entitled: SERVER SYSTEM AND METHOD FOR MODIFYING A CURSOR IMAGE

[X] The above-identified application(s) is/are assigned of record to: COMET SYSTEMS, INC.

[ ] Priority is claimed under 35 USC § 119 (a)-(d) of the following application(s).

(Application Number)	(Country)	(Filing Date)
(Application Number)	(Country)	(Filing Date)
(Application Number)	(Country)	(Filing Date)

[ ] The above-identified application(s) is/are assigned of record to:

[ ] Priority is claimed under 35 USC § 119 (e) of the following provisional application(s).

(Application Number)	(Filing Date)
(Application Number)	(Filing Date)
(Application Number)	(Filing Date)

[ ] The above-identified provisional application(s) is/are assigned of record to:

[ ] The claim of small entity status in the above-identified provisional application(s) is made in this application and a copy of the small entity form(s) from the provisional application(s) is/are enclosed.

DAD/jde/enc.
SUBMIT IN TRIPLICATE

211417

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JC568 U.S. PTO
09/21/99

APPLICATION FOR

UNITED STATES LETTERS PATENT

SERVER SYSTEM AND METHOD FOR MODIFYING A CURSOR IMAGE

Inventors:

James Rosen
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Mark Hall

Express Mail Number
EL231115410US

09/21/99 JC58 U.S. PTO

Ins. B1 B1

Field Of The Invention

This invention relates to computer networks and software, and more particularly, to a server system capable of modifying a cursor image displayed on a remote client computer.

Background Of The Invention

The World Wide Web ("WWW" or "web") and online services such as America Online, in conjunction with faster and more powerful personal computers, have rendered the Internet and other interactive online computer networks accessible to millions of people all over the world. Concomitant with the emergence of this new communication medium, digital content providers have proliferated, providing online news, entertainment, games and all sorts of other content. As with other mass mediums, such as television, radio, and print publications, the entities that create such content seek to offset their expenses by selling advertising. With reference to the WWW, online advertising has become a multimillion dollar business, to the amount of approximately $300 million dollars in 1996.

The most common type of online advertisement exists in the form of "banner advertisements". Users of online services routinely encounter banner ads on the top, sides, and/or bottom of their video monitor screens when viewing a web page. Banner ads are generally square or rectangular boxes provided with some combination of graphics, color and text directed to the product or service being advertised. As such, the intention of these banner advertisements is to create impressions among online users and to convey some advertising message and/or logo. Banner ads are usually provided on a web page in the form of a "hyperlink", in which users who

yield to the advertisement's solicitation to "Click Here" are transported to the web site of the manufacturer of the product or service being advertised, or to some other screen which provides additional information about the product or service.

Unfortunately, banner ads occupy only a small portion of a web page. As the user scrolls down a page the banner ad disappears. Although online advertisers and content publishers have attempted to optimize the visibility of banner advertisements by placing them on a popular web page where they will have a greater chance of being seen, Internet users, nevertheless, can easily ignore or find ways to remove and eliminate from their view the banner ads which exist on the web pages they are viewing. As such, the banner ads are rendered ineffective in their aim to provide information about a product or service. Additionally, money spent to advertise a product may be wasted if users are able to ignore or remove the advertisements from the web pages they are viewing.

Another method of online advertising involves the use of "frames" on a web page. Frames are a feature supported by the recent versions of leading web navigating programs known as browsers, such as Netscape Navigator® and Microsoft's Internet Explorer®. Frames generally divide up a user's screen so that the user can, for example, independently scroll down each of numerous frames which appear on the web page being viewed on the user's screen. Like banner advertisements, frames can be aesthetically unappealing as well as confusing to the user. Additionally, placement of advertising frames on a web page generally results in cramping or decreasing the size of the main content frame which oftentimes renders the content in the main frame difficult to read. As a result, users have developed ways to reduce the size or even

eliminate frames from the web page being viewed.

Another type of online advertising involves the self-appearing window which generally appears on its own as a user is using the Internet or browsing on the WWW. Such advertisements are relatively easy for a user to avoid as a user may simply re-size the window to make it smaller, drag another window or object in front of it to obscure it from view, close the advertising window, or simply ignore it and continue with the task being undertaken online. Recently, online advertisers have begun using self-appearing screens which are delivered via dialog boxes which dominate the main part of the screen. Although these dialog boxes can be removed when the user clicks on the appropriate place(s) on the dialog box, the self-appearing dialog boxes have a much higher rate of being seen by users. This follows because the dialog boxes take control of the user's screen for a preset amount of time and/or until the user clicks on the appropriate place(s) to make the dialog box disappear. The recent prevalence in the use of self-appearing dialog box advertising has resulted in a more intrusive method of advertising which has resulted in resentment among users who are accustomed to more passive online advertising methods such as the frames and banner advertisements which are more easily avoided and/or ignored.

Accordingly, there is a need for a simple means to deliver advertising elements, i.e. logos, animations, sound, impressions, text, etc., without the annoyance of totally interrupting and intrusive content delivery, and without the passiveness of ordinary banner and frame advertisements which can be easily ignored.

Objects And Summary Of The Invention

It is thus a general object of the present invention to provide a means for delivering online advertisements which are unintrusive and which are not easily ignored by a user.

A more specific object of the present invention is to provide a server system for modifying a cursor image to a specific image displayed on a video monitor of a remote user's terminal.

It is another object of the present invention to provide a server system for modifying a cursor image to a specific image displayed on a video monitor of a remote user's terminal for the purposes of providing on-screen advertising.

It is a further object of the present invention to provide a means for providing on-screen advertising transmitted online which does not interrupt the delivery of content and which is aesthetically appealing and which affords the advertiser a great degree of unintrusive exposure.

It is still a further object of the present invention to provide a system and a method for causing a remote user terminal to display a cursor image as specified by a server terminal.

It is also an object of the present invention to provide a system and method for causing a remote user terminal to display a cursor image as specified by a server terminal, wherein the cursor image corresponds to the content retrieved by the user terminal.

It is a further object of the present invention to provide a system and method for causing a remote user terminal to display a cursor image such as a corporate name or logo, a brand logo, an advertising or marketing icon or slogan, an animated advertising image, and a related audio clip, that relate to an advertisement, such as a banner advertisement, that is included

in the information content being retrieved by the user terminal.

It is an additional object of the present invention to provide a means for changing a cursor's appearance by sending data and control signals from a remote computer so that the cursor or pointer's appearance is associated with a portion of, or the entire content being displayed on the user's screen.

It is still an additional object of the present invention to provide a means for changing the appearance of a computer's cursor or pointer by sending data and control signals from a remote computer so that the cursor or pointer's appearance is associated with advertising messages.

These and other objects of the invention are realized in various embodiments of the present invention by providing a system for delivering advertising elements online without the annoyance resulting from the interruption of content delivery and without the passiveness of ordinary banner and frame advertisements which can be too easily ignored or bypassed or removed. An exemplary embodiment of the present invention is directed to a system that provides online advertising content using the on-screen cursor which is generally controlled by an input of positioning device known as a "mouse" or "mouse pointer". Nearly all online computer interfaces utilize a wired or remote control positioning device such as a mouse or roller or track ball which controls the cursor's movement on the screen. It is the cursor controlled by the mouse or positioning device which a user uses to "navigate" or move the cursor over objects, buttons, menus, scroll bars, etc., which appear on-screen and then clicking or in some cases double-clicking in order to activate a screen or task, or to commence an application or some function.

As a result of the prevalence of the use of the mouse, by many millions of users of online systems, a great deal of time is spent focused on the icons which represent the cursor or pointer as it may appear in some cases. Presently, pointer icons change from application to application and can also change within an application depending upon where on the screen the pointer is located, what state the computer exists in at a given moment, and what tools are being used, among other factors. Generally, pointers change shape to reflect an internal state of the computer or the present function within an application. While it is not new for pointers and cursors to change shape, pointers are not presently used to convey advertising. In conventional systems, the appearance of the cursor or pointer does not change to correspond with on-line content being displayed on the screen.

The present invention provides a means for enabling cursors and pointers to change color, shape, appearance, make sounds, display animation, etc., when the user's terminal or computer, known as the "client" or "user" terminal, which has a network connection, receives certain instructions from a remote or "server" computer attached to the network. In an exemplary embodiment of the present invention, the generic cursor or pointer icons used in many networking applications, such as black arrows, hands with a pointing finger, spinning wheels, hourglasses, wristwatches, and others, will change appearance, and in some cases may incorporate sound or animation, in a way that is linked and related to the content, such as a web page, which is being transmitted to and displayed on the client computer. The cursor or pointer may appear as a corporate or a brand logo which relates to advertising content within the web page being transmitted and displayed. The cursor or pointer image may also appear in a specified shape or

color that is intended to convey a message that relates to the advertising content within the web page being transmitted and displayed.

An exemplary embodiment of the present invention comprises a combination of hardware and enabling software residing on the transmitting (server) computer or network server and/or on the receiving (client or user) computer or terminal which brings about the stated effect of enabling a computer's cursor or pointer to change appearance and in certain cases provide sound and animation which is linked and related to the content being transmitted to and displayed on the client computer or terminal. The transmitting computer and receiving computer or terminal advantageously include a processor, an operating system (OS) loaded thereon, a video monitor used to display a graphical user interface (GUI) and a Hypertext Transfer Protocol (HTTP) compliant web browser capable of loading and displaying hypertext documents transmitted over the Internet, although the invention is not limited in scope in that respect. For example, the receiving terminal may be any device that is able to communicate with a remote server, such as a user computer terminal, a user dumb terminal, or a television based system, such as a Web TV® terminal and other devices.

Preferably, coded information for bringing about the change in appearance of the cursor are embedded within the web page being loaded and viewed. In one embodiment of the present invention, the web page is written in Hypertext Markup Language (HTML) which is one of the most common standard page description languages used to develop web pages. Typically a web browser retrieves a web page to be loaded on a user's terminal. The retrieved web page in accordance with one embodiment of the invention contains a set of predetermined instructions

referred to herein as cursor display instructions. The browser or browser extension interprets the information contained in cursor display instructions and instructs the operating system of the user's terminal via an application programming interface (API) to check its memory to determine if the user terminal is capable of loading the coded image, animation, and/or soundbite If the image, etc. has been previously cached in the client computer memory, the cursor display instructions instruct one or more of the many devices controlled by the operating system in the user's terminal, such as the video monitor and audio speakers to display the desired images, animation and play desired sounds. If the image, etc. has not been previously cached in the client computer's memory, the browser or browser extension retrieves the information corresponding to the desired image from a remote server.

The present invention may serve to enhance banner advertisements which appear on a web page so as to remind users which company is sponsoring the particular page being viewed and to draw the user's attention to the banner advertisement. The present invention can also serve as a stand-alone branding vehicle as part of a "ubiquity campaign" to generate massive impressions among an audience of online users or can be simply used to make web sites more entertaining by providing animated, colorful cursors which may incorporate sound and/or animation, and which are configured so as to connote a relationship with the topic or subject of the web site.

The foregoing sets forth certain objects, features and advantages provided by exemplary embodiments of the present invention. Other objects and features of the present invention will become apparent from the following detailed description considered in conjunction

with the accompanying drawings. It is to be understood, however, that the drawings are designed solely for the purposes of illustration and not as a definition of the limits of the invention, for which reference should be made to the appended claims.

Detailed Description Of The Drawings

In the drawings in which like reference characters denote similar elements throughout the several views:

Figure 1 illustrates a diagrammatic representation of a computer network illustrating the interconnection of a plurality of computers in which the present invention is implemented;

Figure 2 illustrates a client-server computer network supporting the hardware and software of the present invention;

Figure 3 illustrates a flowchart diagram of an exemplary method of the present invention for obtaining information from a remote site for modifying a cursor image and implementing such information at numerous user sites;

Figure 4 illustrates a portion of the Cursor Display Instructions which is referenced as a resource within an HTML document according to one embodiment of the present invention;

Figure 5 illustrates a set of exemplary codes that cause the user terminal's cursor to be modified, then revert to its original shape in accordance with one embodiment of the present invention;

Figure 6 illustrates a plurality of user interface attributes that may be remotely

modified in accordance with one embodiment of the present invention; and

Figures 7-9 illustrate the appearance of a cursor prior to, during and after linking to a web page that contains cursor display instructions.

Detailed Description Of The Presently Preferred Embodiment

Figure 1 illustrates a computer network, such as Internet 10, based on the client-server model. Internet 10 comprises a worldwide network of computers known as "servers" 12 which are accessible by "client computers" or "user terminals" 14, which are typically used by individual users or comprise a collection of personal computers interconnected via a Local Area Network or LAN, which are capable of accessing the Internet via a private Internet service or access provider (ISP) 16, such as the AT&T Worldnet Service® or the IBM Global Network®, or via an online service provider 18, such as America Online®, Compuserve®, the Microsoft Network® or Prodigy® (to name the most popular online service providers). One of the most common applications of the Internet is to support the World Wide Web ("WWW" or "the web"), which is a collection of servers on the Internet that utilize the Hypertext Transfer Protocol (HTTP), a known application protocol that facilitates data exchange between client and server and provides users or clients 14 access to files which can include text, graphics, sound, video, etc., using a standard page description language referred to as Hypertext Markup Language (HTML).

Each client computer 14 as indicated in Figure 1, includes a "web browser" or browser loaded on the client computer's hard drive 21. A browser is a common software tool

which allows graphical user interface (GUI)-based access to Internet network servers 12 through Internet Service Providers, ISPs, 16 or online service providers 18. A server 12 functions as a so-called "web site" which supports and maintains a plurality of files in the form of documents and pages. A Uniform Resource Locator or URL identifies a specific network path to a server 12 or some resource located on that server which has a known syntax for defining the network connection. The fundamental intrinsic capabilities of the browser are: (1) the ability to communicate with other computers using HTTP, and (2) the ability to process and present HTML documents to the user via a graphical user interface, GUI.

Recent versions of most browsers provide a plethora of other features beyond these two capabilities. For example, to increase its flexibility, the browser's intrinsic capabilities may be further extended through the use of software components, often called "controls" or "plug-ins". While the intrinsic capabilities of the browser are linked at compile-time ("statically"), the code which implements the capabilities of the control or plug-in component is linked with the browser's code at run-time ("dynamically"). By supporting these components through standard interface definitions, the browser's capabilities can be extended in ways never anticipated by its original manufacturer.

Another type of flexibility is offered when the browser implements some sort of command interpreter which is capable of interpreting and executing a code stream at run-time. In this case, the browser acts as a sort of "virtual machine" whose run-time behavior is completely governed by the code stream which it processes. The total scope of capabilities which can be realized with this approach is defined by the set of operations supported by the command

interpreter

Individually and collectively, these mechanisms provide a powerful and flexible platform which supports a wide range of Internet-based applications. Currently, some of the emerging standards govern the operation of these mechanisms, although the invention is not limited in scope in that respect. For example, Microsoft has created an interface definition for Windows "dynamic link libraries" and for ActiveX software components. Sun Microsystems has defined a software component model called JavaBeans. Sun has also created a virtual machine architecture and language called Java, which is supported via a variety of commercially available compilers. While a Java compiler translates source code into pseudo-code output called an "applet", which is in turn processed by the Java virtual machine, Microsoft, Sun, and others have also defined a set of HTML scripting languages whose source code is embedded directly in an HTML page. Microsoft's VBScript, JScript and Sun's JavaScript are examples of these embedded scripting languages.

The standard web page description language, HTML, provides basic document formatting and permits the web site developer to create and specify "links" or "hyperlinks" to other servers and files. Obtaining a web page or connecting to a web site requires the specification of a URL using an HTML-compliant client browser. After specifying the URL, client computer 14 initiates a request to server 12 identified in the link and connects to the web site and receives a web page. The request by client computer 14 to server 12 via the link is advantageously communicated via a TCP/IP (Transfer Control Protocol/Internet Protocol) communication, although the invention is not limited in this respect and other network

connections or Internet protocols may be used.

Although an exemplary embodiment of the present invention is described based on the arrangement illustrated in Fig. 1, it is noted that the invention is not limited in scope in that arrangement and other types of system connections may be employed. For example, a plurality of user terminals may be connected to an online provider via dedicated communication channels, such as telephone lines. In accordance with this embodiment, the server system provides certain information that causes the cursor image on the video monitor of the user terminal to display an image as specified by the server system. As a result, the server system remotely defines and manages the shape and appearance of the cursor image in accordance with a pre-specified condition. The shape and appearance of the cursor image may correspond to the actual content of the data being provided to the user. Furthermore, regardless of the actual content of the data being provided to the user, the shape and appearance of the cursor image may be specified by the server system such that a plurality of user terminals at a desired point in time receive appropriate instructions to display the specified cursor image.

Figure 2 provides a block diagram of hardware and software which is representative of a client-server network system connected via the Internet according to one embodiment of the present invention. The user or client computer or user terminal 14 typically includes a number of hardware components and software subsystems which cooperate to deliver the wide range of capabilities demanded by a modern computer application or program. These include not only the basic computational processor 23 and memory 20, but also a variety of input and output devices such as the keyboard (not shown), mouse 22, video display monitor 24, audio

speakers 26, non-volatile storage such as a hard drive 21 and network communications systems 46 such as a modem among other devices. User terminal 14 is controlled via an operating system ("OS") 28 which serves to organize all the disparate elements within the computer 14 and expose them in a consistent and organized way to a program which may need some or all of these capabilities. The interface between a program, which is generally loaded within the computer's memory 20, and the systems under the control of the operating system 28 is commonly referred to as the Application Programming Interface ("API") 30, which is essentially a library of functions which the program ("application") can invoke when it needs to interact with any of these hardware subsystems.

As illustrated, user terminal 14 contains a browser 32 loaded within the computer's memory 20, and is adapted to communicate with a browser extension or browser plug-in 34, both which are adapted to communicate with the operating system 28 via the application programming interface API 30. As illustrated, operating system 28 is supplemented by a set of "drivers" which control and provide the operating system 28 with access to peripheral devices which are a part of user terminal 14. The drivers include display driver 36 which controls and provides the operating system 28 with access to the cursor image or pointer 44 projected on video display monitor 24, a mouse driver 38 which controls and provides the operating system 28 with access to mouse 22, an audio driver 40 which controls and provides the operating system 28 with access to speakers 26. Operating system 28 is configured to provide animated images to the video monitor. Furthermore, in accordance with another embodiment of the invention, the display driver may be configured to provide animated images to the video monitor. Operating system 28 also provides

access to a communication port 46 such as a modem which serves as a communication interface to the Internet 10.

With continued reference to Figure 2, user terminal 14 is connected to Internet 10 via a modem or some other communication interface such that information may be transmitted between user terminal 14 and Internet 10 via communication lines such as telephone cables or fiber optic networks, among other types of transmission systems. Internet 10 is also connected to numerous network servers, such as a simplified representation of a WWW server which is indicated as 48. Server 48 is provided with memory 50 into which the contents of certain data files are loaded. Such data files, among others, include Cursor Display Code 52, Cursor Information 54, and an HTML page containing Cursor Display Instructions 56, all of which are discussed in greater detail herein below. As illustrated in Figure 2, these data files 52, 54, 56 are shown residing on the same server computer. However, the interconnected nature of the WWW allows these data files 52, 54, 56 to exist anywhere on Internet 10 For example, files 52 containing cursor display codes may be stored in various server systems, while files 54 containing cursor information may be stored in the same or other server systems, and files 56 containing HTML pages containing cursor display instructions may be stored in the same or yet other server systems.

In operation, WWW server 48 includes software which recognizes file requests received from WWW clients or users by communication port 58 and fulfills these requests by retrieving data stored in data files, i.e., Cursor Display Code 52, Cursor Information 54, and an HTML page containing Cursor Display Instructions 56.

One of the characteristics of most recent software systems is the graphically oriented user interface (GUI) which is viewable on video monitor 24. This graphical user interface helps to organize and filter the vast quantities of information which is accessible in a user terminal 14. Fundamental to the graphical user interface is the pointing device, generally mouse 22 which allows the user to manipulate or input information into the user terminal 14. Movement of mouse 22 is monitored by user terminal 14 which translates this movement into a corresponding movement of cursor 44 viewable on video monitor 24. As such, operating system 28 may expose, as some subset of its API 30, a set of functions which can be used to control aspects of the behavior and/or appearance of cursor 44.

By combining the capabilities of browser extensions, such as indicated by 34 in Figure 2, with the capabilities to modify cursor 44, it is possible for a WWW server, such as that indicated by 48 in Figure 2, to control the display characteristics of cursor 44 displayed on video monitor 24 of the user's computer 14. By doing so, a cursor control arrangement is established which is capable of delivering information which supplements, enhances, or is completely independent of, other information transmitted from a server, such as indicated by 48, through traditional means as via a communications port 58. The basic conceptual components of such exemplary system for modifying cursor 44 comprises Cursor Display Code 52, Cursor Information 54, and Cursor Display Instructions 56, discussed hereinabove with reference to Figure 2. Preferably, Cursor Display Code 52 comprises a set of instructions which are executed on the user terminal 14 and which interact directly with application programming interface 30 of the user terminal 14 and operating system 28 so as to accomplish the actual change of cursor 44.

Cursor Information 54 is, advantageously, a set of data which identifies the actual cursor image or images and corresponding audio content if desired. In one embodiment of the invention, Cursor Display Instruction 56 includes data that convey information that is used by Cursor Display Code 52 to control drivers, such as 36, 40, 46, and to identify such things, which among others consist of: the physical location of Cursor Information 54, the format of its representation, the intended manner and duration of its display, and information pertaining to how (and for how long) any cached Cursor Information 54 should be stored.

In general, the fundamental elements of the process of changing cursor 44 displayed on video monitor 24 of user terminal 14 are as follows: Cursor Display Instructions 56 are initially embedded inside an HTML document, e.g. a web page. When browser 32 of the user terminal 14 encounters Cursor Display Instructions 56, Cursor Display Code 52 is retrieved then invoked. As part of the invocation, the browser passes to the Cursor Display Code coded information sufficient to specify the manner of the display. Cursor Display Code 52 then retrieves Cursor Information 54 either from within memory 20 of user terminal 14 or from storage at a remote site and then causes the Cursor Information to interact with the display system, such as display driver 36, of user terminal 14 via the application programming interface 30 of operating system 28. This interaction causes Cursor Information 54 to be accessed by the display driver 36 in order to accomplish the intended effect, e.g., the change or transformation of cursor 44 visible on video monitor 24, and a corresponding sound information may be heard on speakers 26.

Figure 4 illustrates the Cursor Display Instruction as a resource within an HTML document which is retrieved from a remote server. The Cursor Display Instructions as shown in

Figure 4 are written for ActiveX® technology, although the invention is not limited in scope to that technology. Among the information included within this resource definition is an identifier of the Cursor Display Code (the ActiveX® control), and the ActiveX® control's physical location on the Internet. This information is listed in lines 202-205 which generally identifies the Cursor Display Code. Line 204 of the Cursor Display Instruction is an identifier which comprises a globally unique name, often called a "Class ID", and which allows a particular ActiveX® control to be distinguished from all other ActiveX® controls, such that the wrong ActiveX® control is prevented from being utilized or retrieved. The remainder of the Cursor Display Instruction listed in lines 206-224 include the ActiveX® parameters or argument list as discussed hereinafter with reference to Figure 3. The argument list includes parameters which provide information such as the type of cursor image (line 206), where the image can be retrieved from if not already resident on the user computer (line 207), where usage statistics are to be transmitted to (line 208), how long a changed image should remain before reverting, if at all, to the initial image (line 209), whether the cursor image is cached in the user terminal (line 210), whether the transmitting server is authorized to send cursor display instructions (line 211), the dormant delay duration (line 212), the URL of a file which specifies cursor trajectory path (line 213), the URL of a file which specifies how the cursor's shape should change based on its location on the screen (line 214), the URL of a file which specifies how the cursor's shape should change based on its velocity (line 215), the URL of a file which specifies how the cursor's shape should change based on modifications to the mouse button or keyboard state (line 217), specification of the type of modification intended (line 218), specification of the priority of intended modification (line 219),

specification that the modifications will occur as a result of the transfer of a series of data files (line 220), the URL of a file which specifies the display of a satellite image that tracks the movement of the cursor image (line 221-223), and location of additional display instructions (line 224) It is noted that the invention is not limited in scope in this respect and other features may be included in the Cursor Display Instructions data.

One embodiment of this method in accordance with the present invention is set forth in greater detail in the flowchart illustrated in Figure 3. This embodiment is discussed with reference to the use of ActiveX® technology currently promoted by the Microsoft Corp. The ActiveX® technology provides a mechanism for defining the format of Cursor Display Instructions 56, for defining, identifying, and in some instances dynamically retrieving Cursor Display Code 52, and for implementing the interaction between Cursor Display Instructions 56 and the Cursor Display Code 52 as previously described. Although the flowchart in Figure 3 is discussed with reference to ActiveX® technology, the invention is not limited in this respect, and other technologies for use with browser extensions or "plug-ins" may be utilized in accordance with various embodiments of the present invention as illustrated in Figure 3. Furthermore, additional embodiments in accordance with the principles of the present invention may be incorporated within other application software employed in the user terminal. For example, the operating system or the browser itself may be configured to incorporate the mechanism for receiving and recognizing the Cursor Display Instructions and in return provide additional instructions for changing the image or appearance of the cursor display.

With reference to Figure 3, in step 102, browser 32 of user terminal 14 retrieves an

HTML file containing Cursor Display Instructions 56. The HTML file is retrieved when the user directs browser 32 to a remote WWW server site (such as, for example server 48 as indicated in Figure 2) by specifying the uniform resource locator, URL, of the site on the Internet where the HTML file is located. When the HTML file is retrieved, it is loaded from the remote WWW server site at which point browser 32 of user terminal 14 begins its routine parsing of the HTML document and eventually encounters a reference to an ActiveX® control or some other information coded in an appropriate programming language such as Sun Microsystem Inc.'s Java® or VBScript®, which is embedded in the Cursor Display Instructions 56 within the HTML document. The Cursor Display Code is capable of interacting with the application programming interface 30 of operating system 28 for the purpose of performing the change, transformation or "swap" of cursor 44 as it is presently displayed on video monitor 24.

Upon encountering Cursor Display Instructions 56, browser 32 recognizes Cursor Display Instructions 56 as a request to invoke the particular ActiveX® control with a particular argument list or set of parameters as illustrated in Figure 4. At step 104, browser 32 examines Cursor Display Instructions 56 and uses a unique class identification within the Cursor Display Instructions 56 to determine whether Cursor Display Code 52 (ActiveX® control) is already resident within local memory 20 of user computer 14.

If the Cursor Display Code 52 is not resident in local memory 14, generally in the form of a browser extension or plug-in 34, or if local memory contains an obsolete version of Cursor Display Code 52, browser 32 attempts, at step 106, to retrieve the ActiveX® control from a remote server on the Internet and store the Cursor Display Code in local memory 20 of user

terminal 14 at step 108. With reference to Figure 4, these steps correspond to lines 202-205.

Cursor Display Code 52 retrieved in step 106 may be client-platform specific and may also be browser specific such that browser 32 may transmit specific details to the remote server so that the remote server can deliver the appropriate Cursor Display Code 52.

In accordance with another embodiment of the invention, browser extension or plug-in 34 may be configured such that it can recognize Cursor Display Instructions based on any one of the available technologies, such as Active X, JavaBeans, JavaScript or VBScript.

Furthermore, it is understood that data compression techniques may be used in order to reduce the amount of network traffic involved in the transmission of data over the Internet.

After Cursor Display Code 52 has been recognized by user terminal 14 as at step 104 or retrieved and loaded therein at steps 106 and 108, operating system 28 is queried to determine the current cursor display configuration and this information is temporarily cached in local memory 20 of user terminal 14 at step 110 so that the cursor configuration may eventually be restored to its original state. Before any changes are made to cursor 44, the system at step 111 determines whether server 48 is authorized to change cursor 44. If authorization is not confirmed, no changes to cursor 44 transpire.

Step 112 is the first step which is executed from within the code of the ActiveX® control. At step 112, the ActiveX® control determines whether the image specified (Cursor Information 54) in the ActiveX® argument list which is to become the new cursor image exists in local memory 20 of user terminal 14. If the specified image in the ActiveX® argument list exists

in local memory 20, it is retrieved therefrom at step 114. An additional argument in the ActiveX® argument list (line 207) identifies the location of this data on a remote server. If the specified image does not exist in local memory 20, this data is utilized by the ActiveX® control to retrieve Cursor Information 54 at step 116 from the specified location

At step 118, an additional argument added within the ActiveX® control can be used to determine whether and for how long Cursor Information 54 should be cached in local memory 20. At step 120 Cursor Information 54 is cached in local memory 20. At step 122, the cursor is caused to change in the manner consistent with the retrieved Cursor Display Instructions 56. In an alternative embodiment, an additional step may be included which provides the user with the option of saving and storing the retrieved Cursor Information 54 in the computer's permanent memory on hard drive 21 even after the retrieved cursor is displayed. Storing the retrieved Cursor Information 54 in the computer's permanent memory saves time on the next occasion when the user loads a web page which requires the same cursor since the cursor is already stored within the computer's memory and need not be retrieved from a remote server.

Cursor Display Instructions 56 cause the invocation of an operating system function which causes the cursor to be displayed on video monitor 24. More specifically, the ActiveX® control invokes the application programming interface 30 of operating system 28 which causes the cursor image displayed on video monitor 24 to change to the form intended as recited in the argument list. The changed cursor is not limited to image, and may also include animation as well as sound. It should also be appreciated that most computers utilize a multitude of cursor images depending upon the application and task which is being run on the computer.

The invention is not limited to changing only a single cursor image and any and all cursor images controlled by the computer's display driver 36 may be caused to change.

At step 124 the ActiveX® control may send usage information to a particular remote server as coded in Cursor Display Instruction 56 or Cursor Display Code 52. This information can be used to calculate the usage statistics of particular cursor images or cursor information and the context in which they are retrieved and viewed by users. In this particular embodiment, this information is conveyed as a data file transmitted to the remote server via HTTP. The invention is not, however, limited in the type of information and/or statistics which may be transmitted to the server, nor is the invention limited to being conveyed via HTTP as those skilled in the art will understand that such information may be conveyed via other transfer protocols. With reference to Figure 4, this step corresponds to line 208. Additionally, the information may contain an identifying code for the server which issued the web page which contained the Cursor Display Instructions. This information could be used, for example, to verify that the issuing server has been granted the appropriate license to use the technology, by comparing a list of authorized servers or through digital signature validation.

In accordance with one embodiment of the present invention, the licensing arrangement is described in more detail, hereinafter. It is noted that licensing enforcement of the cursor display technology could be accomplished in several ways, and the invention is not limited in scope in that respect. As discussed previously, the server that transmits a web page may include the identity of the server in the form of a server ID within the Cursor Display Instructions. The user terminal then transmits the server ID to another server that among other things functions as a

licensing body ("Licensing Body") so as to authenticate the server that transmits the web page as a valid licensee. Should this authentication fail, the execution of Cursor Display Instructions may not occur. In an alternative implementation, the execution of Cursor Display Instructions may be allowed to execute even if the issuer fails authentication. Such an infraction could be logged by the Licensing Body for use in enforcement through traditional channels. For performance reasons it may be desirable to collect the usage information for a plurality of Cursor Display Instructions as the user accesses multiple servers, and transmit the collection of information in batch form to the Licensing Body.

An alternative embodiment would involve the inclusion of an encrypted authentication code within the Cursor Display Instructions, as illustrated in line 211 of Fig. 4, or via a separate exchange of data between the client and server. In order to ensure that this code could not be re-used by other, non-authorized sites, it could for example be derived from the server's IP address, the date and time at which it is generated, the argument list, or some other information that is accessible to the client Another possibility would involve the transmission of a unique or pseudo-unique code, from the client to the server. Upon receipt of this authentication code, the client would perform a decryption and verify its authenticity. Under such circumstances, the server software could be augmented with an Authentication Code Module supplied by the Licensing Body which generates and encrypts this code. The mechanism by which this augmentation could occur is similar to that discussed previously in the context of extending the client browser. For example, the server software could be modified and statically linked to the Authentication Code. Alternatively, it could be dynamically linked at run-time. Another alternative

would be to implement the Authentication Code as its own process on the server and facilitate an inter-process communication protocol such as the Common Gateway Interface ("CGI").

At step 126, an ActiveX® control argument is used to determine whether the changed cursor should revert to its initial configuration. If it is intended to revert the changed cursor to its initial configuration, the reversion is paused at step 128 for a specified time period. After it is determined at step 130 that the specified time period has lapsed, the changed cursor reverts to its original configuration at step 132.

Whether the cursor is caused to revert to its initial configuration is of concern to many users so as to ensure that the user's computer configuration is not permanently altered as a result of the process of changing the cursor. As such, additional alternative measures may be added into Cursor Display Instructions 54 such that the changed cursor could be restored to its original configuration when the ActiveX® control is loaded or unloaded, when the computer starts up, is rebooted or is shut down, when the browser is activated or shut down, when an animated cursor completes its animation sequence, when instructed by a remote server, or as a result of some user input such as setting an option in the browser or accessing another web page or site. An alternative to adding parameters to the Cursor Display Instructions would be to control the process of changing the cursor to its initial state by a control program downloaded by and executed on the client computer. An example written in VBScript and interacting with an ActiveX control is included in Figure 5.

Additionally, one of the significant attributes of this embodiment is the manner in which Cursor Display Code 52 is retrieved from a remote server if it is not located in the

computer's local memory. Since Cursor Display Code 52 may be operating system or browser specific, it may be necessary that the server with which the user computer 14 is communicating be informed by user terminal 14 of the specific type of Cursor Display Code 52 which is desired. In another embodiment of the invention, browser extension or plug-in 34 may be configured such that it can recognize Cursor Display Instructions based on any available technology such as Active X and JavaScript.

The operation of steps 102-132 as set forth in Figure 3, may be illustrated pictorially in Figures 7-9. Figure 7 illustrates an example of a typical web page 60 as it would appear on a user's video monitor 24 having the standard arrow cursor 44. In Figure 8, there is illustrated a different web page 60a having a banner advertisement 62 for Fizzy Cola which contains Cursor Display Instructions. When web page 60a loads, the Cursor Display Instructions cause arrow cursor 44 to change into a Fizzy cola bottle shaped cursor 44a in conjunction with the Fizzy Cola banner advertisement. As illustrated in Figure 9, if the user then loads a new web page 60b which is not provided with Cursor Display Instructions, the cola bottle shaped cursor of Figure 8, reverts to the standard arrow cursor 44.

It is also understood that ActiveX® is but one of numerous technologies utilized over the Internet with which a user's computer may interact in bringing about the change or transformation of the cursor displayed on video monitor 24. Other implementations may utilize different technologies such as Windows dynamic link libraries, VBScript and JScript from Microsoft, as well as Java, JavaScript and JavaBeans from Sun Microsystems Inc.. While these examples represent the dominant standards-based definitions, proprietary implementations could

also be developed . Accordingly, while ActiveX® represents one embodiment of distributing and invoking Cursor Display Information 54 on a user's computer 14, it is to be appreciated that there are a variety of alternative implementations, and this particular implementation should not be considered a limitation of the invention. For example, alternative versions of browser 32 may encapsulate the appropriate operating system application programming interface call within their own code modules such that a browser extension 34 is not required.

In yet another embodiment of the invention the tasks described in steps 102 through 132 may be employed cooperatively between browser and browser extension or plug-in 34. Furthermore, browser 32 may employ a computational or processing engine such as an interpreter (as is the case with the Java® programming language, for example) which can extend the capabilities of browser 32 to a virtually unlimited degree.

It is also to be understood that in the course of carrying out the process of changing the cursor as discussed hereinabove, user terminal 14 may communicate with a multitude of remote servers as opposed to just a single server. For example, Cursor Display Codes may be retrieved from one remote server, Cursor Instructions may be retrieved from a second remote server, and the user terminal 14 may also be in communication with a third server to which it is transmitting the usage statistics.

Features identified in reference with Fig. 4 are described in more detail hereinafter. It is noted that in accordance with one embodiment of the invention, it may be desirable to modify the Cursor Display Code to improve its performance or enhance its capabilities. The server may transmit version information in the Cursor Display Instructions as illustrated in line 205 of Fig. 4.

The Cursor Display Code could compare this information with its own version information in order to determine whether it has been rendered obsolete by a more recent version. If so, the Cursor Display Code could retrieve the current version from a remote server and invoke execution on the new version..

In an alternative embodiment of the present invention the position, as well as the image, of the user terminal's cursor may be controlled by a remote server. This embodiment would be implemented within the Cursor Display Code 52 such that additional information could be passed to Cursor Display Code 52 via Cursor Display Instructions 56. The additional information passed to Cursor Display Code 52 would contain code which indicates: (1) that the cursor position control is intended, (2) the conditions under which the cursor should be moved, and (3) the source of the data which specifies the particular movement that is intended. The latter could be stored in memory on a remote server and retrieved in a manner similar to retrieving Cursor Display Instructions 56 or the Cursor Display Code 52. For example, if no user input is received for a specified interval, the cursor image could change and the position of the cursor could be set such that it follows a specified trajectory for several seconds, then reverts to its original state as illustrated by line 213 of Fig. 4.

In accordance with another embodiment of the invention it is possible to vary the modification to the cursor as a function of cursor position. For example, the cursor pointer could be controlled such that it "points" to a specific location on the screen regardless of the cursor's location on the screen as illustrated in line 214 of Fig. 4.

In accordance with another embodiment of the invention it is possible to vary the

modification to the cursor as a function of cursor velocity. For example, the cursor image could change from a stationary bird to a bird with flapping wings only when the cursor is moved quickly across the screen as illustrated in line 215 of Fig. 4. Furthermore, it is possible to vary the modification to the system-level user interface attributes as a function of mouse button state or keyboard state. For example, the image of a cube could be replaced with that of a jack-in-the-box when the mouse button is depressed.

In accordance with another embodiment of the invention, it is possible to modify other "system-level" attributes of the client computer's user interface, hereafter called "system-level user interface attributes". These attributes, as illustrated in Fig. 6 are typically under the control of the operating system and, as such, they exist independently of the user "applications" (programs) and data which are stored on the computer and interact with that operating system. User applications interact with the operating system to deliver the computer's functionality to the user. Examples of user applications include word-processors, spreadsheets, web browsers, games, etc. The operating system may contribute certain user interface elements to the user interface of the applications running on it.

Because many of these attributes are inherited from the operating system by all applications running on that operating system, applications tend to exhibit a degree of commonality in their user interfaces. Examples of these attributes include: the shape and color of the cursor 401, the shape and color of a status bar which displays current state information to the user 403, the shape and color of the scroll bar which indicates the relative position and scope of the displayed sub-image to that of the underlying larger image to the user 407, the shape and

color of the title bar which displays current state information 409, the shape and color of icons representing standard window operations such as close, minimize display size, restore display size, etc. 411. Thus, these system level attributes may also be modified in response to Cursor Display Instructions data.

In addition, the operating system itself may have a user interface. Examples include: the images and sounds displayed when the computer starts or shuts down, the background image ("wallpaper") against which other graphical elements are displayed 413, file catalogs and file selection mechanisms 415, system icons 416, file invocation mechanisms 417, buttons 419, process selection mechanisms 421, etc. Further examples include the icons representing various system elements or information such as files 418, groups of files 420, files marked for deletion 422, as well as standard, information bearing "dialog boxes", such as cancel, warning, illegal operation, stop, accept, continue, etc. 423. The system may also support a set of audibly distinct waveforms which may be used to convey similar information to the user. These operating system user interfaces may also be modified in response to a Cursor Display Instruction data.

In yet another exemplary embodiment of the present invention a plurality of modifications to the system-level user interface attributes may occur simultaneously. For example, the cursor could animate while an audio waveform is playing, as the minimize display icon changes to a specific image.

A further feature of the invention is to accumulate information regarding the user's exposure time to various system-level user interface attribute modifications, and to vary the

exposure to those modifications accordingly For example, the client could transmit exposure data to the server and the server would select a version of the image based on that data. Furthermore, the exposure data could be transmitted as part of the usage statistics discussed previously.

Another feature of the invention is to monitor the load being placed on the client system by the user and schedule data exchange with the servers so that it occurs when it is least disruptive to the user's activities.

It is also possible to allow the user to control the level of interface modification he or she wishes to entertain. For example, the user could specify that only those modifications of specific types, as illustrated on line 218 of Fig. 4 or of specific priority should be delivered, or even that none be delivered, as illustrated at lines 218 and 219 of Fig. 4. This specification could be implemented directly by the user on the client system, or could be implemented through communication with a remote server.

In accordance with another embodiment of the invention it is possible to transmit the image and/or audio data which specifies the modification as a series of data files which are delivered in a continuous stream to the client, as illustrated at line 220 of Fig. 4. These files are exposed to the user before the complete set of data has been delivered, thereby providing the capability for the initiation of long animations or audio files before the entire quantity of data has been received by the client.

A further feature of the invention is to support the display of a "satellite" image which tracks the cursor's position on the screen. For example, the cursor image could be replaced

with that of a mouse, and the image of a cat could be displayed near that mouse. When the cursor is moved, the satellite image moves accordingly at a specific offset, as illustrated at lines 221-223 of Fig. 4.

A further feature of the invention is to provide a mechanism for the user to quickly establish a connection with a specific server based on the specific user interface attribute modification which is in effect when the mechanism is invoked. For example, the user could press a specific key sequence on the keyboard and immediately jump to the web site related to the cursor image which is currently displayed.

In accordance with another embodiment of the invention, it is possible to convey additional detailed Cursor Display Instructions as a separate file which is explicitly retrieved from a server by the Cursor Display Code, as illustrated at line 224 of Fig. 4.

For each modification to the system-level user interface attributes, an appropriate set of display instructions must be transmitted to the client. These could take the form of additional parameters in the Cursor Display Instructions as discussed previously, or they could be represented within a code module which is received by and executed on the client. As discussed previously, Java, and its related technologies could be used for such a purpose, but use of these technologies should not considered a limitation of the invention.

It is noted that there are numerous ways in which a system-level user interface attribute modification is accomplished in accordance with the principles of the present invention. It is further noted that system level user interface attributes may be modified independently or in conjunction with cursor modification. Furthermore, the system-level user interface attribute

modification may be related to specific information displayed on the rest of the user's screen (hereafter referred to as "specific information") in many different ways. Thus, the present invention is not limited in scope to how content providers may relate the system-level user interface attribute with the specific information. Rather, at least one of the goals of the present invention is to enable the content providers to modify the system-level user interface attribute whenever and wherever they see fit. For example, content providers may modify system-level user interface attributes at a remote user's terminal for advertising, entertainment, information delivery, celebrating an event, or other reasons, and therefore, the invention is not limited in scope in that respect. Furthermore, when a content provider elects to display a specified system-level user interface attribute in conjunction with and corresponding to specific information conveyed via the user's terminal, the cursor image and the background display data are deemed related.

Additional examples intended to illustrate some applications of the present invention are explained below, although the invention is not limited in scope to any one of these examples.

Thus, in accordance with one embodiment of the invention, a modified cursor might take the appearance of a "Fizzy Cola" bottle when a "Fizzy Cola" banner advertisement appears among the display data of a popular search engine's site. Similarly, the cursor can be modified for advertising purposes to represent Fizzy Cola's logo, its corporate mascot, images of its products or services, slogans, icons, brand images, advertising messages (the word "Thirsty?", for example), abstract suggestions (such as a straw or glass), etc.

Alternatively, Fizzy Cola, on its own site, or homepage, might have a picture of a

bottle of Fizzy in the middle of the page (in the display data). A dynamic cursor image could then be used to show a person holding a straw in such a way that the straw always points from the user toward the top of the Fizzy bottle, no matter where the cursor moves on the screen. The straw, in this case, might be "attached" to the cursor image (part of the same image) or could be separate, "satellite" image, a "sprite," whose movement on the screen (in this case) is related to the movement of the cursor. Sprites, which can appear and disappear as desired, can enhance the invention by enabling the use of graphical elements which are associated with the cursor but which reside outside the limited cursor "space" (which in some systems may be, at maximum, 32 by 32 pixels). For the purposes of the invention, however, there should be no limitation to the size of the cursor.

Additional examples of modification to the cursor include rendering the cursor as a baseball bat (on a site with sports information), a pink but otherwise standard-shaped pointer (on a site about the Pink Panther), a witch-on-a-stick to celebrate Halloween, the Statue of Liberty to celebrate the Fourth of July, etc. All of the foregoing cursor images could be enhanced with related animations, such as the bat hitting the ball.

Similarly, the present invention can be used to replace not just the standard arrow but other standard cursors as well, such as the generic hand with pointing index finger (the icon commonly used in browsers to indicate that the pointer is positioned above a hot link). A site for children might, for example, replace this generic pointing-hand cursor with the pointing "paw" of a furry animal. A site dealing with horror movies might choose to replace this pointing hand with a bony skeleton-like hand.

Additional examples involve cursors with text or numbers. For example, the cursor might contain the text "Right-Click Now!" prompting users to click the right button of their mouse (where right-clicking on the mouse could, for example, trigger the delivery of a new page of display data). It may also be desirable in certain cases to put alphanumeric data in the cursor "space" to convey information to users, such as stock prices, baseball game scores, the temperature in Florida, etc. The data can be static, semi-static (i.e. updated periodically), or dynamic (updated frequently - possibly incorporating available streaming-data and data-compression technologies).

Use of associated sound, sprites, animations, and modified system display elements are provided as enhancements to the basic invention. For example, a Fizzy cola mascot could appear in the cursor space in conjunction with the speakers, attached to the user's machine, playing the sound of the mascot saying, "drink Fizzy!" Any time a content provider elects to incorporate said enhancements in conjunction with a new modified cursor image, the cursor image and said enhancements have been deemed related.

The present invention allows users to change cursor images, it also allows them to change them back. It may be desirable to revert the pointer to a previous or generic pointer image. Given the Fizzy Cola example above, if the page containing display data changes and there is no longer an advertisement for Fizzy, but rather an advertisement for its rival, Jazzy Cola, it may be desirable to ensure the removal of the Fizzy cursor image(s) and accompanying enhancements.

The foregoing examples are not intended to suggest limited uses for this invention;

to the contrary, the examples are intended to illustrate the wide range of uses for this invention. The collective creativity of the online advertising, art, design, commerce, content publishing, and related industries will develop many novel and unforeseen ways to use the present invention. The versatility of the present invention should not be regarded as a limitation on its scope.

Thus, while there have been shown and described and pointed out fundamental novel features of the invention as applied to preferred embodiments thereof, it will be understood that various omissions and substitutions and changes in the form and details of the disclosed invention may be made by those skilled in the art without departing from the spirit of the invention. It is the intention, therefore, to be limited only as indicated by the scope of the claims appended hereto.

It is to be understood that the drawings are not necessarily drawn to scale, but that they are merely conceptual in nature.

CLAIMS

We Claim

Sub C

1. A server system for modifying a cursor image to a specific image having a desired shape and appearance displayed on a display of a remote user's terminal, said system comprising:

cursor image data corresponding to said specific image;

cursor display code, said cursor display code operable to modify said cursor image; and

a first server computer for transmitting specified content information to said remote user terminal, said specified content information including at least one cursor display instruction indicating a location of said cursor image data, said cursor display instruction and said cursor display code operable to cause said user terminal to display a modified cursor image on said user's display in the shape and appearance of said specific image, wherein said specified content information is transmitted to said remote user terminal by said first server computer responsive to a request from said user terminal for said specified content information, and wherein said specified content information further comprises information to be displayed on said display of said user's terminal, said specific image including content corresponding to at least a portion of said information to be displayed on said display of said user's

terminal, and wherein said cursor display code is operable to process said cursor display instruction to modify said cursor image to said cursor image in the shape and appearance of said specific image ~~responsive~~ in response to movement of said cursor image over a display of said at least a portion of said information to be displayed on said display of said user's terminal, and wherein said specific image relates to at least a portion of said information to be displayed on said display of said remote user's terminal.

2. The server system in accordance with claim 1, wherein said specific image comprises advertising material related to at least a portion of said information to be displayed on said display of said user's terminal.

3. The server system in accordance with claim 2, wherein said advertising material further comprises a brand logo.

4. The server system in accordance with claim 2, wherein said advertising material further comprises a corporate mascot.

5. The server system in accordance with claim 2, wherein said advertising material further comprises images of a good or a service corresponding to said information to be displayed on said display of said user's terminal.

6. The server system in accordance with claim 2, wherein said advertising material further comprises messages relating to said information to be displayed on said display of said user's terminal.

7. The server system in accordance with claim 1, wherein said specific image has a shape and appearance corresponding to said information to be displayed on said display of said user's terminal.

8. The server system in accordance with claim 1, wherein at least a portion of said cursor image data and said cursor display code are disposed locally to said first server computer.

9. The server system in accordance with claim 1, wherein at least a portion of said cursor image data and said cursor display code are disposed within a second server computer located remotely to said first server computer.

10. The server system in accordance with claim 1, wherein at least a portion of said cursor image data and said cursor display code are disposed locally to said user's terminal.

11. The server system in accordance with claim 9 wherein said first server computer in response to a request from said user terminal transmits information stored in said second server computer to said user terminal.

12. The server system in accordance with claim 1, wherein said specified content information is transmitted in the form of HTML files that define a web page.

13. The server system in accordance with claim 12, wherein said cursor image data includes at least in part an advertisement for goods or services contained in said web page.

14. The server system in accordance with claim 1, wherein said user terminal includes a browser application responsive to said cursor display instruction, said browser application executing said cursor display code using parameters defined in said cursor display instruction.

15. The server system in accordance with claim 1, said cursor display instruction further comprising an image identifier indicating said cursor image data corresponding to said specific image.

16. The server system in accordance with claim 1 wherein said first server computer transmits said cursor image data in response to a request received from said remote user terminal indicating that a copy of said cursor image data is not stored in said remote user terminal.

17. The server system in accordance with claim 1 wherein said cursor display instruction further comprises an image identifier that corresponds to a graphic animation sequence.

18. The server system in accordance with claim 17, wherein said cursor display instruction further comprises instructions operable to modify said specific image to display said graphic animation sequence.

19. The server system in accordance with claim 1, wherein said cursor display instruction further comprises an audio identifier that corresponds to an audio information sequence.

20. The server system in accordance with claim 19, wherein said cursor display instruction further comprises instructions operable to play an audio clip corresponding to said audio information sequence.

21. The server system in accordance with claim 1, wherein said cursor display instruction further comprises information

that controls a duration of time said specific image is displayed on said display of said remote user's terminal.

22. The server system in accordance with claim 1, wherein said specified content information is transmitted in the form of one or more hypertext objects.

23 The server system in accordance with claim 1, wherein said specified content information includes instructions executable by a virtual machine on said user terminal.

24. The server system in accordance with claim 1, wherein said specified content information includes HTML tags recognized by said cursor display code.

25. The server system in accordance with claim 1, wherein said cursor display code generates usage data for calculating usage statistics of said specific image.

26. The server system in accordance with claim 1, wherein said cursor display instruction transmitted to said remote user terminal initiates communication with a plurality of server systems for obtaining additional cursor image data.

Sub C2

27. A server system for modifying a cursor image to a specific image having a desired shape and appearance

displayed on a display of a remote user's terminal, said system comprising:

cursor image data corresponding to said specific image;

cursor display code, said cursor display code operable to modify said cursor image; and

a first server computer for transmitting specified content information to said remote user terminal, said specified content information including at least one cursor display instruction indicating a location of said cursor image data, said cursor display instruction and said cursor display code operable to cause said user terminal to display a modified cursor image on said user's display in the shape and appearance of said specific image, wherein said specified content information is transmitted to said remote user terminal by said first server computer responsive to a request from said user terminal for said specified content information, and wherein said specified content information further comprises information to be displayed on said display of said user's terminal, said specific image including content corresponding to at least a portion of said information to be displayed on said display of said user's terminal, and wherein said cursor display code is operable to process said cursor display instruction to modify said cursor image to said cursor image in the shape and appearance of said specific image ~~responsive~~ in response to movement of said cursor image over a specified location on said display of said

user's terminal, and wherein said specific image relates to at least a portion of said information to be displayed on said display of said remote user's terminal.

28. The server system in accordance with claim 27, wherein said specific image comprises advertising material related to at least a portion of said information to be displayed on said display of said user's terminal.

29. The server system in accordance with claim 28, wherein said advertising material further comprises a brand logo.

30. The server system in accordance with claim 28, wherein said advertising material further comprises a corporate mascot.

31. The server system in accordance with claim 28, wherein said advertising material further comprises images of a good or a service corresponding to said information to be displayed on said display of said user's terminal.

32. The server system in accordance with claim 28, wherein said advertising material further comprises messages relating to said information to be displayed on said display of said user's terminal.

33. The server system in accordance with claim 27, wherein said specific image has a shape and appearance corresponding to said information to be displayed on said display of said user's terminal.

34. The server system in accordance with claim 27, wherein at least a portion of said cursor image data and said cursor display code are disposed locally to said first server computer.

35. The server system in accordance with claim 27, wherein at least a portion of said cursor image data and said cursor display code are disposed within a second server computer located remotely to said first server computer.

36. The server system in accordance with claim 27, wherein at least a portion of said cursor image data and said cursor display code are disposed locally to said user's terminal.

37. The server system in accordance with claim 35 wherein said first server computer in response to a request from said user terminal transmits information stored in said second server computer to said user terminal.

38. The server system in accordance with claim 27, wherein said specified content information is transmitted in the form of HTML files that define a web page.

39. The server system in accordance with claim 38, wherein said cursor image data includes at least in part an advertisement for goods or services contained in said web page.

40. The server system in accordance with claim 27, wherein said user terminal includes a browser application responsive to said cursor display instruction, said browser application executing said cursor display code using parameters defined in said cursor display instruction.

41. The server system in accordance with claim 27, said cursor display instruction further comprising an image identifier indicating said cursor image data corresponding to said specific image.

42. The server system in accordance with claim 27 wherein said first server computer transmits said cursor image data in response to a request received from said remote user terminal indicating that a copy of said cursor image data is not stored in said remote user terminal.

43. The server system in accordance with claim 27 wherein said cursor display instruction further comprises an image identifier that corresponds to a graphic animation sequence.

44. The server system in accordance with claim 43, wherein said cursor display instruction further comprises instructions operable to modify said specific image to display said graphic animation sequence.

45. The server system in accordance with claim 27, wherein said cursor display instruction further comprises an audio identifier that corresponds to an audio information sequence.

46. The server system in accordance with claim 45, wherein said cursor display instruction further comprises instructions operable to play an audio clip corresponding to said audio information sequence.

47. The server system in accordance with claim 27, wherein said cursor display instruction further comprises information that controls a duration of time said specific image is displayed on said display of said remote user's terminal.

48. The server system in accordance with claim 27, wherein said specified content information is transmitted in the form of one or more hypertext objects.

49. The server system in accordance with claim 27, wherein said specified content information includes instructions executable by a virtual machine on said user terminal.

50. The server system in accordance with claim 27, wherein said specified content information includes HTML tags recognized by said cursor display code.

51. The server system in accordance with claim 27, wherein said cursor display code generates usage data for calculating usage statistics of said specific image.

52. The server system in accordance with claim 27, wherein said cursor display instruction transmitted to said remote user terminal initiates communication with a plurality of server systems for obtaining additional cursor image data.

53. A method for modifying an initial cursor image displayed on a display of a user terminal connected to at least one server, comprising:

receiving a request at said at least one server to provide specified content information to said user terminal;

providing said specified content information to said user terminal in response to said request, said specified content information including at least one cursor display

instruction and at least one indication of cursor image data corresponding to a specific image; and

transforming said initial cursor image displayed on said display of said user terminal into the shape and appearance of said specific image in response to said cursor display instruction, wherein said specified content information includes information that is to be displayed on said display of said user's terminal, wherein said specific image includes content corresponding to at least a portion of said information that is to be displayed on said display of said user's terminal, and wherein said cursor display instruction indicates a cursor display code operable to process said cursor display instruction to modify said cursor image to said cursor image in the shape and appearance of said specific image ~~responsive~~ in response to movement of said cursor image over a display of said at least a portion of said information to be displayed on said display of said user's terminal, and wherein said specific image has a shape and appearance relating to said information to be displayed.

54. The method in accordance with claim 53, wherein said transforming further comprises executing said cursor display code so as to display said specific cursor image while at least a portion of said information to be displayed is displayed on said display of said user's terminal.

55. The method in accordance with claim 53, wherein said displaying of said specific image further comprises displaying advertising material related to at least a portion of said information to be displayed.

56. The method in accordance with claim 55, wherein said advertising material further comprises a brand logo.

57. The method in accordance with claim 55, wherein said advertising material further comprises a corporate mascot.

58. The method in accordance with claim 55, wherein said advertising material further comprises images of a good or a service corresponding to said information to be displayed.

59. The method in accordance with claim 55, wherein said advertising material further comprises messages relating to said information to be displayed.

60. The method in accordance with claim 53, wherein said specified content information further comprises HTML files that define a web page.

61. The method in accordance with claim 60, wherein said cursor image data corresponds to an advertisement for goods or services contained in said web page.

62. The method in accordance with claim 53, wherein said transforming further comprises:

employing a browser application including said cursor display code responsive to said cursor display instruction; and

executing said cursor display code by employing parameters defined in said cursor display instruction.

63. The method in accordance with claim 53 wherein said specified content information comprises an image identifier that corresponds to the location of data representing said specific image.

64. The method in accordance with claim 53, further comprising transmitting said cursor image data in response to a request received from said remote user terminal indicating that a copy of said cursor image data is not stored in said remote user terminal.

65. The method in accordance with claim 53, wherein said cursor display instructions further comprises an image identifier that corresponds to a graphic animation sequence.

66. The method in accordance with claim 65, further comprising modifying said remote user terminal's cursor to display said graphic animation sequence.

67. The server system in accordance with claim 53, wherein said cursor display instruction further comprises an audio identifier that corresponds to an audio information sequence.

68. The server system in accordance with claim 67, further comprising playing an audio clip corresponding to said audio information sequence responsive to displaying said specific image.

69. The method in accordance with claim 53 further comprising controlling a duration of time said specific image is displayed on said remote user's display.

70. The method in accordance with claim 53, further comprising providing usage data by said cursor display code for calculating usage statistics of said specific image, responsive to said cursor display instruction.

71. A computer storage device readable by a machine, tangibly embodying a program of instructions executable by the machine to perform the method steps in claim 53.

Sub a4

72. A method for modifying an initial cursor image displayed on a display of a user terminal connected to at least one server, comprising:

receiving a request at said at least one server to provide specified content information to said user terminal;

providing said specified content information to said user terminal in response to said request, said specified content information including at least one cursor display instruction and at least one indication of cursor image data corresponding to a specific image; and

transforming said initial cursor image displayed on said display of said user terminal into the shape and appearance of said specific image in response to said cursor display instruction, wherein said specified content information includes information that is to be displayed on said display of said user's terminal, wherein said specific image includes content corresponding to at least a portion of said information that is to be displayed on said display of said user's terminal, and wherein said cursor display instruction indicates a cursor display code operable to process said cursor display instruction to modify said cursor image to said cursor image in the shape and appearance of said specific image ~~responsive~~ in response to movement of said cursor image over a specified location on said display of said user's terminal, and wherein said specific image has a shape and appearance relating to said information to be displayed.

73. The method in accordance with claim 72, wherein said transforming further comprises executing said cursor display

code so as to display said specific cursor image while at least a portion of said information to be displayed is displayed on said display of said user's terminal.

74. The method in accordance with claim 72, wherein said displaying of said specific image further comprises displaying advertising material related to at least a portion of said information to be displayed.

75. The method in accordance with claim 74, wherein said advertising material further comprises a brand logo.

76. The method in accordance with claim 74, wherein said advertising material further comprises a corporate mascot.

77. The method in accordance with claim 74, wherein said advertising material further comprises images of a good or a service corresponding to said information to be displayed.

78. The method in accordance with claim 74, wherein said advertising material further comprises messages relating to said information to be displayed.

79. The method in accordance with claim 72, wherein said specified content information further comprises HTML files that define a web page.

80. The method in accordance with claim 79, wherein said cursor image data corresponds to an advertisement for goods or services contained in said web page.

81. The method in accordance with claim 72, wherein said transforming further comprises:

employing a browser application including said cursor display code responsive to said cursor display instruction; and

executing said cursor display code by employing parameters defined in said cursor display instruction.

82. The method in accordance with claim 72 wherein said specified content information comprises an image identifier that corresponds to the location of data representing said specific image.

83. The method in accordance with claim 72, further comprising transmitting said cursor image data in response to a request received from said remote user terminal indicating that a copy of said cursor image data is not stored in said remote user terminal.

84. The method in accordance with claim 72, wherein said cursor display instructions further comprises an image identifier that corresponds to a graphic animation sequence.

85. The method in accordance with claim 84, further comprising modifying said remote user terminal's cursor to display said graphic animation sequence.

86. The server system in accordance with claim 72, wherein said cursor display instruction further comprises an audio identifier that corresponds to an audio information sequence.

87. The server system in accordance with claim 86, further comprising playing an audio clip corresponding to said audio information sequence responsive to displaying said specific image.

88. The method in accordance with claim 72 further comprising controlling a duration of time said specific image is displayed on said remote user's display.

89. The method in accordance with claim 72, further comprising providing usage data by said cursor display code for calculating usage statistics of said specific image, responsive to said cursor display instruction.

90. A computer storage device readable by a machine, tangibly embodying a program of instructions executable by the machine to perform the method steps in claim 72.

Sub C5

91. An internet browser computer program stored on a computer readable medium, said internet browser configured to modify a cursor image to a specific image having a desired shape and appearance displayed on a display of a remote user's terminal, said internet browser comprising:

program code operable to receive specified content information from a remote server, said specified content information comprising information to be displayed on said remote user's terminal and at least one cursor display instruction, wherein said specific image includes content corresponding to at least a portion of said information to be displayed on said remote user's terminal, and wherein said cursor display instruction indicates cursor image data corresponding to said specific image;

program code operable to recognize said cursor display instruction in connection with processing said information to be displayed on said display; and

program code operable to execute a cursor display code, ~~responsive~~ in response to said cursor display instruction and movement of said cursor image over a display of said at least a portion of said information to on said remote user's terminal, said cursor display code being operable to modify said cursor image to said specific image, and wherein said specific image corresponds to at least a portion of said information to be displayed on said display of said user's terminal.

B

92. The internet browser in accordance with claim 91 further comprising program code operable to retrieve said cursor image data from a prespecified server, when said cursor image data is not stored in said user terminal.

93. The internet browser in accordance with claim 91 further comprising program code operable to retrieve said cursor display code from a prespecified server, when said cursor display code is not stored in said user terminal.

94. The internet browser in accordance with claim 91 further comprising program code operable to determine whether cursor display instructions received by said user terminal were transmitted by an authorized server.

95. The internet browser in accordance with claim 91 further comprising program code operable to transmit statistical information to a prespecified server so as to provide information relating to the usage of said specific image.

96. The internet browser in accordance with claim 91, wherein said specific image reverts back to its original shape and appearance after a prespecified duration.

97. The internet browser in accordance with claim 95 further comprising program code operable to store said cursor display code in a memory located locally to said user terminal.

98. The internet browser in accordance with claim 91 further comprising program code operable to provide audio clips corresponding to said display of said specific image.

99. The internet browser in accordance with claim 98 wherein information relating to said audio clips is contained within said cursor display instruction.

100. The internet browser in accordance with claim 91 further comprising program code operable to provide animated images corresponding to said specific image.

101. The internet browser in accordance with claim 104 wherein information relating to said animated images are contained within said cursor display instruction.

102. The internet browser in accordance with claim 91, wherein said specific image comprises advertising material related to at least a portion of said information to be displayed on said display of said user's terminal.

103. The internet browser in accordance with claim 102, wherein said advertising material further comprises a brand logo.

104. The internet browser in accordance with claim 102, wherein said advertising material further comprises a corporate mascot.

105. The internet browser in accordance with claim 102, wherein said advertising material further comprises images of a good or a service corresponding to said information to be displayed on said display of said user's terminal.

106. The internet browser in accordance with claim 102, wherein said advertising material further comprises messages relating to said information to be displayed on said display of said user's terminal.

107. The internet browser in accordance with claim 91, wherein said specific image has a shape and appearance related to said information to be displayed on said display of said display of said user's terminal.

108. The internet browser in accordance with claim 91, wherein said specified content information is transmitted in the form of at least one HTML file that defines a web page.

109. The internet browser in accordance with claim 91, wherein said specified content information is transmitted in the form of one or more hypertext objects.

110. The internet browser in accordance with claim 91, wherein said specified information content is executable at least in part by a virtual machine on said user terminal.

111. The internet browser in accordance with claim 91, wherein said specified information content includes at least one instruction in an interpreted programming language.

112. An internet browser computer program stored on a computer readable medium, said internet browser configured to modify a cursor image to a specific image having a desired shape and appearance displayed on a display of a remote user's terminal, said internet browser comprising:

program code operable to receive specified content information from a remote server, said specified content information comprising information to be displayed on said remote user's terminal and at least one cursor display instruction, wherein said specific image includes content corresponding to at least a portion of said information to be displayed on said remote user's terminal, and wherein said cursor display instruction indicates cursor image data corresponding to said specific image;

program code operable to recognize said cursor display instruction in connection with processing said information to be displayed on said display; and

program code operable to execute a cursor display code, ~~responsive~~ in response to said cursor display instruction and movement of said cursor image over a specified location on said display, said cursor display code being operable to modify said cursor image to said specific image, and wherein said specific image corresponds to at least a portion of said information to be displayed on said display of said user's terminal.

113. The internet browser in accordance with claim 112 further comprising program code operable to retrieve said cursor image data from a prespecified server, when said cursor image data is not stored in said user terminal.

114. The internet browser in accordance with claim 112 further comprising program code operable to retrieve said cursor display code from a prespecified server, when said cursor display code is not stored in said user terminal.

115. The internet browser in accordance with claim 112 further comprising program code operable to determine whether cursor display instructions received by said user terminal were transmitted by an authorized server.

116. The internet browser in accordance with claim 112 further comprising program code operable to transmit statistical information to a prespecified server so as to provide information relating to the usage of said specific image.

117. The internet browser in accordance with claim 112, wherein said specific image reverts back to its original shape and appearance after a prespecified duration.

118. The internet browser in accordance with claim 116 further comprising program code operable to store said cursor display code in a memory located locally to said user terminal.

119. The internet browser in accordance with claim 112 further comprising program code operable to provide audio clips corresponding to said display of said specific image.

120. The internet browser in accordance with claim 118 wherein information relating to said audio clips is contained within said cursor display instruction.

121. The internet browser in accordance with claim 112 further comprising program code operable to provide animated images corresponding to said specific image.

122. The internet browser in accordance with claim 121 wherein information relating to said animated images are contained within said cursor display instruction.

123. The internet browser in accordance with claim 112, wherein said specific image comprises advertising material related to at least a portion of said information to be displayed on said display of said user's terminal.

124. The internet browser in accordance with claim 123, wherein said advertising material further comprises a brand logo.

125. The internet browser in accordance with claim 123, wherein said advertising material further comprises a corporate mascot.

126. The internet browser in accordance with claim 123, wherein said advertising material further comprises images of a good or a service corresponding to said information to be displayed on said display of said user's terminal.

127. The internet browser in accordance with claim 123, wherein said advertising material further comprises messages relating to said information to be displayed on said display of said user's terminal.

128. The internet browser in accordance with claim 112, wherein said specific image has a shape and appearance related to said information to be displayed on said display of said display of said user's terminal.

129. The internet browser in accordance with claim 112, wherein said specified content information is transmitted in the form of at least one HTML file that defines a web page.

130. The internet browser in accordance with claim 112, wherein said specified content information is transmitted in the form of one or more hypertext objects.

131. The internet browser in accordance with claim 112, wherein said specified information content is executable at least in part by a virtual machine on said user terminal.

132. The internet browser in accordance with claim 112, wherein said specified information content includes at least one instruction in an interpreted programming language.

ABSTRACT

A system for modifying a cursor image, as displayed on a video monitor of a remote terminal, to a specific image having a desired shape and appearance. The system stores cursor image data corresponding to the specific image, and a cursor display code. The cursor display code contains information in response to which the cursor image is modified to the specific image. A server computer transmits specified information to the remote terminal. The information includes at least one cursor display instruction. The cursor display instruction is operable to modify, in conjunction with the cursor information and the cursor image data, a cursor image displayed by a display of the remote terminal in the shape and appearance of the specific image.

PRINT OF DRAWING
AS ORIGINALLY FILED

C, JACKSON
2773
345/339

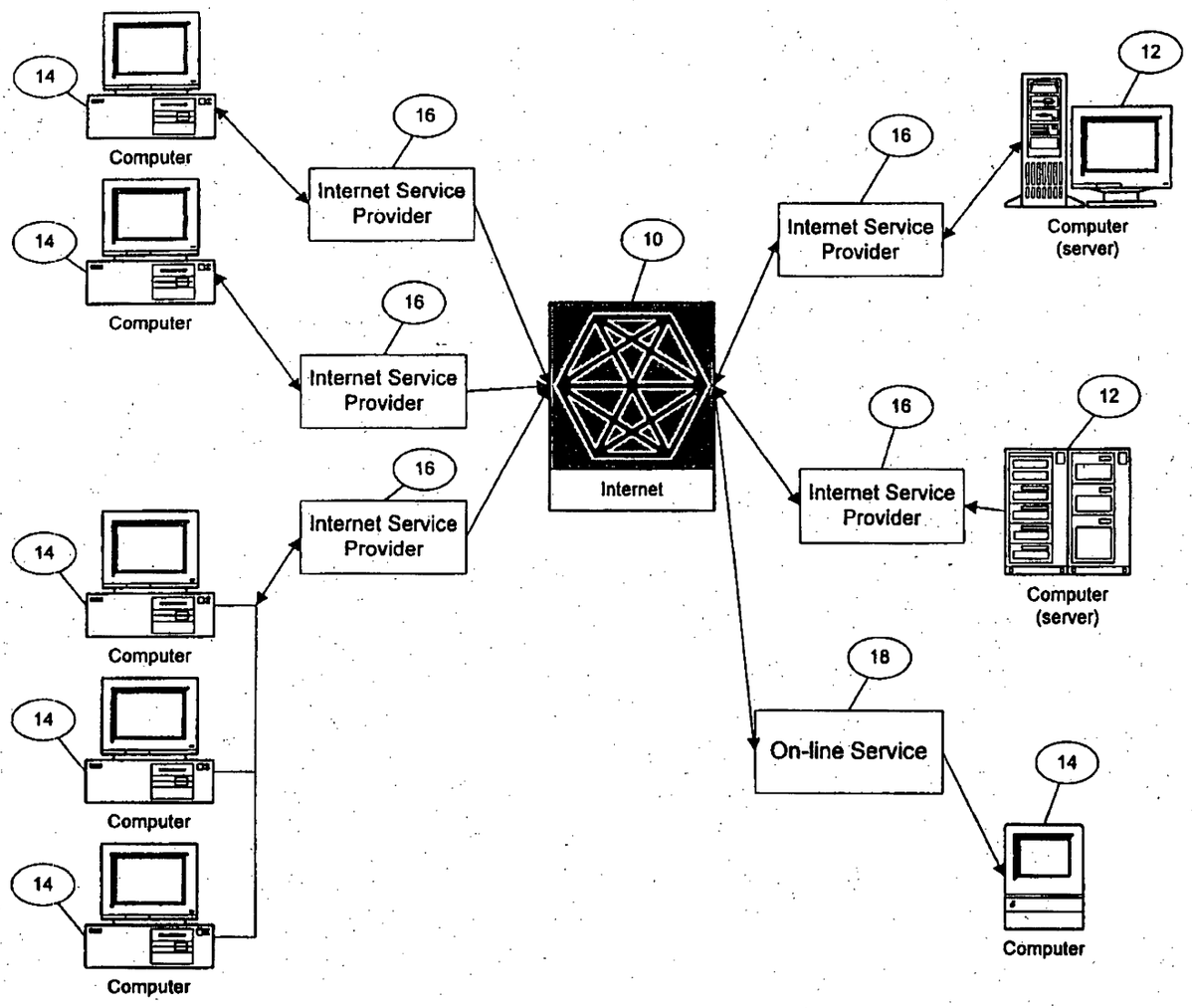

Figure 1

PRINT OF DRAWING
AS ORIGINALLY FILED

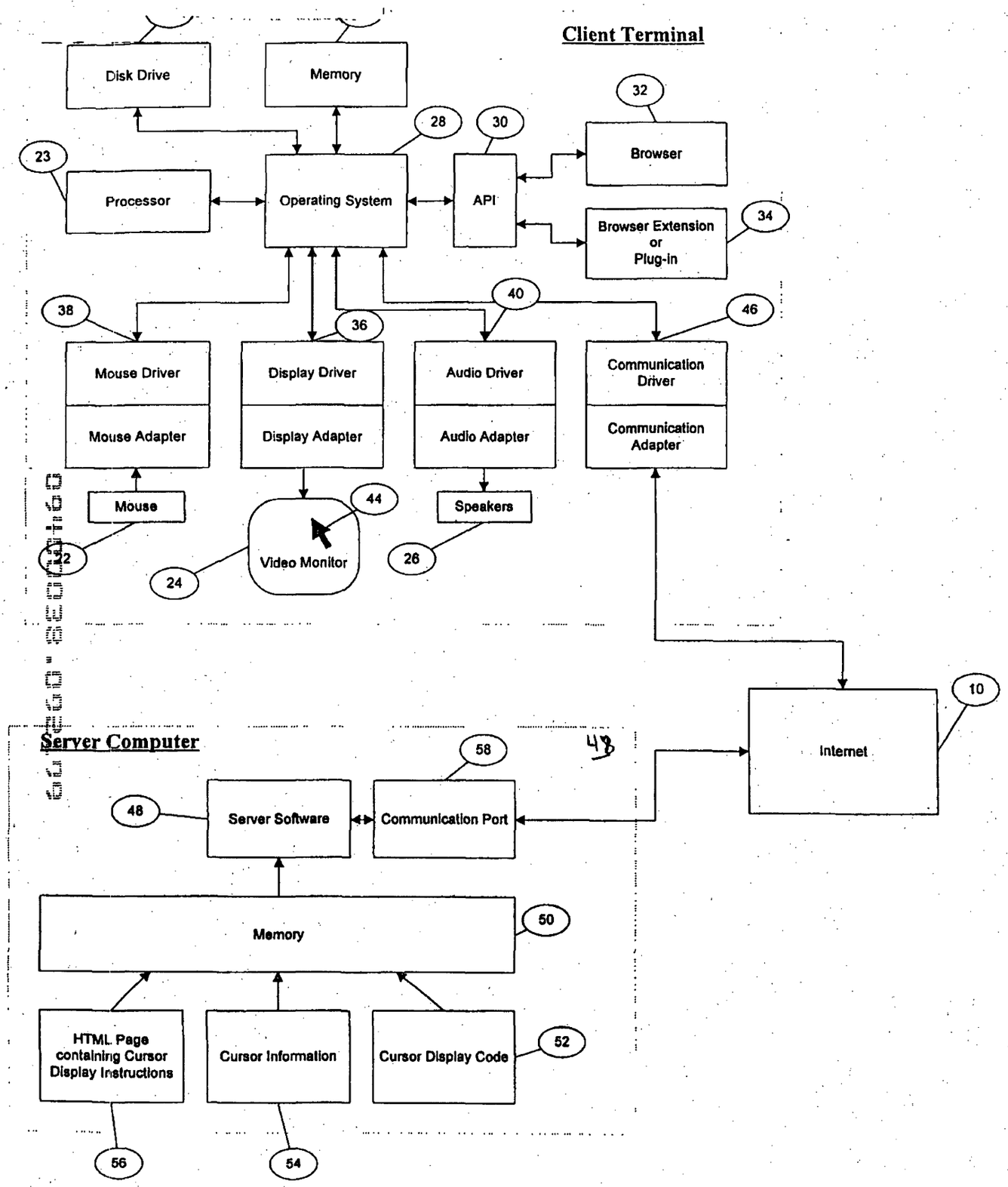

Figure 2

PRINT OF DRAWING
AS ORIGINALLY FIL.

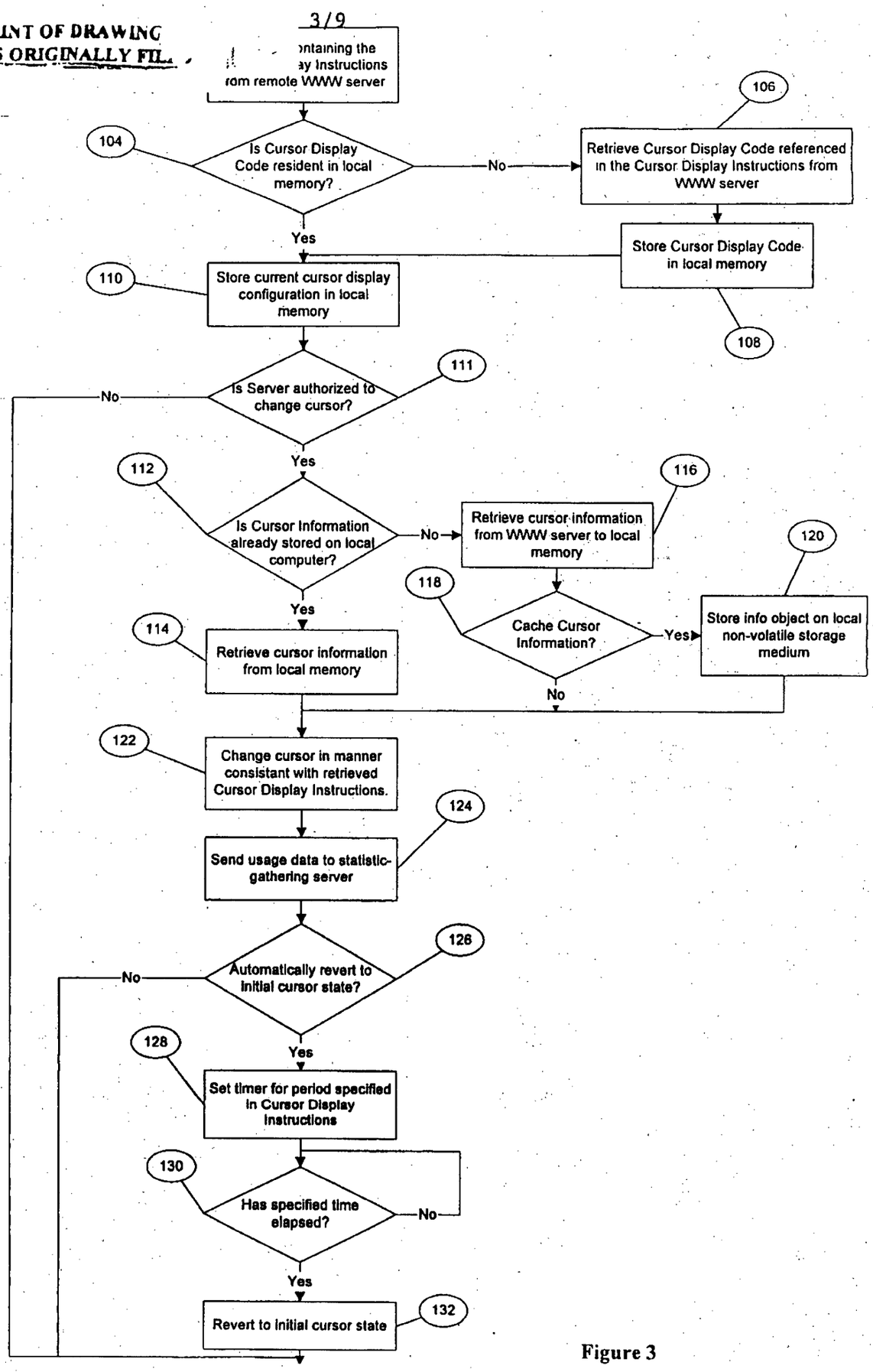

Figure 3

```
<OBJECT
        202.ID=cc1
        203.TYPE="application/x-oleobject"
        204.CLASSID="clsid:CB005660-D0C7-11cf-B7F6-00AA00A3F278"
        205.CODEBASE="http://cometsystems.com/controls/cc.cab#ver=4,70,0,
           1122"
        206.<PARAM NAME="CursorType" VALUE="1">
        207.<PARAM NAME="CursorImage"
           VALUE="http://cometsystems.com/library/images/acme.cur">
        208.<PARAM NAME="Counter" VALUE="http://
           cometsystems.com/accounting">
        209.<PARAM NAME="DisplayDuration" VALUE="5">
        210.<PARAM NAME="CacheCursor" VALUE="1">
        211.<PARAM NAME="ServerSignature" VALUE="54F5254A23BD988AB54">
        212.<PARAM NAME="DormantDelay" VALUE="600">
        213.<PARAM NAME="CursorTrajectoryMap" VALUE="http://
           cometsystems.com/maps/trajectory">
        214.<PARAM NAME="CursorPositionMap" VALUE="http://
           cometsystems.com/maps/position ">
        215.<PARAM NAME="CursorVelocityMap"
           VALUE="http://cometsystems.com/maps/velocity">
        216.<PARAM NAME="CursorPositionMap" VALUE="http://
           cometsystems.com/maps/velocity">
        217.<PARAM NAME="CursorButtonMap" VALUE="http://
           cometsystems.com/maps/buttonstate">
        218.<PARAM NAME="ContentType" VALUE="5">
        219.<PARAM NAME="PriorityLevel" VALUE="1">
        220.<PARAM NAME="StreamBufferSize" VALUE="0">
        221.<PARAM NAME="SatelliteImage"
           VALUE="http://cometsystems.com/library/images/acmesat.bmp">
        222.<PARAM NAME="SatelliteXDisplacement" VALUE="-50">
        223.<PARAM NAME="SatelliteYDisplacement" VALUE="50">
        224.<PARAM NAME="ExtraDisplayParameters"
           VALUE="http://cometsystems.com/library/params/acme.prm">
</OBJECT>
```

Figure 4

```
<script language="VBScript">
<!--\l`;
302.Sub window_onLoad()
303.    cc1.RememberCurrentCursor()
304.    cc1.SetNormalCursor("http://cometsystems.com/library/
            images/acme.cur")
305.end sub

306.Sub window_onUnload()
307.    cc1.Reset()
308.end sub
-->
</script>
```

Figure 5

PRINT OF DRAWING
AS ORIGINALLY FILED

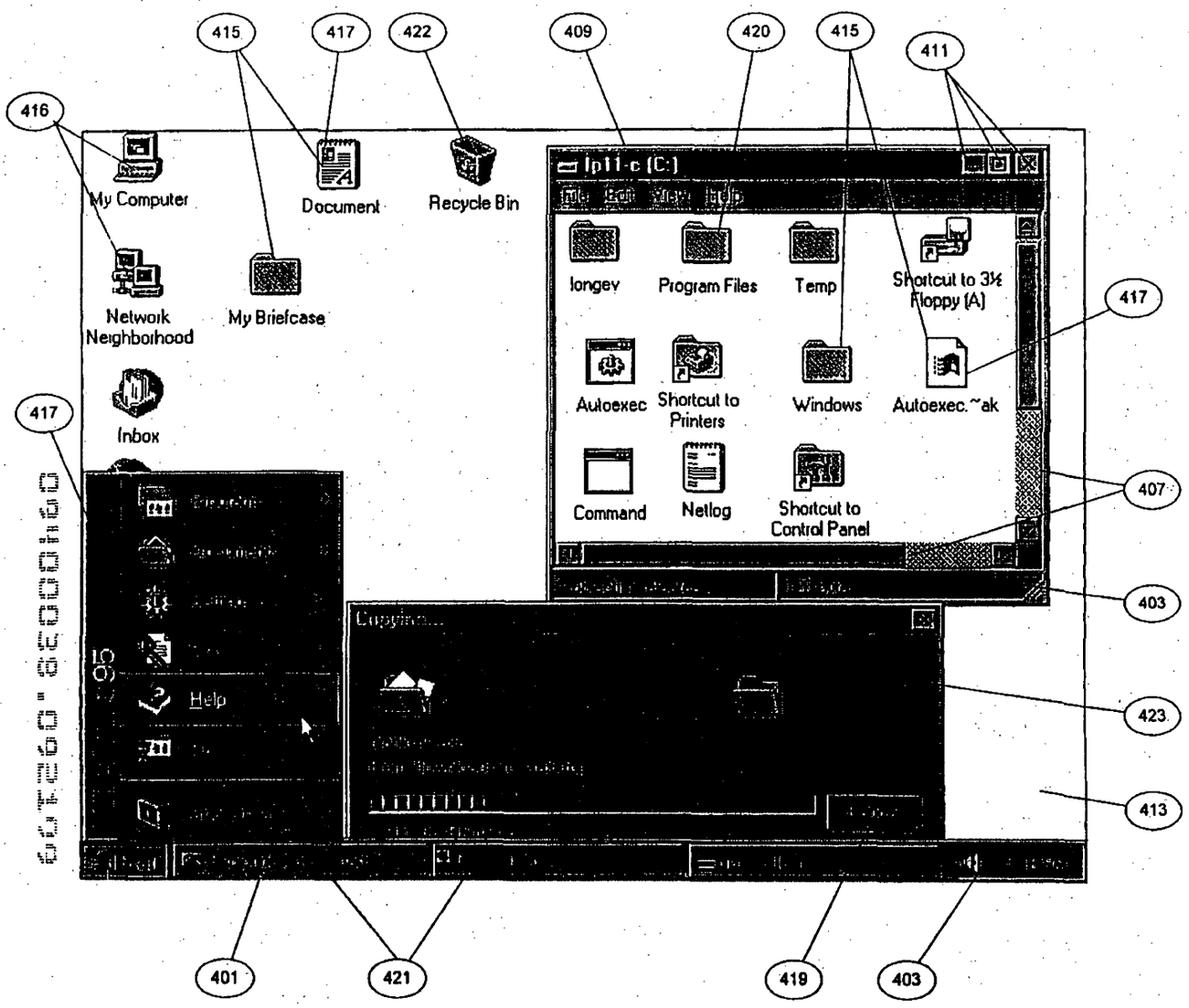

Figure 6

PRINT OF DRAWING
AS ORIGINALLY FILED

60

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Figure 7

PRINT OF DRAWING
AS ORIGINALLY FIL...

8/9

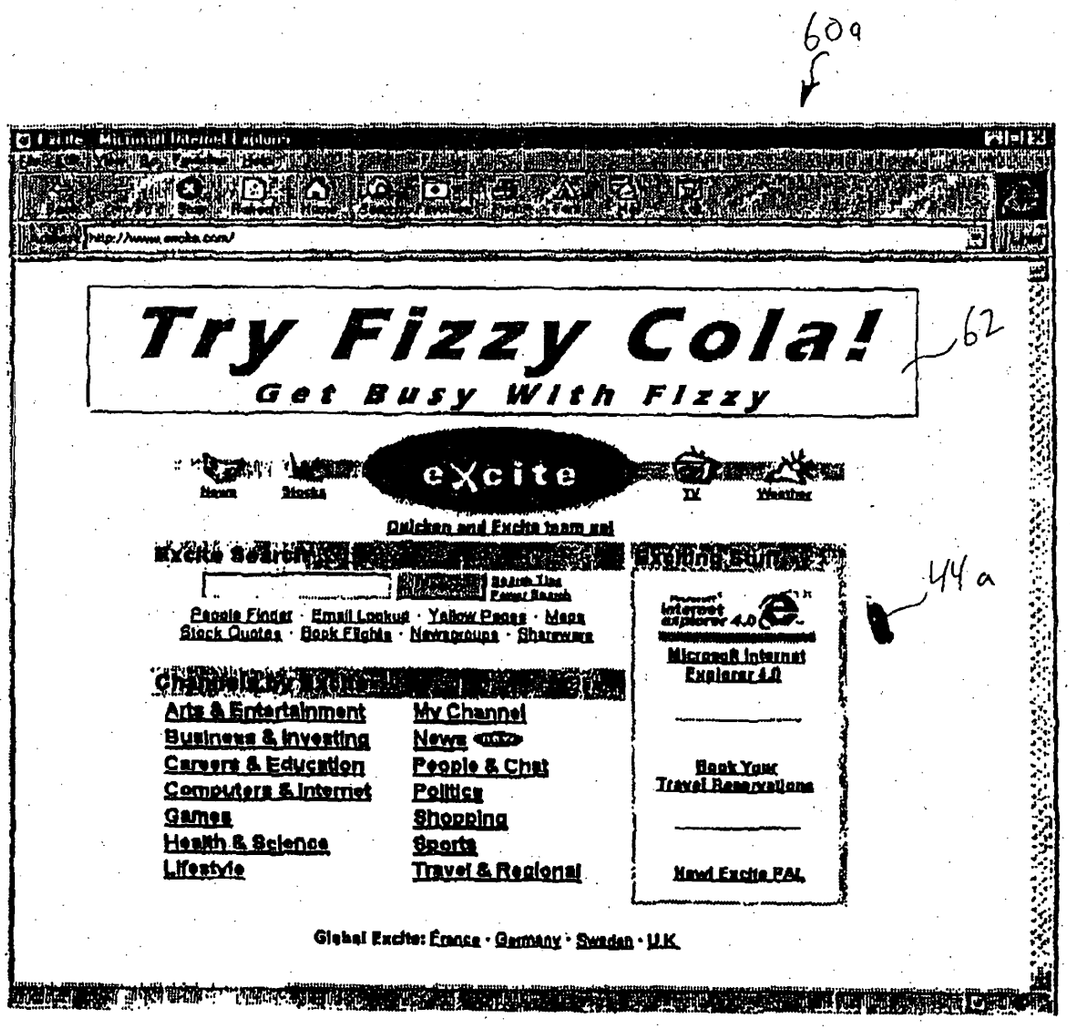

Figure 8

60b

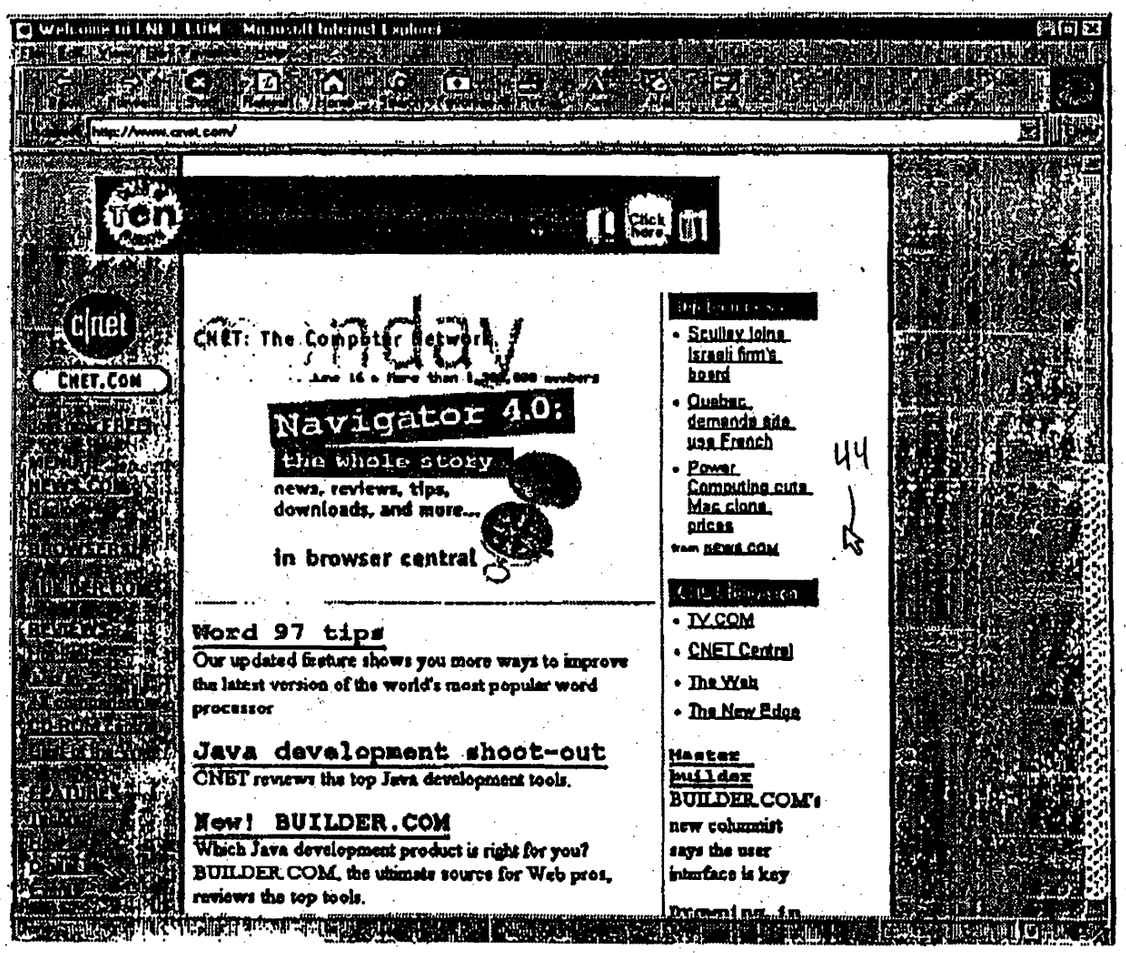
http://www.cnet.com/
cnet
CNET.COM
CNET: The Computer Network
today
Navigator 4.0:
the whole story
news, reviews, tips, downloads, and more...
in browser central
Word 97 tips
Our updated feature shows you more ways to improve the latest version of the world's most popular word processor
Java development shoot-out
CNET reviews the top Java development tools.
New! BUILDER.COM
Which Java development product is right for you? BUILDER.COM, the ultimate source for Web pros, reviews the top tools.
Scully joins Israeli firm's board
Quebec demands site use French
Power Computing cuts Mac clone prices
from NEWS.COM
TV.COM
CNET Central
The Web
The New Edge
Master builder
BUILDER.COM's new columnist says the user interface is key
44

Figure 9

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

COMBINED DECLARATION, POWER OF ATTORNEY & PETITION

TYPE OF DECLARATION

[X] Utility
[ ] Design
[ ] Supplemental
[ ] Divisional
[ ] Continuation
[ ] Continuation-in-part
[ ] National Stage of the PCT

INVENTORSHIP AND SPECIFICATION IDENTIFICATION

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 is listed below) or a joint inventor (if plural inventors are named below) of the invention entitled:

SERVER SYSTEM AND METHOD FOR MODIFYING A CURSOR IMAGE

as described and claimed in the specification which
[ ] is attached hereto.
[X] was filed on June 25, 1997
[X] as U.S. Serial Number. 08/ 882,580; or
[ ] Express Mail No._____ (as serial number not yet known); and
[ ] was amended on _____.
[ ] was described and claimed in PCT International Application No. PCT/ / _____
filed on _____; and
☐ as amended under PCT Article 19 and/or 34 on _____.

REVIEW OF PAPERS AND DUTY OF CANDOR

I have reviewed and understand the contents of the attached specification including the drawing and claims as amended by any amendment referred to below; and
I acknowledge my duty to disclose information of which I am aware which is material to the examination of this application, in accordance with 37 CFR 1.56(a); and
☐ in compliance with this duty there is attached an information disclosure statement.

Express Mail Number
EL231115410US

PRIORITY CLAIMS

I hereby claim **foreign priority** benefits under Title 35, United States Code, § 119 of any foreign application(s) for patent or inventor's certificate listed below and have also identified below any foreign applications for patent applications for patent or inventor's certificate having a filing date before that of the application on which priority is claimed:

Prior Foreign Application(s)			Priority Claimed	
(Number)	(Country)	(Day/Month/Year/Filed)	[ ] Yes	[ ] No
(Number)	(Country)	(Day/Month/Year/Filed)	[ ] Yes	[ ] No
(Number)	(Country)	(Day/Month/Year/Filed)	[ ] Yes	[ ] No

I hereby claim the benefit under Title 35, United States Code, § 120 of any **United States Application(s)** listed below and, insofar as the subject matter of each of the claims of this application is not disclosed in the prior United States Application in the manner provided by the first paragraph of Title 35, United States Code, § 112, I acknowledge the duty to disclose material information as defined in Title 37, Code of Federal Regulations, § 1.56(a) which occurred between the filing date of the prior application and the national or PCT international filing date of this application.

(Application Serial No.) (Filing Date) (Status: Patented, Pending, Abandoned)

(Application Serial No.) (Filing Date) (Status: Patented, Pending, Abandoned)

DECLARATION

I declare that all statements made above of my own knowledge are true and all statements made on information and belief are believed to be true; and 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 such willful false statements may jeopardize the validity of the application or any patent issuing

thereon.

POWER OF ATTORNEY

I hereby appoint the following patent attorneys and/or patent agent(s) with full power of appointment, substitution and revocation to prosecute this application, to make alterations and amendments thereto, to receive the patent, and to transact all business in the Patent Office connected therewith.

Joseph Sofer (Reg. No. 34,438)
Robert M. Haroun (Reg. No. 34,345)

Please address all telephone calls and correspondence to:

Joseph Sofer
SOFER & HAROUN, L.L.P.
342 Madison Avenue
Suite 1921
New York, New York 10173
Telephone:(212) 697-2800
Facsimile:(212) 697-3004

PETITION

Wherefore, I pray that Letters Patent be granted to me for the invention or discovery described and claimed in the above-mentioned specification and claims, and I hereby subscribe my name to the foregoing Declaration, Power of Attorney & Petition with references to the above-identified specification and claims.

SIGNATURES

Name of joint or
first inventor: **James Samuel Rosen**

Home Address: **333 East 23rd Street, Apt. 8D, New York, NY 10010**
Post Office Address: **Same as above**
Citizenship: **US**

Inventor's Signature: _____ Date: 12-23-97

Name of joint or
second inventor: **Thomas A. Schmitter**

Home Address: **197 Eight Street, Apt. #715, Charlestown, MA 02129**
Post Office Address: **P.O Box 397154, Cambridge, Massachusetts, 02139**
Citizenship: **US**

Inventor's Signature: _____ Date: 12/23/97

Name of joint or
third inventor: **Mark S. Hall**

Home Address: **156 Irving Avenue, South Orange, NJ 07079**
Post Office Address: **Same as above**

Citizenship: **UK**

Inventor's Signature: _____ Date: 1/5/98

#2 S, HOOVER
12/03/99

PATENT

JC617 U.S. PTO
09/400038
09/21/99

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re application	:	James S. Rosen et al.
Application No.	:	
Filed	:	Herewith
For	:	SERVER SYSTEM AND METHOD FOR MODIFYING A CURSOR IMAGE
Examiner	:	
Attorney's Docket	:	COMET-001CX

Group Art Unit:

* *

INFORMATION DISCLOSURE STATEMENT

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

Sir:

It is desired to cite for the record in this application the enclosed articles and U.S. patents listed on the attached copy of PTO Form #1449. The paragraph(s) marked below are applicable to this Information Disclosure Statement.

[X] (1) Pursuant to 37 C.F.R. § 1.97(b)(1) and (2), the attached Information Disclosure Statement is being filed within three months of the filing date of the above identified national application or within three months of the date of entry of the national stage as set forth in 37 C.F.R. § 1.491 of the above identified application. Accordingly, applicants believe that no fee or statement under 37 C.F.R. § 1.97(e) is required.

[ ] (2) Pursuant to 37 C.F.R. § 1.97(b)(3), applicant(s) believes the attached Information Disclosure Statement is being filed before the mailing date of a first Office action on the merits. Accordingly, applicant(s) believe that no fee or statement under 37 C.F.R. § 1.97(e) is required.

Express Mail Number
EL231115410US

WEINGARTEN, SCHURGIN,
GAGNEBIN & HAYES, LLP
TEL (617) 542-2290
FAX. (617) 451-0313

Application No.
Filed: Herewith
Group Art Unit:

[ ] (3) Pursuant to 37 C.F.R. § 1.97(c), the attached Information Disclosure Statement is being filed before the mailing date of a final action or a notice of allowance and is accompanied by:

[ ] a statement under 37 CFR §1.97(e); or

[ ] the fee set forth in §1.17(p).

PETITION UNDER 37 CFR §1.97(d)

[ ] (4) Pursuant to 37 CFR §1.97(d), applicant(s) hereby petition the Commissioner to consider the attached Information Disclosure Statement which is being filed on or before payment of the issue fee. This petition is accompanied by a statement under 37 C.F.R. § 1.97(e) and the petition fee set forth in 37 C.F.R. § 1.17(i).

STATEMENT UNDER 37 C.F.R. § 1.97(e)(1)

[ ] (5) The undersigned hereby states that each item of information contained in the attached Information Disclosure Statement was cited in a communication from a foreign patent office in a counterpart foreign application not more than three months prior to the filing of this Information Disclosure Statement.

STATEMENT UNDER 37 C.F.R. § 1.97(e)(2)

[ ] (6) The undersigned hereby states that no item of information contained in the attached Information Disclosure Statement was cited in a communication from a foreign patent office in a counterpart foreign application and, to the knowledge of the undersigned after making reasonable inquiry, no item of information contained in the attached Information Disclosure Statement was known to any individual designated in 37 C.F.R. § 1.56(c) more than three months prior to the filing of this Information Disclosure Statement.

WEINGARTEN, SCHURGIN,
GAGNEBIN & HAYES LLP
TEL (617) 542-2290
FAX (617) 451-0313

Application No.
Filed: Herewith
Group Art Unit:

The filing of this Information Disclosure Statement is not a representation by the undersigned as to personal knowledge of the contents of every word or phrase of the material enclosed or that reliance on other suitably trained professionals has not been made.

If a search report of a searching agency is enclosed identifying the nature of the relevance of each document, such a designation is deemed to satisfy 37 C.F.R. § 1.98(a)(3) even if in a foreign language because the codes are the same in all languages. However, applicant(s) does not necessarily adopt the position reflected by that report.

The Commissioner is hereby authorized to charge payment of any additional fees associated with this communication or credit any overpayment to Deposit Account No. 23-0804. Triplicate copies of this letter are enclosed.

Respectfully submitted,

JAMES S. ROSEN ET AL.

By: David A. Dagg
David A. Dagg
Registration No. 37,809
Attorney for Applicants

WEINGARTEN, SCHURGIN,
GAGNEBIN & HAYES LLP
Ten Post Office Square
Boston, Massachusetts 02109

Telephone: (617) 542-2290
Telecopier: (617) 451-0313

Date: September 21, 1999

DAD/jde/211420
Enc.

WEINGARTEN, SCHURGIN,
GAGNEBIN & HAYES LLP
TEL (617) 542-2290
FAX (617) 451-0313

Date: September 21, 1999
Page 1 of 1

Form PTO-1449 (REV. 8-83)	U.S. DEPARTMENT OF COMMERCE PATENT AND TRADEMARK OFFICE	ATTY. DOCKET NO. COMET-001CX	APPLICATION NO. 09/400,038
	INFORMATION DISCLOSURE CITATION *(Use several sheets if necessary)*	APPLICANT: James S. Rosen et al.	
		FILING DATE ~~Herewith~~	GROUP 2773

U.S. PATENT DOCUMENTS

EXAMINER INITIAL		DOCUMENT NUMBER	DATE	NAME	CLASS	SUBCLASS	FILING DATE IF APPROPRIATE*
C		* 4,672,575	06/09/87	Stephens	364	900	05/31/83
C		* 4,841,291	06/20/89	Swix et al.	340	725	09/21/87
C		* 4,984,152	01/08/91	Muller	364	200	10/06/87
C		* 5,157,768	10/20/92	Hoeber et al.	395	157	05/17/91
C		* 5,179,656	01/12/93	Lisle	395	159	01/19/89
C		* 5,347,628	09/13/94	Brewer et al.	395	159	01/18/90
C		* 5,544,295	08/06/96	Capps	395	152	05/27/92
C		* 5,559,943	09/24/96	Cyr et al.	395	155	06/27/94
C		* 5,572,643	11/05/96	Judson	395	793	10/19/95
C		* 5,596,694	01/21/97	Capps	395	152	04/08/96
C		* 5,710,897	01/20/98	Schneider	395	334	08/15/95
C		*5,737,619	04/07/98	Judson	395	761	09/09/96
C		*5,740,549	04/14/98	Reilly et al.	705	14	
C		*5,801,698	09/01/98	Vection et al.	345	347	

FOREIGN PATENT DOCUMENTS

		DOCUMENT NUMBER	DATE	COUNTRY	CLASS	SUBCLASS	TRANSLATION YES	TRANSLATION NO

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

C		* *The Java Language Environment - May 1995, A White Paper, by James Gosling and Henry McGilton (65 pp.)*
C		* *WWW Plug-Ins Companion, Written by Mark R. Brown with Simeon M Greene, Galen Grimes, John Jung, Bernie Roehl, David Wall and Joe Weber, (21 pp.)*

EXAMINER	DATE CONSIDERED 12/9/99

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

WSGH FORM 12/211419

* Copies of References can be found in parent case COMET-001XX., filed 6/25/97 as Application No. 08/882,580

Express Mail Number

EL231115410US

Other Prior Art

According to the information contained in form PTO-1449 or PTO-892, there are one or more other prior art/non-patent literature documents missing from the original file history record obtained from the United States Patent and Trademark Office. Upon your request we will attempt to obtain these documents from alternative resources. Please note that additional charges will apply for this service.

This page is not part of the official USPTO record. It has been determined that content identified on this document is missing from the original file history record.

#3/A S, HOOVER
12/03/99

PATENT

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re application	:	James S. Rosen et al.
Application No.	:	
Filed	:	Herewith
Entitled:	:	SERVER SYSTEM AND METHOD FOR MODIFYING A CURSOR IMAGE
Examiner	:	
Attorney's Docket	:	COMET-001CX

Group Art Unit:

* *

PRELIMINARY AMENDMENT

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

Sir:

Prior to Examination, please amend the above identified patent application as follows:

In the Specification:

Please amend the specification as follows:

On page 3, at line 5, please insert --,-- following "smaller".

On page 7, at line 15, please insert --a-- after "as".

On page 7, at line 20, please insert --a-- after "on".

REMARKS

The claims in the present continuation application are based on subject matter deemed to be allowable in the parent application. The present claims correspond to dependent claims

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FAX. (617) 451-0313

Express Mail Number
EL231115410US

submitted in the parent application in an Amendment under 37 C.F.R. 1.312 after a Notice of Allowance, but which were not entered by the Examiner.

The Examiner is encouraged to telephone the undersigned attorney to discuss any matter which would expedite allowance of the present application.

Respectfully submitted,

JAMES S. ROSEN ET AL.

By: David A. Dagg

David A. Dagg
Registration No. 37,809
Attorney for Applicants

WEINGARTEN, SCHURGIN, GAGNEBIN
& HAYES LLP
Ten Post Office Square
Boston, MA 02109
Telephone: (617) 542-2290
Telecopier: (617) 451-0313

Dated: September 21, 1999

DAD/jde/211424
Enclosure
206591

WEINGARTEN, SCHURGIN,
GAGNEBIN & HAYES, LLP
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PATENT

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re application	:	James S. Rosen et al.
Application No.	:	
Filed	:	HEREWITH
For	:	SERVER SYSTEM AND METHOD FOR MODIFYING A CURSOR IMAGE
Examiner	:	
Attorney's Docket	:	COMET-001CX

Group Art Unit:

* *

REVOCATION OF POWER AND
APPOINTMENT OF NEW POWER OF ATTORNEY

Assistant Commissioner for Patents
Washington, D.C. 20231

Sir:

As an officer of the Assignee having the entire right, title, and interest in the above-identified application for United States Patent, evidenced by the Assignment as recorded on Reel 8631, Frame 0209, I hereby revoke all previous powers and respectfully request the appointment of:

Stanley M. Schurgin, Registration No. 20,979
Charles L. Gagnebin III, Registration No. 25,467
Paul J. Hayes, Registration No. 28,307
Victor B. Lebovici, Registration No. 30,864
Eugene A. Feher, Registration No. 33,171; and
Beverly E. Hjorth, Registration No. 32,033
Holliday C. Heine, Registration No. 34,346
Gordon R. Moriarty, Registration No. 38,973

WEINGARTEN, SCHURGIN, GAGNEBIN & HAYES LLP
Ten Post Office Square
Boston, Massachusetts 02109

and

WEINGARTEN, SCHURGIN,
GAGNEBIN & HAYES LLP
TEL (617) 542-2290
FAX (617) 451-0313

Express Mail Number

EL231115410US

Adam C. Solomon, Registration No. 43,142
Comet Systems, Inc.
180 Maiden Lane, 20th Floor
New York, New York 10007

as attorneys with full powers.

Please direct all further correspondence to the following address:

WEINGARTEN, SCHURGIN, GAGNEBIN & HAYES LLP
Ten Post Office Square
Boston, Massachusetts 02109

Respectfully submitted,

By: _____
James S. Rosen
President
Comet Systems, Inc.

Date: 9-21-99

211422

WEINGARTEN, SCHURGIN,
GAGNEBIN & HAYES LLP
TEL (617) 542-2290
FAX (617) 451-0313

VERIFIED STATEMENT (DECLARATION) CLAIMING SMALL ENTITY STATUS
(37 CFR 1.9(f) and 1.27(c)) - SMALL BUSINESS CONCERN

Applicant or Patentee: J. Rosen, T. Schmitter, M. Hall
Attorney's Docket No.: 658-002
Serial or Patent No.: 08/882,580
Filed or Issued: June 25, 1997
Title: SERVER SYSTEM AND METHOD FOR MODIFYING A CURSOR IMAGE

I hereby declare that I am

[ ] the owner of the small business concern identified below:
[X] an official of the small business concern empowered to act on behalf of the concern identified below:

NAME OF SMALL BUSINESS CONCERN Comet Systems, Inc.
ADDRESS OF CONCERN 66 West Broadway, Suite 306
New York, NY 10007

I hereby declare that the above identified small business concern qualifies as a small business concern as defined in 13 CFR 121.12, and reproduced in 37 CFR 1.9(d), for purposes of paying reduced fees to the United States Patent and Trademark Office in that the number of employees of the concern, including those of its affiliates, does not exceed 500 persons. For purposes of this statement, (1) the number of employees of the business concern is the average over the previous fiscal year of the concern of the persons employed on a full-time, part-time or temporary basis during each of the pay periods of the fiscal year, and (2) concerns are affiliates of each other when either, directly or indirectly, one concern controls or has the power to control the other, or a third party or parties controls or has the power to control both.

I hereby declare that rights under contract or law have been conveyed to and remain with the small business concern identified above with regard to the invention described in:

[ ] the specification filed herewith with title listed above.
[X] the application identified above.
[ ] the patent identified above.

If the rights held by the above identified small business concern are not exclusive, each individual, concern or organization having rights to the invention must file separate verified statements averring to their status as small entities, and no rights to the invention are held by any person, other than the inventor, who would not qualify as an independent inventor under 37 CFR 1.9(c) if that person made the invention or by any concern which would not qualify as a small business concern under 37 CFR 1.9(d), or a nonprofit organization under 37 CFR 1.9(e).

Each person, concern or organization having any rights in the invention is listed below:
[ ] no such person, concern, or organization exists.
[ ] each such person, concern or organization listed below

Express Mail Number

EL231115410US

FULL NAME: _____
ADDRESS: _____
[ ] INDIVIDUAL [ ] SMALL BUSINESS CONCERN [ ] NONPROFIT ORGANIZATION

Separate verified statements are required from each named person, concern or organization having rights to the invention averring to their status as small entities. (37 CFR 1.27)

I acknowledge the duty to file, in this application or patent, notification of any change in status resulting in loss of entitlement to small entity status prior to paying, or at the time of paying, the earliest of the issue fee or any maintenance fee due after the date on which status as a small entity is no longer appropriate. (37 CFR 1.28(b))

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, any patent issuing thereon, or any patent to which this verified statement is directed.

NAME OF PERSON SIGNING James Rosen

TITLE OF PERSON OTHER THAN OWNER _____

ADDRESS OF PERSON SIGNING 333 East 23rd Street, Apt. 8D
New York, NY 10010

SIGNATURE J. Ro DATE 12-23-97

Please type a plus sign (+) inside this box → [+]

PTO/SB/122 (11-96)
Approved for use through 6/30/99. OMB 0651-0035
Patent and Trademark Office: U.S. DEPARTMENT OF COMMERCE

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CHANGE OF CORRESPONDENCE ADDRESS
Application

Address to:
Assistant Commissioner for Patents
Washington, D.C. 20231

Application Number	
Filing Date	HEREWITH
First Named Inventor	James S. Rosen et al.
Group Art Unit	
Examiner Name	
Attorney Docket Number	COMET-001CX

Please change the Correspondence Address for the above-identified application to:

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☒ Firm or Individual Name	Weingarten, Schurgin, Gagnebin & Hayes LLP				
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I am the :

☐ Applicant.

☐ Assignee of record of the entire interest.
Certificate under 37 CFR 3.73(b) is enclosed.

☒ Attorney or agent of record .

Typed or Printed Name	David A. Dagg, Registration No. 37,809
Signature	David A. Dagg
Date	September 21 1999

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

(Change in Correspondence Address (Application) (PTO/SB/122)[12-3.1]—page 1 of 1)

Express Mail Number

EL231115410US

OIPE JC59
OCT 22 1999
PATENT & TRADEMARK OFFICE

FILE Receipt

PATENT

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re application	:	James S. Rosen, et al.
Application No.	:	09/400,038
Filed	:	September 21, 1999
For	:	SERVER SYSTEM AND METHOD FOR MODIFYING A CURSOR IMAGE
Examiner	:	
Attorney's Docket	:	COMET-001CX

Group Art Unit: 2773

* *

I hereby certify that this correspondence is being deposited with the United States Postal Service as first class mail in an envelope addressed to: Assistant Commissioner for Patents, Washington, D.C. 20231 on 10-20-99.

By: _____
Victor B. Lebovici
Registration No. 30,864
Attorney for Applicant(s)

* *

L E T T E R

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NOV 19 1999
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Assistant Commissioner for Patents
Washington, D.C. 20231

Sir:

In reviewing the Filing Receipt (copy enclosed) for the above-identified patent application, the following error was noted:

THOMAS A. SCHMITTER, CHARLESTOWN, MA

should read:

THOMAS A. SCHMITTER, CAMBRIDGE, MA

WEINGARTEN, SCHURGIN,
GAGNEBIN & HAYES LLP
TEL (617) 542-2290
FAX (617) 451-0313

Application No.: 09/400,038
Filed: September 21, 1999
Group Art Unit: 2773

Kindly correct the error of the Patent and Trademark Office and issue a corrected Filing Receipt.

Respectfully submitted,

JAMES S. ROSEN, ET AL.

By: _____

Victor B. Lebovici
Registration No. 30,864
Attorney for Applicant(s)

WEINGARTEN, SCHURGIN,
GAGNEBIN & HAYES LLP
Ten Post Office Square
Boston, Massachusetts 02109

Telephone: (617) 542-2290
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Date: 10-20-99

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FILING RECEIPT

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OCT 2 2 1999
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UNITED STATES DEPARTMENT OF COMMERCE
Patent and Trademark Office
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Washington, D.C. 20231

APPLICATION NUMBER	FILING DATE	GRP ART UNIT	FIL FEE REC'D	ATTORNEY DOCKET NO.	DRWGS	TOT CL	IND CL
09/400,038	09/21/99	2773	$1,505.00	COMET-001CX	9	132	6

Primary
12/21/99
di

WEINGARTEN SCHURGIN
GAGNEBIN & HAYES LLP
TEN POST OFFICE SQUARE
BOSTON MA 02109

Receipt is acknowledged of this nonprovisional Patent Application. It will be considered in its order and you will be notified as to the results of the examination. Be sure to provide the U.S. APPLICATION NUMBER, FILING DATE, NAME OF APPLICANT, and TITLE OF INVENTION when inquiring about this application. Fees transmitted by check or draft are subject to collection. Please verify the accuracy of the data presented on this receipt. If an error is noted on this Filing Receipt, please write to the Office of Initial Patent Examination's Customer Service Center. Please provide a copy of this Filing Receipt with the changes noted thereon. If you received a "Notice to File Missing Parts of Application" ("Missing Parts Notice") in this application, please submit any corrections to this Filing Receipt with your reply to the "Missing Parts Notice." When the PTO processes the reply to the "Missing Parts Notice," the PTO will generate another Filing Receipt incorporating the requested corrections (if appropriate).

Applicant(s) JAMES SAMUEL ROSEN, NEW YORK, NY; THOMAS A. SCHMITTER, CHARLESTOWN, MA; MARK S. HALL, SOUTH ORANGE, NJ.

CONTINUING DATA AS CLAIMED BY APPLICANT-
THIS APPLN IS A CON OF 08/882,580 06/25/97

IF REQUIRED, FOREIGN FILING LICENSE GRANTED 10/13/99 ** SMALL ENTITY **
TITLE
SERVER SYSTEM AND METHOD FOR MODIFYING A CURSOR IMAGE

PRELIMINARY CLASS: 345

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By
OCT 18 1999
WEINGARTEN, SCHURGIN,
GAGNEBIN & HAYES

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NOV 19 1999
TECH CENTER 2700

DATA ENTRY BY: WALKER, PARTHENIA TEAM: 06 DATE: 10/13/99

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Titl , Code of Federal Regulations, 5.11 .15

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The applicant has been granted a license under 35 U.S.C. 184, if the phrase "FOREIGN FILING LICENSE GRANTED" followed by a date appears on the reverse side of this form. Such licenses are issued in all applications where the conditions for issuance of a license have been met, regardless of whether or not a license may be required as set forth in 37 CFR 5.11. The scope and limitations of this license are set forth in 37 CFR 5.15(a) unless an earlier license has been issued under 37 CFR 5.15(b). The license is subject to revocation upon written notification. The date indicated is the effective date of the license, unless an earlier license of similar scope has been granted under 37 CFR 5.13 or 5.14.

This license is to be retained by the licensee and may be used at any time on or after the effective date thereof unless it is revoked. This license is automatically transferred to any related application(s) filed under 37 CFR 1.53(d). This license is not retroactive.

The grant of a license does not in any way lessen the responsibility of a licensee for the security of the subject matter as imposed by any Government contract or the provisions of existing laws relating to espionage and the national security or the export of technical data. Licensees should apprise themselves of current regulations, especially with respect to certain countries, of other agencies, particularly the Office of Defense Trade Controls, Department of State (with respect to Arms, Munitions and Implements of War (22 CFR Parts 121-128)); the Office of Export Administration, Department of Commerce (15 CFR 370.10 (j)); the Office of Foreign Assets Control, Department of Treasury (31 CFR Parts 500+) and the Department of Energy.

NOT GRANTED

No license under 35 U.S.C. 184 has been granted at this time, if the phrase "FOREIGN FILING LICENSE GRANTED" DOES NOT appear on the reverse side of this form. Applicant may still petition for a license under 37 CFR 5.12, if a license is desired before the expiration of 6 months from the filing date of the application. If 6 months has lapsed from the filing date of this application and the licensee has not received any indication of a secrecy order under 35 U.S.C. 181, the licensee may foreign file the application pursuant to 37 CFR 5.15(b).

PLEASE NOTE ---- The Following Information about the Filing Receipt:

The articles such as "a," "an" and "the" are not included as the first words in the title of an application. They are considered to be unnecessary to the understanding of the title.

The words "new," "improved," "improvement," "improvements in or relating to" are not included as the first words in the title of an application because a patent application is, by nature, a new idea or improvement.

The title may be truncated if it consists of more than 4 lines of 70 characters each (letters and spaces combined).

The inventor information may be truncated if the family name consists of more than 25 characters (letters and spaces combined) and if the given name consists of more than 25 characters (letters and spaces combined). The inventor's residence allows for up to 40 characters (letters and spaces combined).

The docket number allows a maximum of 12 characters.

If your application was submitted under 37 CFR 1.10, your filing date should be the "date in" found on the Express Mail label. If there is a discrepancy, you should submit a request for a corrected Filing Receipt along with a copy of the Express Mail label showing the "date in."

Customer Address may have been modified to conform to U.S. Postal rules.

Please direct correction, including a copy of your Filing Receipt, to:

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Office of Initial Patent Examination
Customer Service Center
Washington, DC 20231

UNITED STATES DEPARTMENT OF COMMERCE
Patent and Trademark Office
ASSISTANT SECRETARY AND COMMISSIONER
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Washington, D.C. 20231

Employee: D. Hines

Team: 16

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Date: 11-18-99

To: Technology Center 2700

From: Dora Stroud, Supervisor
OIPE Customer Service
Charge Location 0350

Subject: Customer Requests

Serial Number: 09/400638

File Location: 2711

The attached request for a corrected filing receipt has been completed. Please forward the case to OIPE, Customer Service, CP2–6th Floor.

If you decide to keep the case, assign the request a paper number, endorse the contents, punch holes in the documents, and replace the old Bib Data sheet with the updated version in the center of the file.

Your cooperation is greatly appreciated.

WEINGARTEN, SCHURGIN, GAGNEBIN & HAYES LLP
TEN POST OFFICE SQUARE
BOSTON, MASSACHUSETTS 02109

INTELLECTUAL PROPERTY LAW
PATENTS, TRADEMARKS AND COPYRIGHTS

TELEPHONE
(617) 542-2290
FACSIMILE
(617) 451-0313

JOSEPH WEINGARTEN (1919-1984)
STANLEY M. SCHURGIN
CHARLES L. GAGNEBIN III
PAUL J. HAYES
VICTOR B. LEBOVICI
DEAN GRAHAM BOSTOCK
EUGENE A. FEHER
BEVERLY E. HJORTH
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DAVID A. DAGG
PAUL J. CRONIN

FACSIMILE COVER SHEET

OFFICIAL

DATE: December 17, 1999

TO: Examiner C. Jackson

Fax No. Dialed: 703-308-9051

FROM: Victor B. Lebovici

No. of pages transmitted (including this page): 3

Our File: COMET-001CX

Time:

Your Ref: 08/400,038

Sent by: David A. Dagg

RECEIVED DEC 17 1999

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--URGENT--

PLEASE CALL EXAMINER JACKSON AND HE WILL PICK UP:

EXAMINER Chadwick Jackson, Tel. (703) 308-9572.

GROUP ART UNIT 2773

Transmitted herewith please find a letter authorizing the Patent and Trademark Office to charge Deposit Account No. 23-0804 for the Terminal Disclaimer filed on December 13, 1999.

THIS MESSAGE MAY CONTAIN CONFIDENTIAL OR PRIVILEGED INFORMATION INTENDED ONLY FOR THE PERSON(S) IDENTIFIED ABOVE. IF IT HAS BEEN RECEIVED AT ANY OTHER PLACE OR HAS NOT BEEN CLEARLY RECEIVED, PLEASE CALL THE ABOVE IDENTIFIED SENDING PARTY COLLECT FOR INSTRUCTIONS. DO NOT SHOW OR DISTRIBUTE THIS MESSAGE TO ANYONE OTHER THAN THE INTENDED RECIPIENT(S). THANK YOU.
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217115

#4

#4

PATENT

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re application	:	James Samuel Rosen et al.
Application No.	:	09/400,038
Filed	:	September 21, 1999
For	:	SERVER SYSTEM AND METHOD FOR MODIFYING A CURSOR IMAGE
Examiner	:	C. Jackson
Attorney's Docket	:	COMET-001CX

Group Art Unit: 2773

* *

I hereby certify that this correspondence is being transmitted by facsimile to: Examiner Chad Jackson, United States Patent and Trademark Office, at facsimile number (703) 308-9051, on December 13 1999.

By David A. Dagg
David A. Dagg
Registration No. 37,809
Attorney for Applicants

* *

TERMINAL DISCLAIMER

Assistant Commissioner for Patents
Washington, D.C. 20231

Sir:

The owner, Comet Systems, Inc., through its below signing representative, represents that it is the owner of record by assignment dated June 25 1997, and recorded in the U.S. Patent and Trademark Office at Reel 8631, Frame 0209, of 100 percent interest in U.S. Patent Application No. 09/400,038, filed on September 21, 1999, for SERVER SYSTEM AND METHOD FOR MODIFYING A CURSOR IMAGE. The owner hereby disclaims, except as provided below, the terminal

12/20/1999 LDIGGS 00000001 230804 09400038
01 FC:248 55.00 CH

Application No.: 09/400,038
Filed: September 21, 1999
Group Art Unit: 2773

part of any patent granted on the above-identified application which would extend beyond the expiration date of the full statutory term including any term extensions or elongations, as presently shortened by any terminal disclaimer, of U.S. Patent No. 5,995,102. The owner hereby agrees that any patent so granted on the above-identified application shall be enforceable only for and during such period that the legal title to said patent shall be the same as the legal title to U.S. Patent No. 5,995,102, this agreement to run with any patent granted on the above-identified application and to be binding upon the grantee, its successors or assigns.

The owner does not disclaim any terminal part of any patent granted on the above-identified application prior to the expiration date of the full statutory term including any term extensions or elongations, as presently shortened by any terminal disclaimer of U.S. Patent No. 5,995,102, in the event that it later lapses for failure to pay a maintenance fee, is held unenforceable, is found invalid, is statutorily disclaimed in whole or terminally disclaimed under 37 C.F.R. § 1.321, has all claims cancelled by a reexamination certificate, is surrendered pursuant to reissue, is reissued, or is otherwise terminated prior to the expiration of its statutory term as presently shortened by any terminal disclaimer, except for the separation of legal title

WEINGARTEN, SCHURGIN,
GAGNEBIN & HAYES
TEL (617) 542-2290
FAX (617) 451-0313

Application No.: 09/400,038
Filed: September 21, 1999
Group Art Unit: 2773

stated above.

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 are made with the knowledge that willful false statements, and the like so made, are punishable by fine or imprisonment, or both, under Section 1001, Title 18 of the United States Code, and that such willful false statements may jeopardize the validity of the application or any patent issuing thereon.

WEINGARTEN, SCHURGIN,
GAGNEBIN & HAYES
TEL (617) 542-2290
FAX (617) 451 0313

Application No.: 09/400,038
Filed: September 21, 1999
Group Art Unit: 2773

The undersigned is an attorney of record.

Respectfully submitted,

COMET SYSTEMS, INC.

By: David A. Dagg
David A. Dagg
Registration No.37,809
Attorney of Record

WEINGARTEN, SCHURGIN, GAGNEBIN & HAYES, LLP
Ten Post Office Square
Boston, Massachusetts 02109
Telephone: (617) 542-2290
Telecopier: (617) 451-0313

Date: December 17 1999

[X] Authorization to charge the Terminal disclaimer fee under 37 C.F.R. § 1.20(d) to deposit account 23-0804 is transmitted herewith.

VBL/DAD/kdm
216655-1

WEINGARTEN, SCHURGIN,
GAGNEBIN & HAYES
TEL (617) 542-2290
FAX (617) 451-0313

File History Content Report

The following content is missing from the original file history record obtained from the United States Patent and Trademark Office. No additional information is available.

Document Date - 1999-12-17

Document Title - Terminal Disclaimer Approval form used within the USPTO

This page is not part of the official USPTO record. It has been determined that content identified on this document is missing from the original file history record.

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

09/400,038

SERIAL NUMBER	FILING DATE	FIRST NAMED APPLICANT	ATTORNEY DOCKET NO.
09/400,038	09/21/99	ROSEN J	

LM61/1220

WEINGARTEN SCHURGIN
GAGNEBIN & HAYES LLP
TEN POST OFFICE SQUARE
BOSTON MA 02109

EXAMINER	ART UNIT	PAPER NUMBER
JACKSON, C.	2773	#5/B

DATE MAILED: 12/20/99

NOTICE OF ALLOWABILITY

PART I.

1. [X] This communication is responsive to 9/21/99 Continuation Application
2. [X] All the 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 sent in due course.
3. [X] The allowed claims are 1-132.
4. [ ] The drawings filed on _____ are acceptable.
5. [ ] Acknowledgment is made of the claim for priority under 35 U.S.C. 119. The certified copy has [_] been received. [_] not been received. [_] been filed in parent application Serial No. _____, filed on _____.
6. [X] Note the attached Examiner's Amendment.
7. [ ] Note the attached Examiner Interview Summary Record, PTOL-413.
8. [X] Note the attached Examiner's Statement of Reasons for Allowance
9. [X] Note the attached NOTICE OF REFERENCES CITED, PTO-892.
10. [X] Note the attached INFORMATION DISCLOSURE CITATION, PTO-1449

PART II.

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

1. [ ] 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
2. [X] APPLICANT MUST MAKE THE DRAWING CHANGES INDICATED BELOW IN THE MANNER SET FORTH ON THE REVERSE SIDE OF THIS PAPER.
   a. [X] Drawing informalities are indicated on the NOTICE RE PATENT DRAWINGS, PTO-948, attached hereto or to Paper No. #5. CORRECTION IS REQUIRED
   b. [ ] The proposed drawing correction filed on _____ has been approved by the examiner. CORRECTION IS REQUIRED.
   c. [ ] Approved drawing corrections are described by the examiner in the attached EXAMINER'S AMENDMENT. CORRECTION IS REQUIRED
   d. [X] Formal drawings are now REQUIRED.

Any response to this letter should include in the upper right hand corner, the following information from the NOTICE OF ALLOWANCE AND ISSUE FEE DUE: ISSUE BATCH NUMBER, DATE OF THE NOTICE OF ALLOWANCE, AND SERIAL NUMBER.

Attachments:

- X Examiner's Amendment
- _ Examiner Interview Summary Record, PTOL-413
- X Reasons for Allowance
- X Notice of References Cited, PTO-892
- X Information Disclosure Citation, PTO-1449
- _ Notice of Informal Application, PTO-152
- X Notice re Patent Drawings, PTO-948
- _ Listing of Bonded Draftsmen
- _ Other

RAYMOND J. BAYERL
PRIMARY EXAMINER
ART UNIT 2773

PTOL-37 (REV. 4-89) *

#5/B
12-20-99
B. Hilliard

ATTACHMENT TO NOTICE OF ALLOWABILITY

1. This action is responsive to communications: Continuation Application, filed on 9/21/99.

2. The present title of the invention is "SERVER SYSTEM AND METHOD FOR MODIFYING A CURSOR IMAGE" having claims 1-132. The terminal disclaimer filed on 12/13/99 disclaiming the terminal portion of any patent granted on this application which would extend beyond the expiration date of US Patent 5,995,102 has been reviewed and is accepted. The terminal disclaimer has been recorded.

3. An examiner's amendment to the record appears below. 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 David A. Dagg (Reg. No. 37,809) on 12/15/99.

4. The application has been amended as follows:

The Specification, page 1, before the first line insert --This is a Continuation of Application Serial No. O8/882,580 filed on June 25, 1997 now US Patent 5,995,102--.

B'

Claim 1, line 8, replace "responsive" by --in response--.

Claim 27, line 29, replace "responsive" by --in response--.

Claim 53, line 19, replace "responsive" by --in response--.

Claim 72, line 24, replace "responsive" by --in response--.

Claim 91, line 23, replace "responsive" by --in response--.

Claim 112, line 9, replace "responsive" by --in response--.

Reasons for Allowance

5. The following is an Examiner's statement of reasons for allowance:

The Examiner has carefully considered each of the independent claims 1, 27, 53, 72, 91 and 112 drawn to a "system" and "method" for "modifying a cursor image to a specific image on the display of a user's terminal." Each of the independent claims recite the limitation of "the specific image includes content corresponding to at least a portion of the information to be displayed on the display of a user's terminal." This particular type of system and method for modifying a cursor image to a specific image on the display of a user's terminal is neither taught nor suggested by the prior art made of record.

Lection et al. (US Patent # 5,801,698) teaches providing dynamic busy cursor information corresponding to busy cursor, where busy cursor reformatting program code performs the reformatting of a busy cursor with dynamic information and displays the reformatted busy cursor on the user's terminal. However, the dynamic information does not include content corresponding to at least a portion of information displayed on the display of the user's terminal. In contrast, the reformatting of the busy cursor with dynamic information is unrelated to the application which is providing the information displayed on the display of a user's terminal. In

addition, the cursor image is reformatted by annotating the dynamic information to the existing cursor image. Consequently, the reference does not teach or suggest modifying a cursor image as claimed in claims 1-132 of applicants invention.

Oran et al. (US Patent 5,617,526) teaches providing a tool tip when a cursor is positioned on an icon displayed on the display screen. The nature of the information provided by the tool tip depends on the icon that is displayed. However, like the Lection '698 patent, the cursor image in not modified. The tool tip information is annotated an existing cursor image. Accordingly, the Oran '526 patent does not teach or suggest modifying a cursor image with content corresponding to at least a portion of the information to be displayed on the user's terminal.

Schneider (US Patent # 5,710,897) teaches a pointer graphic corresponding to a pointer graphic to be used by the operating system (see Schneider ('897), col. 5, lines 65- col. 6, lines 1-10; col. 7, lines 28-31; col. 8, lines 10-12, and 55-60); pointer graphic file set, the pointer graphic file set is operable to modify a displayed pointer graphic based on the occurrence of an event that changes the computers mode of operation or functionality (see Schneider ('897), col. 5, line 55-col. 6, line 11); a personal computer designed to give users independent computing power, where information, such as applications, documents, files, etc., are transmitted to a remote user. See Schneider ('897), col. 3, lines 58-68).

Schneider ('897) suggests transmitting specified content information that includes instructions indicating the location of a cursor image file because the system of Schneider ('897) is operable on a networked environment, where an application that is executed on a network

includes instructions to be used by the operating system regarding the handling of events. This instruction indicates the location of cursor image data, where the operating system would locate the appropriate pointer graphics file and cause the user terminal to display the appropriate cursor on the user's terminal when required. However, Schneider ('897) neither suggests or teaches that a pointer graphic to be used by the operating system is a specific image that includes content corresponding to a portion of information to be displayed on the display of a user's terminal. Accordingly, the Applicants invention as claimed in claims 1-132 is not taught or suggested by the prior art.

Conclusion

6. Response to this action should be mailed to: Commissioner of Patents and Trademarks, Washington, D.C. 20231. If applicant desires to fax a response, (703) 308-9051 may be used for formal communications or (703) 305-9724 for informal or draft communications. Please label "PROPOSED" OR "DRAFT" for informal facsimile communications. For after final responses, please label "AFTER FINAL" or "EXPEDITED PROCEDURE' on the document. Hand delivered responses should be brought to Crystal Park II, 2121 Crystal Drive, Arlington VA., Sixth Floor (Receptionist).

7. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Chadwick A. Jackson, whose telephone number is (703) 308-9572. The examiner can normally be reached Mon-Thu from 7:30 a.m. - 6:00 p.m. ET. If attempts to reach

the examiner by telephone are unsuccessful, the examiner's supervisor, Matthew Kim, can be reached at (703) 305-3821.

8. Any inquiry of a general nature or relating to the status of this application or proceedings should be directed to the group receptionist whose telephone number is (703) 305-3900.

Chadwick A. Jackson

December 17, 1999

RAYMOND J. BAYERL
PRIMARY EXAMINER
ART UNIT 2773

Notice of References Cited	Application No. 09/400,038	Applicant(s) Rosen et al.	
	Examiner C Jackson	Group Art Unit 2773	Page 1 of 1

U.S. PATENT DOCUMENTS

*		DOCUMENT NO.	DATE	NAME	CLASS	SUBCLASS
*	A	5,617,526	4/97	Oron et al	345	326
*	B	5,969,708	10/99	Walls	345	145
*	C	5,995,102	11/99	Rosen et al	345	339
	D					
	E					
	F					
	G					
	H					
	I					
	J					
	K					
	L					
	M					

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).)

U.S. Patent and Trademark Office
PTO-892 (Rev. 9-96)

Part of Paper No. #5

*U S GPO: 1998-433-211/97502

Form PTO 948 (Rev. 8-98) U.S. DEPARTMENT OF COMMERCE - Patent and Trademark Office Application No. 408038

NOTICE OF DRAFTSPERSON'S PATENT DRAWING REVIEW

The drawing(s) filed (insert date) 9/2/99 are:

A. ☐ approved by the Draftsperson under 37 CFR 1.84 or 1.152.

B. ☑ objected to by the Draftsperson under 37 CFR 1.84 or 1.152 for the reasons indicated below. The Examiner will require submission of new, corrected drawings when necessary. Corrected drawing must be sumitted according to the instructions on the back of this notice.

1. DRAWINGS. 37 CFR 1.84(a): Acceptable categories of drawings: Black ink. Color.
   - ____ Color drawings are not acceptable until petiton is granted. Fig(s) _____
   - ____ Pencil and non black ink not permitted. Fig(s) _____
2. PHOTOGRAPHS. 37 CFR 1.84 (b)
   - ____ 1 full-tone set is required. Fig(s) _____
   - ____ Photographs not properly mounted (must use brystol board or photographic double-weight paper). Fig(s) _____
   - ____ Poor quality (half-tone). Fig(s) _____
3. TYPE OF PAPER. 37 CFR 1.84(e)
   - ____ Paper not flexible, strong, white, and durable. Fig(s) _____
   - ____ Erasures, alterations, overwritings, interlineations, folds, copy machine marks not accepted. Fig(s) _____
   - ____ Mylar, velum paper is not acceptable (too thin). Fig(s) _____
4. SIZE OF PAPER. 37 CFR 1.84(f): Acceptable sizes:
   - ____ 21.0 cm by 29.7 cm (DIN size A4)
   - ✓ 21.6 cm by 27.9 cm (8 1/2 x 11 inches)
   - ____ All drawing sheets not the same size. Sheet(s) _____
   - ____ Drawings sheets not an acceptable size. Fig(s) _____
5. MARGINS. 37 CFR 1.84(g): Acceptable margins:

   Top 2.5 cm Left 2.5cm Right 1.5 cm Bottom 1.0 cm
   SIZE: A4 Size
   Top 2.5 cm Left 2.5 cm Right 1.5 cm Bottom 1.0 cm
   SIZE: 8 1/2 x 11

   Margins not acceptable. Fig(s) _____
   - ✗ Top (T) ✗ Left (L)
   - ____ Right (R) ____ Bottom (B)
6. VIEWS. 37 CFR 1.84(h)
   REMINDER: Specification may require revision to correspond to drawing changes.
   Partial views. 37 CFR 1.84(h)(2)
   - ____ Brackets needed to show figure as one entity. Fig(s) _____
   - ____ Views not labeled separately or properly. Fig(s) _____
   - ____ Enlarged view not labeled separetely or properly. Fig(s) _____
7. SECTIONAL VIEWS. 37 CFR 1.84 (h)(3)
   - ____ Hatching not indicated for sectional portions of an object. Fig(s) _____
   - ____ Sectional designation should be noted with Arabic or Roman numbers. Fig(s) _____
8. ARRANGEMENT OF VIEWS. 37 CFR 1.84(i)
   - ____ Words do not appear on a horizontal, left-to-right fashion when page is either upright or turned so that the top becomes the right side, except for graphs. Fig(s) _____
9. SCALE. 37 CFR 1.84(k)
   - ____ Scale not large enough to show mechanism without crowding when drawing is reduced in size to two-thirds in reproduction. Fig(s) _____
10. CHARACTER OF LINES, NUMBERS, & LETTERS. 37 CFR 1.84(i)
    - ✓ Lines, numbers & letters not uniformly thick and well defined, clean, durable, and black (poor line quality). Fig(s) 1-7
11. SHADING. 37 CFR 1.84(m)
    - ____ Solid black areas pale. Fig(s) _____
    - ____ Solid black shading not permitted. Fig(s) _____
    - ____ Shade lines, pale, rough and blurred. Fig(s) _____
12. NUMBERS, LETTERS, & REFERENCE CHARACTERS. 37 CFR 1.84(p)
    - ____ Numbers and reference characters not plain and legible. Fig(s) _____
    - ____ Figure legends are poor. Fig(s) _____
    - ____ Numbers and reference characters not oriented in the same direction as the view. 37 CFR 1.84(p)(1) Fig(s) _____
    - ____ English alphabet not used. 37 CFR 1.84(p)(2) Figs _____
    - ____ Numbers, letters and reference characters must be at least .32 cm (1/8 inch) in height. 37 CFR 1.84(p)(3) Fig(s) _____
13. LEAD LINES. 37 CFR 1.84(q)
    - ____ Lead lines cross each other. Fig(s) _____
    - ____ Lead lines missing. Fig(s) _____
14. NUMBERING OF SHEETS OF DRAWINGS. 37 CFR 1.84(t)
    - ____ Sheets not numbered consecutively, and in Arabic numerals beginning with number 1. Sheet(s) _____
15. NUMBERING OF VIEWS. 37 CFR 1.84(u)
    - ____ Views not numbered consecutively, and in Arabic numerals, beginning with number 1. Fig(s) _____
16. CORRECTIONS. 37 CFR 1.84(w)
    - ____ Corrections not made from prior PTO-948 dated _____
17. DESIGN DRAWINGS. 37 CFR 1.152
    - ____ Surface shading shown not appropriate. Fig(s) _____
    - ____ Solid black shading not used for color contrast. Fig(s) _____

COMMENTS

REVIEWER [signature] DATE 11/16/99 TELEPHONE NO. _____

ATTACHMENT TO PAPER NO. #5

BEST COPY

UNITED STATES DEPARTMENT OF COMMERCE
Patent and Trademark Office

NOTICE OF ALLOWANCE AND ISSUE FEE DUE

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

TITLE OF INVENTION [illegible]

ATTY'S DOCKET NO.	CLASS-SUBCLASS	BATCH NO.	APPLN. TYPE	SMALL ENTITY	FEE DUE	DATE DUE
[illegible]	[illegible]	[illegible]	[illegible]	YES	[illegible]	[illegible]

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:

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.

If the SMALL ENTITY is shown as NO:

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-85 (REV. 10-96) Approved for use through 06/30/99. (0651-0033)

*U.S. GPO: 1999-454-457/24601

Transaction History Date 2000-01-24
Date information retrieved from USPTO Patent Application Information Retrieval (PAIR) system records at www.uspto.gov

Applica No.: 09/400,038
Filed:September 21, 1999
Group Art Unit: 2773

01/2000 FORM 9

JAN 24 2000

WEINGARTEN, SCHURGIN, GAGNEBIN & HAYES LLP
Ten Post Office Square
Boston, Massachusetts 02109
Telephone: (617) 542-2290
Telecopier: (617) 451-0313

Box Issue Fee
ASSISTANT COMMISSIONER FOR PATENTS
Washington, D.C. 20231

Date: January 18, 2000

Attorney
Docket No.: COMET-001CX

Sir:

In re application of: James S. Rosen et al.

Entitled:SERVER SYSTEM AND METHOD FOR MODIFYING A CURSOR IMAGE

Transmitted herewith is an **amendment** in the above-identified application. The following checked items are applicable:

[ ] A Petition for Extension of Time for ___ month is hereby made, under §1.136(a); a check in the amount of _____ is enclosed per §1.17.

[X] In the event a Petition for Extension of Time is required by this paper and not otherwise provided, such Petition is hereby made and authorization is provided herewith to charge Deposit Account No. 23-0804 for the cost of such extension.

[ ] _____ is hereby appointed Associate Attorney by:
Registration No.:

[X] Other: Attachment to Notice of Allowance

CLAIMS AFTER AMENDMENT:	MINUS PRIOR PAID CLAIMS:	EQUALS PRESENT EXTRA CLAIMS:	RATE:	ADDITIONAL FEE:
Independent	6 - 6	= 0	x $78.00 =	$ 0.00
Total	132 - 132	= 0	x $18.00 =	$ 0.00
[ ] Multiple Dependent Claims (1st presentation)			+ $260.00 =	$ 0.00
				$ 0.00
Small Entity filing, divide by 2. Previously submitted or verified statement must be attached (per §1.9, §1.27, §1.28)				$ 0.00
				$ 0.00

[X] No additional fee. [ ] The fee has been calculated above; a check in the amount of _____ is enclosed.

[X] **The Commissioner is hereby authorized to charge payment of any additional filing fees under §1.16 associated with this communication or credit any overpayment to Deposit Account No. 23-0804.**

I hereby certify that this correspondence is being deposited with the U.S. Postal Service as first class mail in an envelope addressed to: Box Issue Fee Assistant Commissioner for Patents, Washington, D.C. 20231 on JANUARY 19, 2000.

David A. Dagg

Attorney of Record: David A. Dagg
Registration No.: 37,809

SUBMIT IN TRIPLICATE

DAD/kdm
218643

Transaction History Date 2000-01-24
Date information retrieved from USPTO Patent Application Information Retrieval (PAIR) system records at www.uspto.gov

JAN 24 2000

B

PATENT

#6

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re application	:	James S. Rosen et al.
Application No.	:	09/400,038
Filed	:	September 21, 1999
For	:	SERVER SYSTEM AND METHOD FOR MODIFYING A CURSOR IMAGE
Examiner	:	Jackson, C.
Attorney's Docket	:	COMET-001CX

Group Art Unit: 2773

* *

I hereby certify that this correspondence is being deposited with the United States Postal Service as first class mail in an envelope addressed to: Box Issue Fee Assistant Commissioner for Patents, Washington, D.C. 20231 on JANUARY 19, 2000.

By: David A. Dagg
David A. Dagg
Registration No.37,809
Attorney for Applicant(s)

* *

AMENDMENT UNDER 37 CFR 1.312

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

Sir:

With regard to the above identified Application for United States Patent, below please find corrected descriptions of the amendments agreed to by the Applicants, and intended to clarify the Examiner's amendments in paragraph 4 of the Attachment to Notice of Allowability dated December 20, 1999.

EN, SCHURGIN,
& HAYES, LLP
542-2290
451-0097

In the Specification:

In lieu of any amendments made based on the instructions in paragraph 4 of the Attachment to Notice of Allowability dated December 20, 1999, please amend the Specification as follows:

Before the first line on page 1, please insert the following sentence: -- This is a Continuation of Application Serial No. 08/882,580 filed on June 25, 1997, now issued as US Patent No. 5,995,102.--

In the Claims:

In lieu of any amendments made based on the instructions in paragraph 4 of the Attachment to Notice of Allowability dated December 20, 1999, please amend the claims as follows:

1. (Amended) A server system for modifying a cursor image to a specific image having a desired shape and appearance displayed on a display of a remote user's terminal, said system comprising:

cursor image data corresponding to said specific image;

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cursor display code, said cursor display code operable to modify said cursor image; and

a first server computer for transmitting specified content information to said remote user terminal, said specified content information including at least one cursor display instruction indicating a location of said cursor image data, said cursor display instruction and said cursor display code operable to cause said user terminal to display a modified cursor image on said user's display in the shape and appearance of said specific image, wherein said specified content information is transmitted to said remote user terminal by said first server computer responsive to a request from said user terminal for said specified content information, and wherein said specified content information further comprises information to be displayed on said display of said user's terminal, said specific image including content corresponding to at least a portion of said information to be displayed on said display of said user's terminal, and wherein said cursor display code is operable to process said cursor display instruction to modify said cursor image to said cursor image in the shape and appearance of said specific image <u>in response</u> [responsive] to movement of said cursor image over a display of said at least a portion of said information to be displayed on said display of said user's terminal, and wherein

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said specific image relates to at least a portion of said information to be displayed on said display of said remote user's terminal.

27. (Amended) A server system for modifying a cursor image to a specific image having a desired shape and appearance displayed on a display of a remote user's terminal, said system comprising:

cursor image data corresponding to said specific image;

cursor display code, said cursor display code operable to modify said cursor image; and

a first server computer for transmitting specified content information to said remote user terminal, said specified content information including at least one cursor display instruction indicating a location of said cursor image data, said cursor display instruction and said cursor display code operable to cause said user terminal to display a modified cursor image on said user's display in the shape and appearance of said specific image, wherein said specified content information is transmitted to said remote user terminal by said first server computer responsive to a request from said user terminal for said specified content information, and wherein said specified content information further comprises information to be displayed on said display of said user's terminal, said specific image including content

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corresponding to at least a portion of said information to be displayed on said display of said user's terminal, and wherein said cursor display code is operable to process said cursor display instruction to modify said cursor image to said cursor image in the shape and appearance of said specific image <u>in response</u> [responsive] to movement of said cursor image over a specified location on said display of said user's terminal, and wherein said specific image relates to at least a portion of said information to be displayed on said display of said remote user's terminal.

53. (Amended) A method for modifying an initial cursor image displayed on a display of a user terminal connected to at least one server, comprising:

receiving a request at said at least one server to provide specified content information to said user terminal;

providing said specified content information to said user terminal in response to said request, said specified content information including at least one cursor display instruction and at least one indication of cursor image data corresponding to a specific image; and

transforming said initial cursor image displayed on said display of said user terminal into the shape and appearance of

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said specific image in response to said cursor display instruction, wherein said specified content information includes information that is to be displayed on said display of said user's terminal, wherein said specific image includes content corresponding to at least a portion of said information that is to be displayed on said display of said user's terminal, and wherein said cursor display instruction indicates a cursor display code operable to process said cursor display instruction to modify said cursor image to said cursor image in the shape and appearance of said specific image <u>in response</u> [responsive] to movement of said cursor image over a display of said at least a portion of said information to be displayed on said display of said user's terminal, and wherein said specific image has a shape and appearance relating to said information to be displayed.

72. (Amended) A method for modifying an initial cursor image displayed on a display of a user terminal connected to at least one server, comprising:

receiving a request at said at least one server to provide specified content information to said user terminal;

providing said specified content information to said user terminal in response to said request, said specified content information including at least one cursor display instruction and

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at least one indication of cursor image data corresponding to a specific image; and

transforming said initial cursor image displayed on said display of said user terminal into the shape and appearance of said specific image in response to said cursor display instruction, wherein said specified content information includes information that is to be displayed on said display of said user's terminal, wherein said specific image includes content corresponding to at least a portion of said information that is to be displayed on said display of said user's terminal, and wherein said cursor display instruction indicates a cursor display code operable to process said cursor display instruction to modify said cursor image to said cursor image in the shape and appearance of said specific image <u>in response</u> [responsive] to movement of said cursor image over a specified location on said display of said user's terminal, and wherein said specific image has a shape and appearance relating to said information to be displayed.

91. (Amended) An internet browser computer program stored on a computer readable medium, said internet browser configured to modify a cursor image to a specific image having a desired shape and appearance displayed on a display of a remote user's terminal, said internet browser comprising:

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program code operable to receive specified content information from a remote server, said specified content information comprising information to be displayed on said remote user's terminal and at least one cursor display instruction, wherein said specific image includes content corresponding to at least a portion of said information to be displayed on said remote user's terminal, and wherein said cursor display instruction indicates cursor image data corresponding to said specific image;

program code operable to recognize said cursor display instruction in connection with processing said information to be displayed on said display; and

program code operable to execute a cursor display code, <u>in response</u> [responsive] to said cursor display instruction and movement of said cursor image over a display of said at least a portion of said information to on said remote user's terminal, said cursor display code being operable to modify said cursor image to said specific image, and wherein said specific image corresponds to at least a portion of said information to be displayed on said display of said user's terminal.

112. (Amended) An internet browser computer program stored on a computer readable medium, said internet browser configured to modify a cursor image to a specific image having a desired shape

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and appearance displayed on a display of a remote user's terminal, said internet browser comprising:

program code operable to receive specified content information from a remote server, said specified content information comprising information to be displayed on said remote user's terminal and at least one cursor display instruction, wherein said specific image includes content corresponding to at least a portion of said information to be displayed on said remote user's terminal, and wherein said cursor display instruction indicates cursor image data corresponding to said specific image;

program code operable to recognize said cursor display instruction in connection with processing said information to be displayed on said display; and

program code operable to execute a cursor display code, <u>in response</u> [responsive] to said cursor display instruction and movement of said cursor image over a specified location on said display, said cursor display code being operable to modify said cursor image to said specific image, and wherein said specific image corresponds to at least a portion of said information to be displayed on said display of said user's terminal.

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REMARKS

This Amendment under 37 CFR 1.312 is in response to the Notice of Allowance dated December 20, 1999. Applicants wish to thank Examiner Jackson for his time and assistance.

Paragraph 4 of the Attachment to Notice of Allowability dated December 20, 1999, a copy of which is provided herein, sets forth amendments to claims 1, 27, 53, 72, 91 and 112 in the above identified Application for United States Patent. Applicants respectfully believe that the manner in which those amendments were described may be ambiguous, since the line numbers referred to therein appear not to be counted from the beginning of each claim.

Specifically, following the claim line numbering in the originally filed application, the amendment in paragraph 4 of the Attachment to Notice of Allowability indicating line 8 of claim 1 should have indicated line 27 of claim 1, the amendment in the Attachment to the Notice of Allowability indicating line 29 of claim 27 should have indicated line 27 of claim 27, the amendment in the Attachment to the Notice of Allowability indicating line 19 of claim 53 should have indicated line 23 of claim 53, the amendment in the Attachment to the Notice of Allowability indicating line 24 of claim 72 should have indicated line 23 of claim 72, the amendment in the Attachment to the Notice of

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Allowability indicating line 23 of claim 91 should have indicated line 19 of claim 91, and the amendment in the Attachment to the Notice of Allowability indicating line 9 of claim 112 should have indicated line 19 of claim 112.

For purposes of clarification, Applicants have provided herein above the complete claims to be amended, rewritten using the bracketing and underlining procedure set forth in 37 CFR 1.121(a)(2)(ii) to clearly indicate the amendments agreed to by the Applicants. Applicants respectfully request confirmation that the agreed to amendments have been entered consistent with the above provided rewritten claims prior to issuance of the patent.

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The Examiner is encouraged to telephone the undersigned attorney to discuss any matter which would expedite allowance of the present application.

Respectfully submitted,

JAMES A. ROSEN ET AL.

By: David A. Dagg

David A. Dagg
Registration No. 37,809
Attorney for Applicant(s)

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& HAYES LLP
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Dated: JANUARY 19, 2000

DAD/kdm
218667

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ATTACHMENT TO NOTICE OF ALLOWABILITY

1. This action is responsive to communications: Continuation Application, filed on 9/21/99.

2. The present title of the invention is "SERVER SYSTEM AND METHOD FOR MODIFYING A CURSOR IMAGE" having claims 1-132. The terminal disclaimer filed on 12/13/99 disclaiming the terminal portion of any patent granted on this application which would extend beyond the expiration date of US Patent 5,995,102 has been reviewed and is accepted. The terminal disclaimer has been recorded.

3. An examiner's amendment to the record appears below. 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 David A. Dagg (Reg. No. 37,809) on 12/15/99.

4. The application has been amended as follows:

The Specification, page 1, before the first line insert --This is a Continuation of Application Serial No. O8/882,580 filed on June 25, 1997 now US Patent 5,995,102--.

Claim 1, line 8, replace "responsive" by --in response--.

Claim 27, line 29, replace "responsive" by --in response--.

Claim 53, line 19, replace "responsive" by --in response--.

Claim 72, line 24, replace "responsive" by --in response--.

Claim 91, line 23, replace "responsive" by --in response--.

Claim 112, line 9, replace "responsive" by --in response--.

Reasons for Allowance

5. The following is an Examiner's statement of reasons for allowance:

The Examiner has carefully considered each of the independent claims 1, 27, 53, 72, 91 and 112 drawn to a "system" and "method" for "modifying a cursor image to a specific image on the display of a user's terminal." Each of the independent claims recite the limitation of "the specific image includes content corresponding to at least a portion of the information to be displayed on the display of a user's terminal." This particular type of system and method for modifying a cursor image to a specific image on the display of a user's terminal is neither taught nor suggested by the prior art made of record.

Lection et al. (US Patent # 5,801,698) teaches providing dynamic busy cursor information corresponding to busy cursor, where busy cursor reformatting program code performs the reformatting of a busy cursor with dynamic information and displays the reformatted busy cursor on the user's terminal. However, the dynamic information does not include content corresponding to at least a portion of information displayed on the display of the user's terminal. In contrast, the reformatting of the busy cursor with dynamic information is unrelated to the application which is providing the information displayed on the display of a user's terminal. In

addition, the cursor image is reformatted by annotating the dynamic information to the existing cursor image. Consequently, the reference does not teach or suggest modifying a cursor image as claimed in claims 1-132 of applicants invention.

Oran et al. (US Patent 5,617,526) teaches providing a tool tip when a cursor is positioned on an icon displayed on the display screen. The nature of the information provided by the tool tip depends on the icon that is displayed. However, like the Lection '698 patent, the cursor image in not modified. The tool tip information is annotated an existing cursor image. Accordingly, the Oran '526 patent does not teach or suggest modifying a cursor image with content corresponding to at least a portion of the information to be displayed on the user's terminal.

Schneider (US Patent # 5,710,897) teaches a pointer graphic corresponding to a pointer graphic to be used by the operating system (see Schneider ('897), col. 5, lines 65- col. 6, lines 1-10; col. 7, lines 28-31; col. 8, lines 10-12, and 55-60); pointer graphic file set, the pointer graphic file set is operable to modify a displayed pointer graphic based on the occurrence of an event that changes the computers mode of operation or functionality (see Schneider ('897), col. 5, line 55-col. 6, line 11); a personal computer designed to give users independent computing power, where information, such as applications, documents, files, etc., are transmitted to a remote user. See Schneider ('897), col. 3, lines 58-68).

Schneider ('897) suggests transmitting specified content information that includes instructions indicating the location of a cursor image file because the system of Schneider ('897) is operable on a networked environment, where an application that is executed on a network

includes instructions to be used by the operating system regarding the handling of events. This instruction indicates the location of cursor image data, where the operating system would locate the appropriate pointer graphics file and cause the user terminal to display the appropriate cursor on the user's terminal when required. However, Schneider ('897) neither suggests or teaches that a pointer graphic to be used by the operating system is a specific image that includes content corresponding to a portion of information to be displayed on the display of a user's terminal. Accordingly, the Applicants invention as claimed in claims 1-132 is not taught or suggested by the prior art.

Conclusion

6. Response to this action should be mailed to: Commissioner of Patents and Trademarks, Washington, D.C. 20231. If applicant desires to fax a response, (703) 308-9051 may be used for formal communications or (703) 305-9724 for informal or draft communications. Please label "PROPOSED" OR "DRAFT" for informal facsimile communications. For after final responses, please label "AFTER FINAL" or "EXPEDITED PROCEDURE' on the document. Hand delivered responses should be brought to Crystal Park II, 2121 Crystal Drive, Arlington VA., Sixth Floor (Receptionist).

7. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Chadwick A. Jackson, whose telephone number is (703) 308-9572. The examiner can normally be reached Mon-Thu from 7:30 a.m. - 6:00 p.m. ET. If attempts to reach

the examiner by telephone are unsuccessful, the examiner's supervisor, Matthew Kim, can be reached at (703) 305-3821.

8. Any inquiry of a general nature or relating to the status of this application or proceedings should be directed to the group receptionist whose telephone number is (703) 305-3900.

Chadwick A. Jackson

December 17, 1999

RAYMOND J. BAYERL
PRIMARY EXAMINER
ART UNIT 2773

PART B—ISSUE FEE TRANSMITTAL

12/99

BB

...mplete and mail this form, together with ...icable fees, to: **Box ISSUE FEE**
Assistant Commissioner for Patents
Washington, D.C. 20231

OIPE MAR 2 0 2000 JC16 PATENT & TRADEMARK OFFICE

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.

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

LM61/1220

WEINGARTEN SCHURGIN
GAGNEBIN & HAYES LLP
TEN POST OFFICE SQUARE
BOSTON MA 02109

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

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

Thelma E. Hawkins (Depositor's name)

Thelma E. Hawkins (Signature)

March 16, 2000 (Date)

APPLICATION NO.	FILING DATE	TOTAL CLAIMS	EXAMINER AND GROUP ART UNIT		DATE MAILED
09/400,038	09/21/99	132	JACKSON, C	2773	12/20/99

First Named Applicant: ROSEN, 35 USC 154(b) term ext. = 0 Days.

TITLE OF INVENTION: SERVER SYSTEM AND METHOD FOR MODIFYING A CURSOR IMAGE

ATTY'S DOCKET NO.	CLASS-SUBCLASS	BATCH NO.	APPLN. TYPE	SMALL ENTITY	FEE DUE	DATE DUE
2 COMET-001CX	345-339.000	F94	UTILITY	YES	$605.00	03/20/00

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.

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1 Weingarten, Schurgin, Gagnebin & Hayes 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 appropiate 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
Comet Systems, 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 XX corporation or other private group entity ☐ government

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03/21/2000 SDUONG1 00000030 09400038

01 FC:242 605.00 OP
02 FC:251 30.00 OP

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LM61/1220

WEINGARTEN SCHURGIN
GAGNEBIN & HAYES LLP
TEN POST OFFICE SQUARE
BOSTON MA 02109

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Thelma E. Hawkins (Depositor's name)

Thelma E. Hawkins (Signature)

March 16, 2000 (Date)

APPLICATION NO.	FILING DATE	TOTAL CLAIMS	EXAMINER AND GROUP ART UNIT		DATE MAILED
09/400,038	09/21/99	132	JACKSON, C	2773	12/20/99

First Named Applicant: ROSEN, 35 USC 154(b) term ext. = 0 Days.

TITLE OF INVENTION: SERVER SYSTEM AND METHOD FOR MODIFYING A CURSOR IMAGE

ATTY'S DOCKET NO.	CLASS-SUBCLASS	BATCH NO.	APPLN. TYPE	SMALL ENTITY	FEE DUE	DATE DUE
2 COMET-001CX	345-339.000	F94	UTILITY	YES	$605.00	03/20/00

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.

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(A) NAME OF ASSIGNEE
Comet Systems, 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)
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By Hilliard

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PATENT

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IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Notice of Allowance dated: December 20, 1999
Issue Batch Number: F94

OK to enter MO 11/28/00

In re application:	James S. Rosen et al.
Application No.:	09/400,038
Filed:	September 21, 1999
For:	SERVER SYSTEM AND METHOD FOR MODIFYING A CURSOR IMAGE
Examiner:	JACKSON, C.
Attorney's Docket:	COMET-001CX

Group Art Unit: 2773

* *

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By: David A. Dagg
David A. Dagg
Registration No. 37,809
Attorney for Applicant(s)

* *

LETTER TO OFFICIAL DRAFTPERSON

RE: SUBMISSION OF FORMAL DRAWINGS

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

Sir:

Pursuant to the Notice dated December 20, 1999 submitted herewith in the above-identified application are formal drawings.

WEINGARTEN, SCHURGIN,
GAGNEBIN & HAYES LLP
TEL (617) 542-2290
FAX (617) 451-0313

Application No.: 09/400,038
Filed: September 21, 1999
Group Art Unit: 2773

Kindly substitute these drawings for the ones currently on file as appropriate and charge any costs associated therewith to Patent and Trademark Office Account No. 23-0804. Triplicate copies of this transmittal letter are enclosed.

Respectfully submitted,

JAMES S. ROSEN ET AL.

By: David A. Dagg

David A. Dagg
Registration No. 37,809
Attorney for Applicant(s)

WEINGARTEN, SCHURGIN,
GAGNEBIN & HAYES LLP
Ten Post Office Square
Boston, Massachusetts 02109
Telephone: (617) 542-2290
Telecopier: (617) 451-0313

Date: MARCH 14, 2000

Enclosure

WEINGARTEN, SCHURGIN,
GAGNEBIN & HAYES LLP
TEL (617) 542-2290
FAX (617) 451-0313

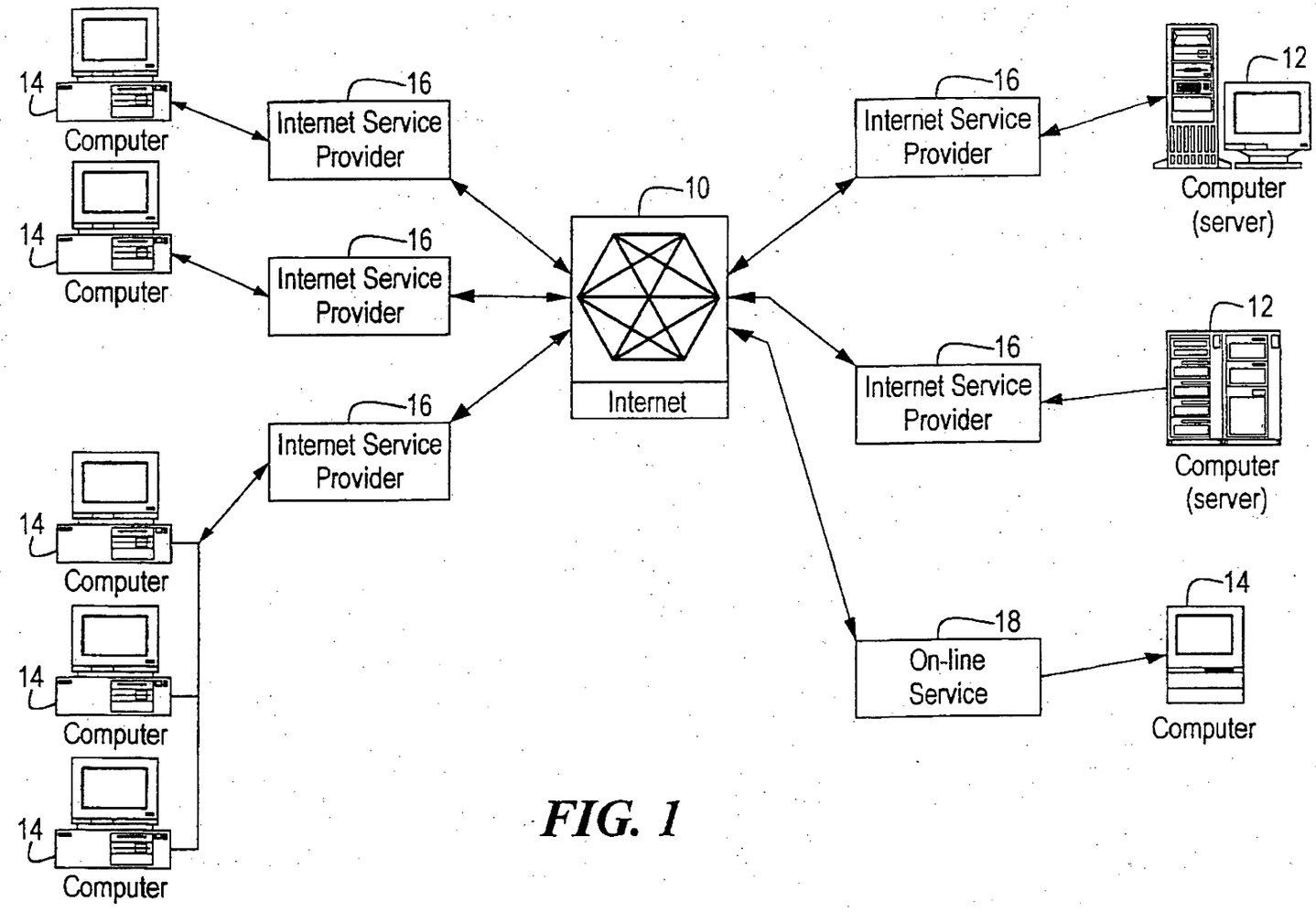
14
Computer
14
Computer
14
Computer
14
Computer
14
Computer
16
Internet Service Provider
16
Internet Service Provider
16
Internet Service Provider
10
Internet
16
Internet Service Provider
16
Internet Service Provider
18
On-line Service
12
Computer (server)
12
Computer (server)
14
Computer

FIG. 1

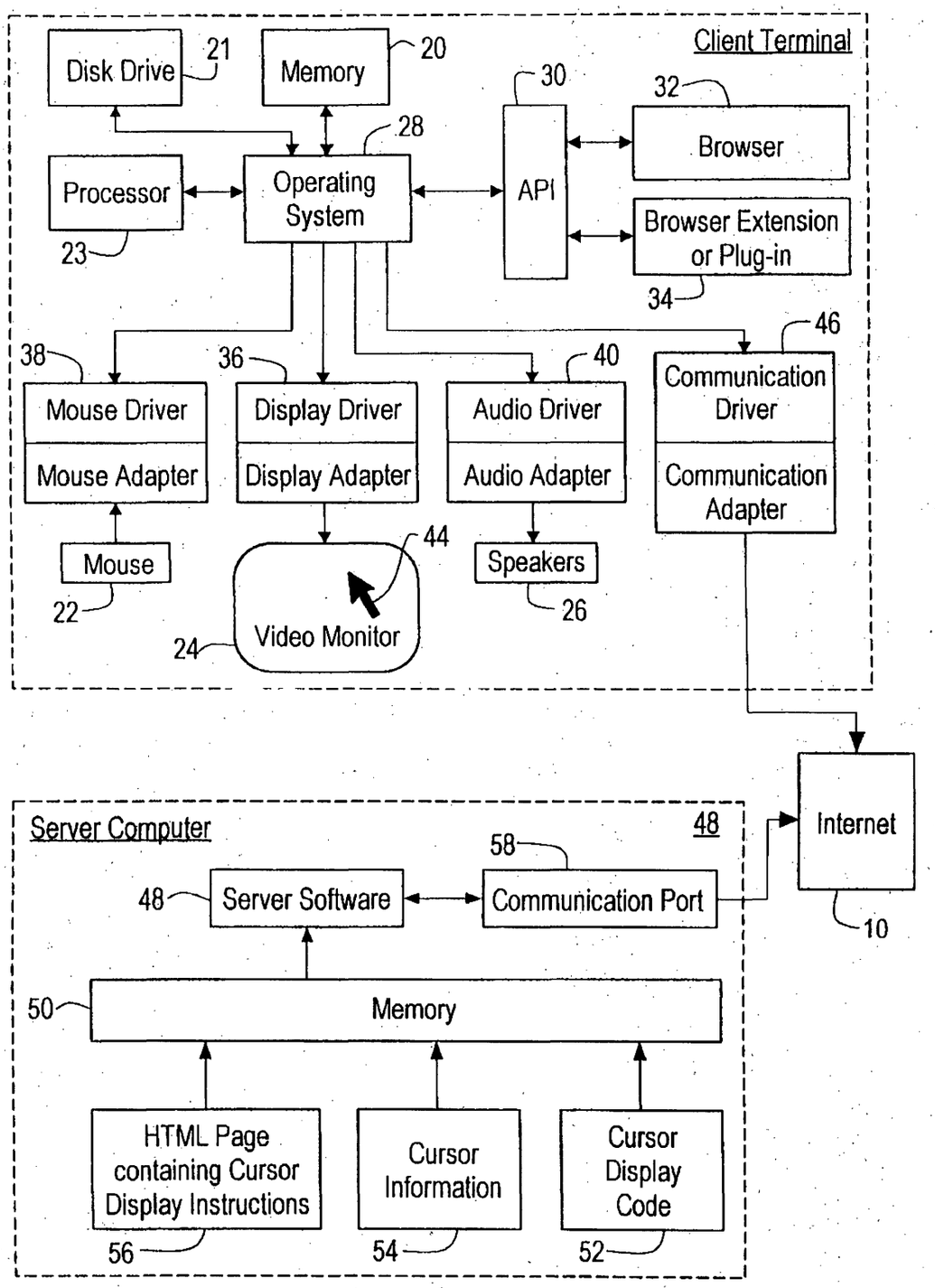
Client Terminal
Disk Drive
21
Memory
20
30
32
28
Browser
Processor
Operating System
API
Browser Extension or Plug-in
23
34
46
38
36
40
Mouse Driver
Mouse Adapter
Display Driver
Display Adapter
Audio Driver
Audio Adapter
Communication Driver
Communication Adapter
Mouse
22
44
Video Monitor
24
Speakers
26
Internet
10
Server Computer
48
58
48
Server Software
Communication Port
50
Memory
HTML Page containing Cursor Display Instructions
Cursor Information
Cursor Display Code
56
54
52

FIG. 2

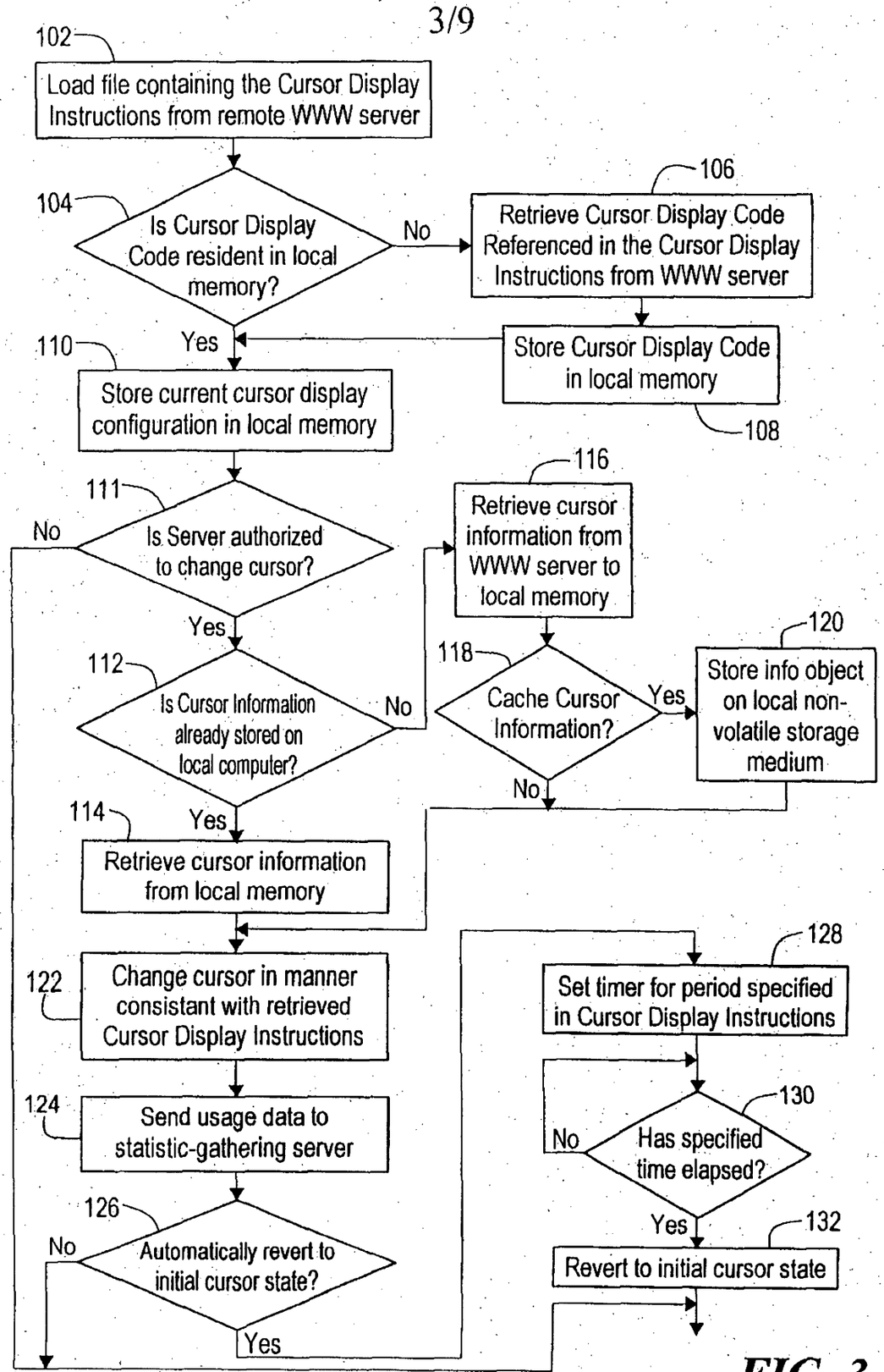
102
Load file containing the Cursor Display Instructions from remote WWW server
104
Is Cursor Display Code resident in local memory?
No
106
Retrieve Cursor Display Code Referenced in the Cursor Display Instructions from WWW server
Store Cursor Display Code in local memory
108
Yes
110
Store current cursor display configuration in local memory
111
Is Server authorized to change cursor?
No
Yes
112
Is Cursor Information already stored on local computer?
No
Yes
114
Retrieve cursor information from local memory
116
Retrieve cursor information from WWW server to local memory
118
Cache Cursor Information?
Yes
No
120
Store info object on local non-volatile storage medium
122
Change cursor in manner consistant with retrieved Cursor Display Instructions
124
Send usage data to statistic-gathering server
126
Automatically revert to initial cursor state?
No
Yes
128
Set timer for period specified in Cursor Display Instructions
130
Has specified time elapsed?
No
Yes
132
Revert to initial cursor state

FIG. 3

```
<OBJECT
        202.ID=cc1
        203.TYPE="application/x-oleobject"
        204.CLASSID="clsid:CB005660-D0C7-11cf-B7F6-00AA00A3F278"
        205.CODEBASE="http://cometsystems.com/controls/cc.cab#ver=4,70,
           0,1122"
        206.<PARAM NAME="CursorType" VALUE="1"
        207.<PARAM NAME="CursorImage"
           VALUE="http://cometsystems.com/library/images/acme.cur">
        208.<PARAM NAME="Counter" VALUE="http://
           cometsystems.com/accounting">
        209.<PARAM NAME="DisplayDuration" VALUE="5">
        210.<PARAM NAME="CacheCursor" VALUE="1">
        211.<PARAM NAME="ServerSignature" VALUE="54F5254A23BD988AB54">
        212.<PARAM NAME="DormantDelay" VALUE="600">
        213.<PARAM NAME="CursorTrajectoryMap" VALUE="http://
           cometsystems.com/maps/trajectory">
        214.<PARAM NAME="CursorPositionMap" VALUE="http://
           cometsystems.com/maps/position">
        215.<PARAM NAME="CursorVelocityMap"
           VALUE="http://cometsystems.com/maps/velocity">
        216.<PARAM NAME="CursorPositionMap" VALUE="http://
           cometsystems.com/maps/velocity">
        217.<PARAM NAME="CursorButtonMap" VALUE="http://
           cometsystems.com/maps/buttonstate">
        218.<PARAM NAME="ContentType" VALUE="5">
        219.<PARAM NAME="PriorityLevel" VALUE="1">
        220.<PARAM NAME="StreamBufferSize" VALUE="0">
        221.<PARAM NAME="SatelliteImage"
           VALUE="http://cometsystems.com/library/images/acmesat.bmp">
        222.<PARAM NAME="SatelliteXDisplacement" VALUE="-50">
        223.<PARAM NAME="SatelliteYDisplacement" VALUE="50">
        224.<PARAM NAME="ExtraDisplayParameters"
           VALUE="http://cometsystems.com/library/params/acme.prm">
</OBJECT>
```

FIG. 4

```
<script language="VBScript">
<!--\1`;
302.Sub window_onLoad()
303.    ccl.RememberCurrentCursor()
304.    ccl.SetNormalCursor("http://cometsystems.com/library/
           images/acme.cur")
305.end sub

306.Sub window_onUnload()
307.    ccl.Reset()
308.end sub
-->
</script>
```

FIG. 5

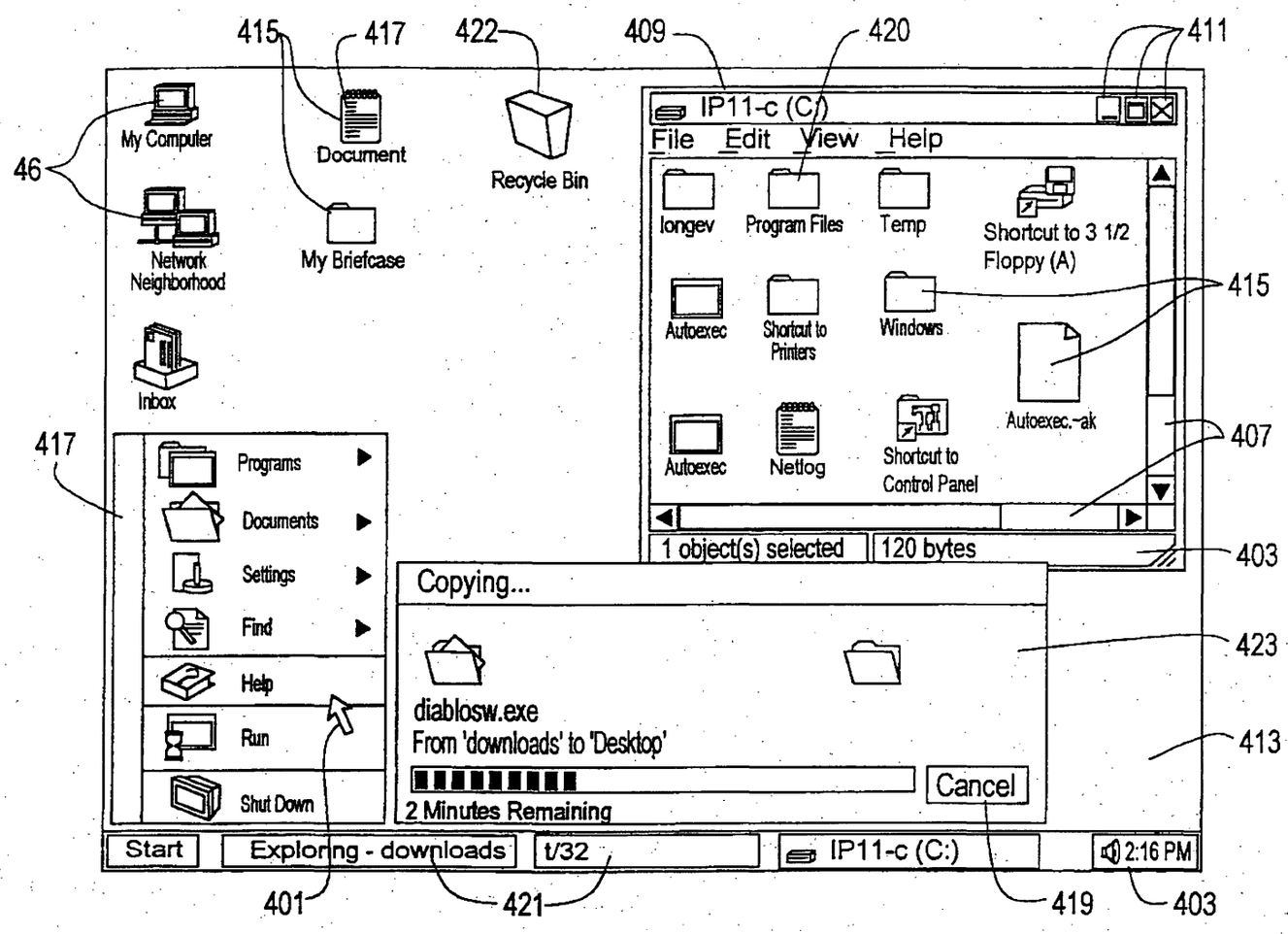
415
417
422
409
420
411
46
My Computer
Document
Recycle Bin
Network Neighborhood
My Briefcase
Inbox
IP11-c (C:)
File Edit View Help
longev
Program Files
Temp
Shortcut to 3 1/2 Floppy (A)
Autoexec
Shortcut to Printers
Windows
Autoexec.~ak
Autoexec
Netlog
Shortcut to Control Panel
415
407
1 object(s) selected
120 bytes
403
417
Programs
Documents
Settings
Find
Help
Run
Shut Down
Copying...
423
diablosw.exe
From 'downloads' to 'Desktop'
413
Cancel
2 Minutes Remaining
Start
Exploring - downloads
t/32
IP11-c (C:)
2:16 PM
401
421
419
403

FIG. 6

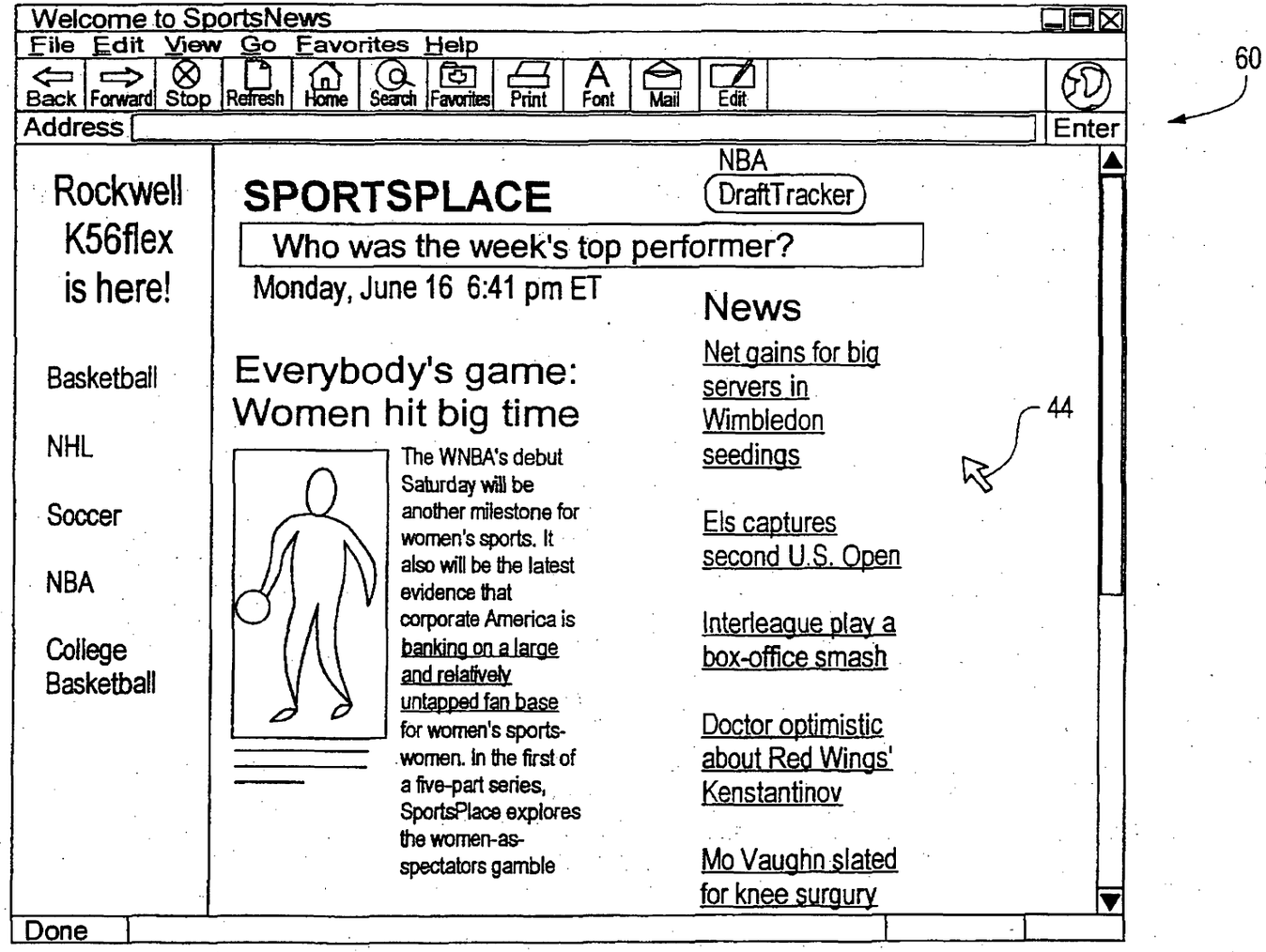
Welcome to SportsNews
File Edit View Go Favorites Help
Back Forward Stop Refresh Home Search Favorites Print Font Mail Edit
Address
Enter
60
Rockwell K56flex is here!
Basketball
NHL
Soccer
NBA
College Basketball
SPORTSPLACE
NBA DraftTracker
Who was the week's top performer?
Monday, June 16 6:41 pm ET
Everybody's game: Women hit big time
The WNBA's debut Saturday will be another milestone for women's sports. It also will be the latest evidence that corporate America is banking on a large and relatively untapped fan base for women's sports-women. In the first of a five-part series, SportsPlace explores the women-as-spectators gamble
News
Net gains for big servers in Wimbledon seedings
44
Els captures second U.S. Open
Interleague play a box-office smash
Doctor optimistic about Red Wings' Kenstantinov
Mo Vaughn slated for knee surgury
Done

FIG. 7

7/9

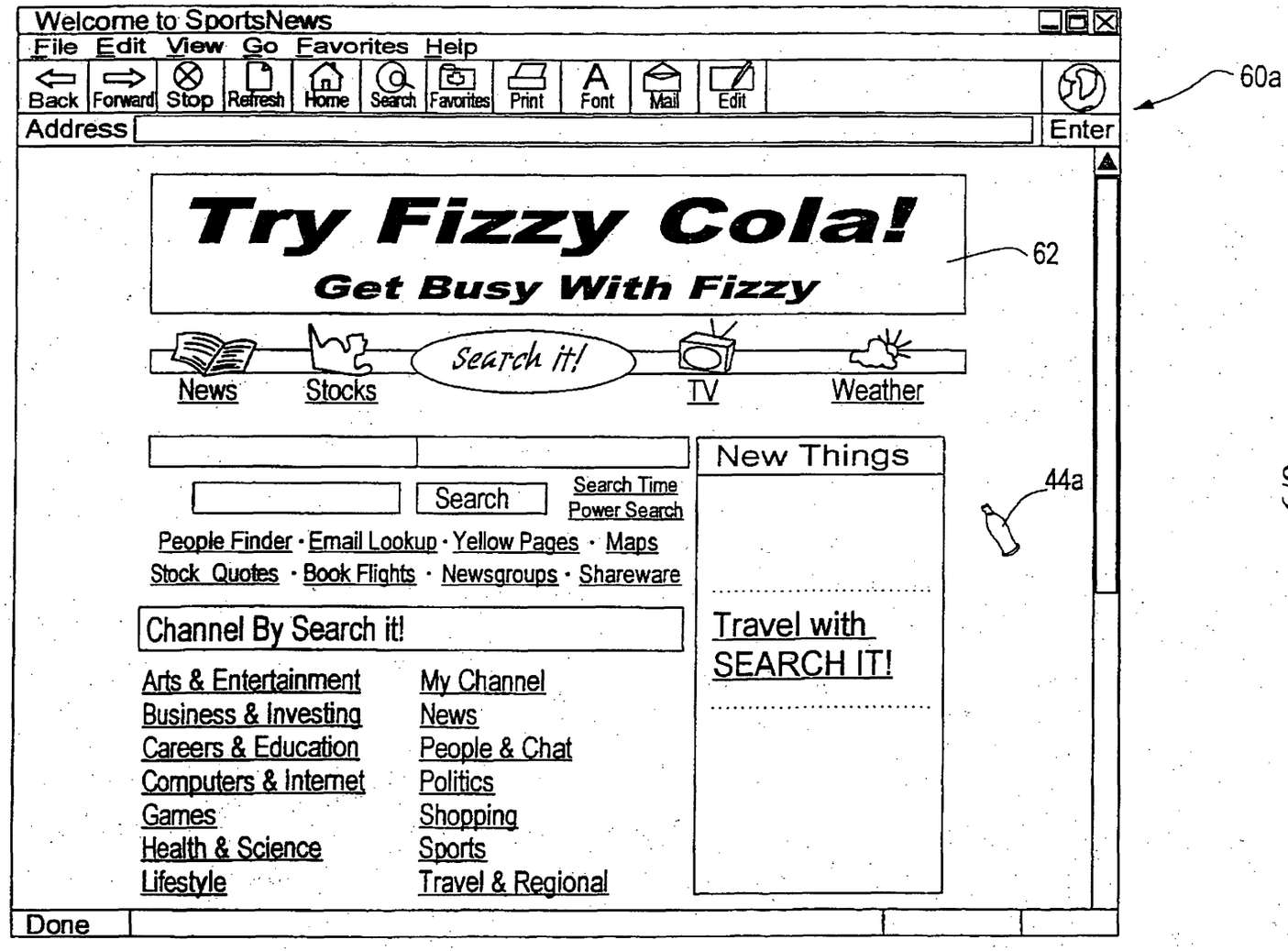
Welcome to SportsNews
File Edit View Go Favorites Help
Back Forward Stop Refresh Home Search Favorites Print Font Mail Edit
Address
Enter
60a
Try Fizzy Cola!
Get Busy With Fizzy
62
News
Stocks
Search it!
TV
Weather
Search
Search Time
Power Search
People Finder · Email Lookup · Yellow Pages · Maps
Stock Quotes · Book Flights · Newsgroups · Shareware
Channel By Search it!
Arts & Entertainment
Business & Investing
Careers & Education
Computers & Internet
Games
Health & Science
Lifestyle
My Channel
News
People & Chat
Politics
Shopping
Sports
Travel & Regional
New Things
Travel with
SEARCH IT!
44a
Done

FIG. 8

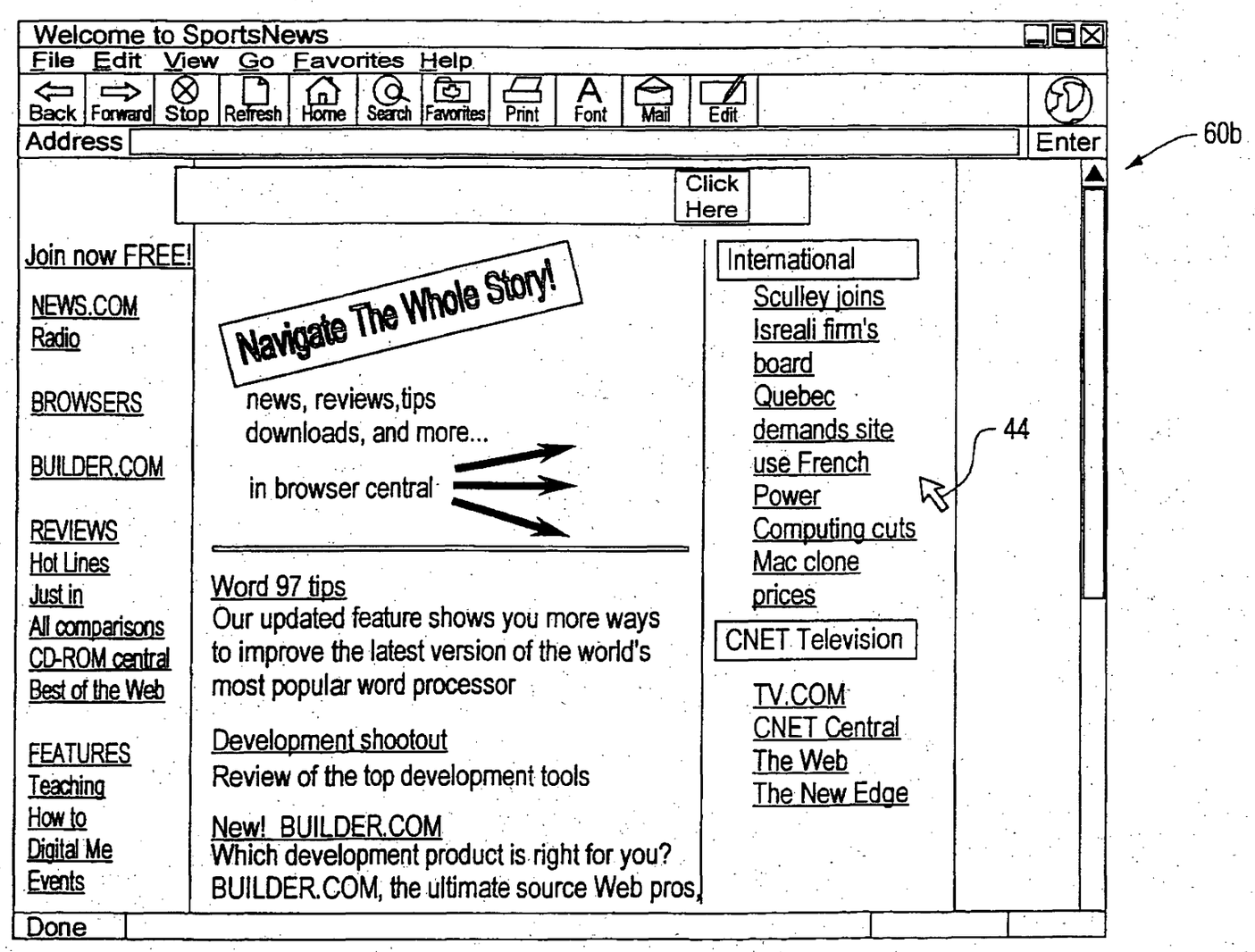
Welcome to SportsNews
File Edit View Go Favorites Help
Back Forward Stop Refresh Home Search Favorites Print Font Mail Edit
Address
Enter
60b
Click Here
Join now FREE!
NEWS.COM
Radio
BROWSERS
BUILDER.COM
REVIEWS
Hot Lines
Just in
All comparisons
CD-ROM central
Best of the Web
FEATURES
Teaching
How to
Digital Me
Events
Navigate The Whole Story!
news, reviews,tips
downloads, and more...
in browser central
Word 97 tips
Our updated feature shows you more ways to improve the latest version of the world's most popular word processor
Development shootout
Review of the top development tools
New! BUILDER.COM
Which development product is right for you? BUILDER.COM, the ultimate source Web pros,
International
Sculley joins
Isreali firm's
board
Quebec
demands site
use French
Power
Computing cuts
Mac clone
prices
44
CNET Television
TV.COM
CNET Central
The Web
The New Edge
Done

FIG. 9

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

09/400,038

APPLICATION NUMBER	FILING DATE	FIRST NAMED APPLICANT	ATTORNEY DOCKET NO.
09/400,038	09/21/99	ROSEN	J COMET-001CX

LMC1/0322

WEINGARTEN SCHURGIN
GAGNEBIN & HAYES LLP
TEN POST OFFICE SQUARE
BOSTON MA 02109

EXAMINER
JACKSON, C

ART UNIT	PAPER NUMBER
2773	7

DATE MAILED: 03/22/00

Response to Rule 312 Communication

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

_____

_____
Director,
Patent Examining Group _____

☒ The amendment filed on 3/13/00 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.

RAYMOND J. BAYERL
PRIMARY EXAMINER
ART UNIT 2773

FORM PTOL-271 (REV. 1-96)

09/400,028

Rev 09/03

PATENT #10 2-3-04 BSH

OIPE JC130 JAN 2 3 2004 PATENT & TRADEMARK OFFICE

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re application	:	James S. Rosen, et al.
Patent No.	:	6,118,449
Issued	:	September 12, 2000
For	:	SERVER SYSTEM AND METHOD FOR MODIFYING A CURSOR IMAGE
Attorney's Docket	:	COMET-001CX

* *

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By: [signature]
Victor B. Lebovici
Registration No. 30,864
Attorney for Applicants

* *

L E T T E R

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

Sir:

It is desired to cite for the record the prior art listed on the enclosed Form PTO 1449.

Respectfully submitted,

JAMES S. ROSEN, ET AL.

By: [signature]
Victor B. Lebovici
Registration No. 30,864
Attorney for Applicants

WEINGARTEN, SCHURGIN,
GAGNEBIN & LEBOVICI LLP
Ten Post Office Square
Boston, Massachusetts 02109
Telephone: (617) 542-2290
Telecopier: (617) 451-0313

WEINGARTEN, SCHURGIN,
GAGNEBIN & LEBOVICI LLP
TEL (617) 542-2290
FAX (617) 451-0313

Date: January 21, 2004
Page 1 of 1

U.S. DEPARTMENT OF COMMERCE (REV. 05/03) PATENT AND TRADEMARK OFFICE INFORMATION DISCLOSURE CITATION *(Use several sheets if necessary)*	ATTY. DOCKET NO. COMET-001CX	PATENT NO. 6,118,449
	APPLICANT: James S. Rosen, et al.	
	ISSUE DATE September 12, 2000	TC ART UNIT

OIPE JC180 JAN 2 3 2004 PATENT & TRADEMARK OFFICE

U.S. PATENT DOCUMENTS

EXAMINER INITIAL		DOCUMENT NUMBER	PUBLICATION/ ISSUE DATE	NAME	CLASS	SUBCLASS	FILING DATE
		US6,239,795	5/29/2001	Ulrich, et al.	345	333	
		US					
		US					
		US					
		US					
		US					
		US					

FOREIGN PATENT DOCUMENTS

		DOCUMENT NUMBER	DATE	COUNTRY	CLASS	SUBCLASS	TRANSLATION YES	TRANSLATION NO

OTHER DOCUMENTS *(including Author, Title, Date, Pertinent Pages, etc.)*

		Java API Documentation 1.0.2, Sun Microsystems, Inc. 1996
		Using Microsoft Internet Explorer, Peter Kent, 1995, Que Corporation, Page 71

EXAMINER	DATE CONSIDERED

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

297148

Java API Documentation
1.0.2

Preface

Java Packages

Java interfaces and classes are grouped into *packages*. The following lists the java packages, from which you can access interfaces and classes.

java.lang
: Package that contains essential Java classes, including numerics, strings, objects, compiler, runtime, security, and threads. This is the only package that is automatically imported into every Java program.

java.io
: Package that provides classes to manage input and output streams to read data from and write data to files, strings, and other sources.

java.util
: Package that contains miscellaneous utility classes, including generic data structures, bit sets, time, date, string manipulation, random number generation, system properties, notification, and enumeration of data structures.

java.net
: Package that provides classes for network support, including URLs, TCP sockets, UDP sockets, IP addresses, and a binary-to-text converter.

java.awt
: Package that provides an integrated set of classes to manage user interface components such as windows, dialog boxes, buttons, checkboxes, lists, menus, scrollbars, and text fields. (AWT = Abstract Window Toolkit)

java.awt.image
: Package that provides classes for managing image data, including color models, cropping, color filtering, setting pixel values, and grabbing snapshots.

java.awt.peer
: Package that connects AWT components to their platform-specific implementations (such as Motif widgets or Microsoft Windows controls).

java.applet
: Package that enables the creation of applets through the Applet class. It also provides several interfaces that connect an applet to its document and to resources for playing audio.

Java API Document (HTML generated by dkramer on April 14, 1996)
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Please send any comments or corrections to doug.kramer@sun.com

Package java.awt

Classes

1.1 Class BorderLayout
1.2 Class Button
1.3 Class Canvas
1.4 Class CardLayout
1.5 Class Checkbox
1.6 Class CheckboxGroup
1.7 Class CheckboxMenuItem
1.8 Class Choice
1.9 Class Color
1.10 Class Component
1.11 Class Container
1.12 Class Dialog
1.13 Class Dimension
1.14 Class Event
1.15 Class FileDialog
1.16 Class FlowLayout
1.17 Class Font
1.18 Class FontMetrics
1.19 Class Frame
1.20 Class Graphics
1.21 Class GridBagConstraints
1.22 Class GridBagLayout
1.23 Class GridLayout
1.24 Class Image
1.25 Class Insets
1.26 Class Label
1.27 Class List
1.28 Class MediaTracker
1.29 Class Menu
1.30 Class MenuBar
1.31 Class MenuComponent
1.32 Class MenuItem
1.33 Class Panel
1.34 Class Point
1.35 Class Polygon
1.36 Class Rectangle
1.37 Class Scrollbar
1.38 Class TextArea
1.39 Class TextComponent
1.40 Class TextField
1.41 Class Toolkit
1.42 Class Window

Interfaces

1.43 Interface LayoutManager
1.44 Interface MenuContainer

Exceptions

1.45 Class AWTException

Errors

1.46 Class AWTError

Java API Document (HTML generated by dkramer on April 22, 1996)
Copyright © 1996 Sun Microsystems, Inc. All rights reserved
Please send any comments or corrections to doug.kramer@sun.com

§1.19 Class Frame

```
public class java.awt.Frame
    extends java.awt.Window (II-§1.42)
    implements java.awt.MenuContainer (II-§1.44)
{
        // possible cursor types for the setCursor method
    public final static int CROSSHAIR_CURSOR;   §1.19.1
    public final static int DEFAULT_CURSOR;     §1.19.2
    public final static int E_RESIZE_CURSOR;    §1.19.3
    public final static int HAND_CURSOR;        §1.19.4
    public final static int MOVE_CURSOR;        §1.19.5
    public final static int N_RESIZE_CURSOR;    §1.19.6
    public final static int NE_RESIZE_CURSOR;   §1.19.7
    public final static int NW_RESIZE_CURSOR;   §1.19.8
    public final static int S_RESIZE_CURSOR;    §1.19.9
    public final static int SE_RESIZE_CURSOR;   §1.19.10
    public final static int SW_RESIZE_CURSOR;   §1.19.11
    public final static int TEXT_CURSOR;        §1.19.12
    public final static int W_RESIZE_CURSOR;    §1.19.13
    public final static int WAIT_CURSOR;        §1.19.14

        // Constructors
    public Frame();      §1.19.15
    public Frame(String title);§1.19.16

        // Methods
    public void addNotify();     §1.19.17
    public void dispose();       §1.19.18
    public int getCursorType(); §1.19.19
    public Image getIconImage();        §1.19.20
    public MenuBar getMenuBar();        §1.19.21
    public String getTitle();   §1.19.22
    public boolean isResizable();       §1.19.23
    protected String paramString();     §1.19.24
    public void remove(MenuComponent m);        §1.19.25
    public void setCursor(int cursorType);      §1.19.26
    public void setIconImage(Image image);      §1.19.27
    public void setMenuBar(MenuBar mb);         §1.19.28
    public void setResizable(boolean resizable);        §1.19.29
    public void setTitle(String title);         §1.19.30
}
```

A frame is a top-level window with a title and a border. A frame can also have a menu bar. The AWT sends the frame all mouse, keyboard, and focus events that occur over it.

Fields

CROSSHAIR_CURSOR

```
public final static int CROSSHAIR_CURSOR = 1
```

A cross-haired shaped cursc

DEFAULT_CURSOR

```
public final static int DEFAULT_CURSOR = 0
```

The default cursor.

E_RESIZE_CURSOR

```
public final static int E_RESIZE_CURSOR = 11
```

A cursor indicating that the right-hand border is being resized.

HAND_CURSOR

```
public final static int HAND_CURSOR = 12
```

A hand-shaped cursor.

MOVE_CURSOR

```
public final static int MOVE_CURSOR = 13
```

A cursor indicating that an object is being moved.

N_RESIZE_CURSOR

```
public final static int N_RESIZE_CURSOR = 8
```

A cursor indicating that the top border is being resized.

NE_RESIZE_CURSOR

```
public final static int NE_RESIZE_CURSOR = 7
```

A cursor indicating that the top-right corner is being resized.

NW_RESIZE_CURSOR

```
public final static int NW_RESIZE_CURSOR = 6
```

A cursor indicating the the top-left corner is being resized.

S_RESIZE_CURSOR

```
public final static int S_RESIZE_CURSOR = 9
```

A cursor indicating the the bottom edge is being resized.

SE_RESIZE_CURSOR

```
public final static int SE_   IZE_CURSOR = 5
```

A cursor indicating that the bottom-right edge is being resized.

SW_RESIZE_CURSOR

```
public final static int SW_RESIZE_CURSOR = 4
```

A cursor indicating that the bottom-left edge is being resized.

TEXT_CURSOR

```
public final static int TEXT_CURSOR = 2
```

A cursor for text insertion.

W_RESIZE_CURSOR

```
public final static int W_RESIZE_CURSOR = 10
```

A cursor indicating the the left edge is being resized.

WAIT_CURSOR

```
public final static int WAIT_CURSOR = 3
```

A cursor indicating that a long-running operation is taking place

---

Constructors

Frame

```
public Frame()
```

Constructs a new frame; it is initially invisible and has no title.

Frame

```
public Frame(String title)
```

Constructs a new frame; it is initially invisible and has the specified title.

Parameters:
`title` - the title

Methods

addNotify

```
public void addNotify()
```

This method calls the createFrame method (II-§1.41.10) of this object's toolkit (II-§1.10.20) in order to create a FramePeer (II-§3.10) for this frame. This peer allows the application to change the look of a frame without changing its functionality.

Most applications do not call this method directly.

Overrides:
addNotify in class Window (II-§1.42.2).

dispose

```
public void dispose()
```

Disposes of this frame, its menubar, and any system resources used by this frame.

Overrides:
dispose in class Window (II-§1.42.3).

getCursorType

```
public int getCursorType()
```

Returns:
the cursor type of this frame.

getIconImage

```
public Image getIconImage()
```

Returns:
the icon image for this frame, or null if this frame doesn't have an icon image.

getMenuBar

```
public MenuBar getMenuBar()
```

Returns:
the menu bar for this frame, or null if this frame doesn't have a menu bar.

getTitle

```
public String getTitle()
```

Returns:
the title of this frame, or null if this frame doesn't have a title

See Also:
setTitle (II-§1.19.30).

isResizable

```
public boolean isResizable()
```

Indicates whether this frame is resizable. By default, all frames are resizable.

Returns:
true if the user can resize this frame; false otherwise.

paramString

```
protected String paramString()
```

Returns the parameter string representing the state of this frame. This string is useful for debugging.

Returns:
the parameter string of this frame.
Overrides:
paramString in class Container (II-§1.11.16).

remove

```
public void remove(MenuComponent m)
```

Removes the specified menu bar from this frame.

Parameters:
`m` - the menu component to remove.

setCursor

```
public void setCursor(int cursorType)
```

Sets the cursor image for this frame to be one of the predefined cursors.

Parameters:
`cursorType` - one of the predefined cursor constants defined above (II-§1.19.1-§1.19.14).

setIconImage

```
public void setIconImage(Image image)
```

Sets the image to display when this frame is iconized. The default icon is platform specific. Not all platforms support the concept of iconizing a window.

Parameters:
`image` - the icon image to be displayed

setMenuBar

```
public void setMenuBar(MenuBar mb)
```

Sets the menubar of this frame to the specified menubar.

Parameters:
`mb` - the new menubar

setResizable

```
public void setResizable(boolean resizable)
```

Determines whether this frame should be resizable. By default, a frame is resizable.

Parameters:
`resizable` - true if this frame should be resizable; false otherwise

setTitle

```
public void setTitle(String title)
```

Sets the title of this frame to the specified title.

Parameters:
`title` - the new title of this frame, or null to remove the title
See Also:
getTitle (II-§ I.19.22)

Java API Document (HTML generated by dkramer on April 22, 1996)
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Please send any comments or corrections to doug.kramer@sun.com

Using

Peter Kent

que®

Using Microsoft Internet Explorer

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97 96 95 6 5 4 3 2 1

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Running two (or more) Web sessions

Internet Explorer allows you to run more than one Web session at the same time. You can have one Explorer window open displaying the latest Dilbert cartoon, and another downloading a file from the RealAudio Web site, for instance.

The simplest way to start another Web session is to do so when you use a link. Hold down the Shift key while you click on the link. Or point at it and *right*-click on it. A pop-up menu will open, as you can see in figure 5.3. Choose Open In New Window. Whichever method you use, a new Explorer window will open and the referenced document is opened in *there*. You end up with two windows open, each displaying a different document.

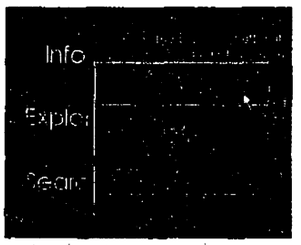

Fig. 5.3
The right-click pop-up menu lets you open another Web session (and do other stuff, too).

There's another way to open a new window, too. You can do so when you enter a URL into the Address text box or the Open Internet Address dialog box, as you'll see next. And in some cases Explorer will ask if you want to open a new window. For instance, if you click on a link while Explorer is transferring a file (see chapter 9), Explorer will ask if you want to cancel the transfer. Answer No, and Explorer will ask if you want to open a new Window. Answer Yes, and you'll end up with two windows, the original one (with the transfer still in progress), and the new one displaying the page referenced by the link you clicked on.

Q/A ***Why doesn't my pop-up menu look like the one in your figure? And what are these other options?***

There are five different pop-up menus, for five different situations. You can right-click on a picture, on a text-link, on a blank area of the background, on a picture icon (which Explorer places into the document, if you've turned off inline graphics), or on text that you have selected. We'll take a quick look at these menus in "The right-click pop-up menus" later in this chapter.

Day : Monday
Date: 1/26/2004

Time: 09:53:46

PALM INTRANET

Patent Number Information

Application Number: **09/400038** **Order This File** **Assignments**

Examiner Number: **74544 / JACKSON, CHADWICK**

Filing Date: **09/21/1999**

Group Art Unit: ~~2773~~ 2193

Effective Date: **09/21/1999**

Class/Subclass: **345/339.000**

Application Received: **09/21/1999**

Lost Case: **NO**

Patent Number: **6118449**

Interference Number:

Issue Date: **09/12/2000**

Unmatched Petition: **NO**

Date of Abandonment: **00/00/0000**

L&R Code: Secrecy Code: **1**

Attorney Docket Number: **COMET-001CX**

Third Level Review: **NO**

Secrecy Order: **NO**

Status: **150 / PATENTED CASE**

Status Date: **08/28/2000**

Confirmation Number: **2996**

Oral Hearing: **NO**

Title of Invention: **SERVER SYSTEM AND METHOD FOR MODIFYING A CURSOR IMAGE**

Bar Code	PALM Location	Location Date	Charge to Loc	Charge to Name	Employee Name	Location
09400038	9200	05/09/2002	No Charge to Location	No Charge to Name	BOATENG,NICKOLAS	

Appln Info [redacted]

Search Another: Application# [redacted] **or Patent#** [redacted]

PCT / [redacted] **/** [redacted] [redacted] **or PG PUBS #** [redacted]

Attorney Docket # [redacted]

Bar Code # [redacted]

To go back use Back button on your browser toolbar.

Back to PALM | ASSIGNMENT | OASIS | Home page

Enter the Employee's Name as follows:

- Only the **first few letters** of the Last Name **or,**
- Complete **Last Name** followed by a **SPACE and at least the first few letters** of the First Name.

Name:

Search Clear

Employee Locator

query by name

Name	**BAYERL RAYMOND J**
Employee No	**66848**
Organization	**GROUP ART UNIT 2173**
Email	**raymond.bayerl@uspto.gov**

Primary	Bldg	Floor	Suite	Corr.	Room	Zone	Planned Move
*	PK2	4		A	47		

CONTACT NUMBER

Primary	Type	Number	Ext	Planned Move
*	Phone	(703)305-9789		
	Receptionist	(703)305-3900		
	Fax	(703)305-9724		

PATENT APPLICATION FEE DETERMINATION RECORD
Effective November 10, 1998

Application or Docket Number: 09/400038

CLAIMS AS FILED - PART I

FOR	(Column 1) NUMBER FILED	(Column 2) NUMBER EXTRA
BASIC FEE		
TOTAL CLAIMS	132 minus 20=	* 112
INDEPENDENT CLAIMS	6 minus 3 =	* 3
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		RATE	FEE
	380.00	OR		760.00
X$ 9=	1008.00	OR	X$18=	
X39=	117.00	OR	X78=	
+130=		OR	+260=	
TOTAL	1505.00	OR	TOTAL	

CLAIMS AS AMENDED - PART II

AMENDMENT A

	(Column 1) CLAIMS REMAINING AFTER AMENDMENT		(Column 2) HIGHEST NUMBER PREVIOUSLY PAID FOR	(Column 3) PRESENT EXTRA
Total	* 132	Minus	** 132	= —
Independent	* 6	Minus	*** 6	= —
FIRST PRESENTATION OF MULTIPLE DEPENDENT CLAIM				

SMALL ENTITY		OR	OTHER THAN SMALL ENTITY	
RATE	ADDITIONAL FEE		RATE	ADDITIONAL FEE
X$ 9=		OR	X$18=	
X39=		OR	X78=	
+130=		OR	+260=	
TOTAL ADDIT. FEE		OR	TOTAL ADDIT. FEE	

AMENDMENT B

	(Column 1) CLAIMS REMAINING AFTER AMENDMENT		(Column 2) HIGHEST NUMBER PREVIOUSLY PAID FOR	(Column 3) PRESENT EXTRA
Total	*	Minus	**	=
Independent	*	Minus	***	=
FIRST PRESENTATION OF MULTIPLE DEPENDENT CLAIM				

RATE	ADDITIONAL FEE		RATE	ADDITIONAL FEE
X$ 9=		OR	X$18=	
X39=		OR	X78=	
+130=		OR	+260=	
TOTAL ADDIT. FEE		OR	TOTAL ADDIT. FEE	

AMENDMENT C

	(Column 1) CLAIMS REMAINING AFTER AMENDMENT		(Column 2) HIGHEST NUMBER PREVIOUSLY PAID FOR	(Column 3) PRESENT EXTRA
Total	*	Minus	**	=
Independent	*	Minus	***	=
FIRST PRESENTATION OF MULTIPLE DEPENDENT CLAIM				

RATE	ADDITIONAL FEE		RATE	ADDITIONAL FEE
X$ 9=		OR	X$18=	
X39=		OR	X78=	
+130=		OR	+260=	
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.

FORM PTO-875
(Rev. 11/98)

Patent and Trademark Office, U.S. DEPARTMENT OF COMMERCE
☆U.S. GPO:1998-454-473/90301

MULTIPLE DEPENDENT CLAIM FEE CALCULATION SHEET

(FOR USE WITH FORM PTO-875)

SERIAL NO. 09/400,038

FILING DATE 9/21/99

APPLICANT(S)

CLAIMS

	AS FILED		AFTER 1st AMENDMENT		AFTER 2nd AMENDMENT	
	IND.	DEP.	IND.	DEP.	IND.	DEP.
1	1					
2						
3						
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27	1					
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41						
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43						
44						
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46						
47						
48						
49						
50						
TOTAL IND.						
TOTAL DEP.						
TOTAL CLAIMS						

	*		*		*	
	IND.	DEP.	IND.	DEP.	IND.	DEP.
51			101			
52			102			
53	1		103			
54			104			
55			105			
56			106			
57			107			
58			108			
59			109			
60			110			
61			111			
62			1	112		
63			113			
64			114			
65			115			
66			116			
67			117			
68			118			
69			119			
70			120			
71			121			
72	1		122			
73			123			
74			124			
75			125			
76			126			
77			127			
78			128			
79			129			
80			130			
81			131			
82			132			
83						
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87						
88						
89						
90						
91	1					
92						
93						
94						
95						
96						
97						
98						
99						
100						
TOTAL IND.			6			
TOTAL DEP.			126			
TOTAL CLAIMS			132			

PTO-1360 (3-78)

*MAY BE USED FOR ADDITIONAL CLAIMS OR AMENDMENTS

U.S. DEPARTMENT of COMMERCE
Patent and Trademark Office

Thomson Innovation Patent Export, 2017-05-19 05:17:43 -0500

Table of Contents

1. US6118449A Server system and method for modifying a cursor image

Family 1/1

1 record(s) per family

Record 1/1 US6118449A Server system and method for modifying a cursor image

Publication Number: US6118449A 20000912

Title: Server system and method for modifying a cursor image

Title - DWPI: Server altered cursor symbols for Internet advertising has web page loaded that contains cursor changing instructions causing download of plug-in that alters cursor shape

Priority Number: US1997882580A

Priority Date: 1997-06-25

Application Number: US1999400038A

Application Date: 1999-09-21

Publication Date: 2000-09-12

IPC Class Table:

IPC	Section	Class	Subclass	Class Group	Subgroup
G06F000300	G	G06	G06F	G06F0003	G06F000300
G06F0003033	G	G06	G06F	G06F0003	G06F0003033
G06F0003048	G	G06	G06F	G06F0003	G06F0003048
G06F000314	G	G06	G06F	G06F0003	G06F000314
G06F000900	G	G06	G06F	G06F0009	G06F000900
G06F001700	G	G06	G06F	G06F0017	G06F001700
G06F001730	G	G06	G06F	G06F0017	G06F001730
G06Q003002	G	G06	G06Q	G06Q0030	G06Q003002
G09G000508	G	G09	G09G	G09G0005	G09G000508

IPC Class Table - DWPI:

IPC - DWPI	Section - DWPI	Class - DWPI	Subclass - DWPI	Class Group - DWPI	Subgroup - DWPI
G06F001516	G	G06	G06F	G06F0015	G06F001516
G06F001700	G	G06	G06F	G06F0017	G06F001700

G06F001730	G	G06	G06F	G06F0017	G06F001730
G06F000300	G	G06	G06F	G06F0003	G06F000300
G06F0003033	G	G06	G06F	G06F0003	G06F0003033
G06F0003048	G	G06	G06F	G06F0003	G06F0003048
G06F00030481	G	G06	G06F	G06F0003	G06F00030481
G06F000314	G	G06	G06F	G06F0003	G06F000314
G06F000316	G	G06	G06F	G06F0003	G06F000316
G06F000900	G	G06	G06F	G06F0009	G06F000900
G06Q003000	G	G06	G06Q	G06Q0030	G06Q003000
G06Q003002	G	G06	G06Q	G06Q0030	G06Q003002
G06T001160	G	G06	G06T	G06T0011	G06T001160
G06T001380	G	G06	G06T	G06T0013	G06T001380
G09G000500	G	G09	G09G	G09G0005	G09G000500
G09G000508	G	G09	G09G	G09G0005	G09G000508

Assignee/Applicant: Comet Systems Inc.,New York,NY,US

JP F Terms:

JP FI Codes:

Assignee - Original: Comet Systems Inc.

Any CPC Table:

Type	Invention	Additional	Version	Office
Current	**G06Q 30/0263**	G06F 2203/04801	20130101	EP
Current	G06F 3/04812	G09G 5/08	20130101	EP
Current	G06F 3/14	G09G 2370/027	20130101	EP
Current	G06F 3/1454		20130101	EP
Current	G06F 3/167		20130101	EP
Current	G06F 17/30861		20130101	EP
Current	G06Q 30/02		20130101	EP
Current	G06Q 30/0277		20130101	EP
Current	G06T 11/60		20130101	EP
Current	G06T 13/80		20130101	EP

ECLA: G06Q00300277 | G06F00030481C | G06F000314 | G06F000314T | G06F001730W | G06Q003002 | S09G000508 | S09G037002N

Abstract:

A system for modifying a cursor image, as displayed on a video monitor of a remote terminal, to a specific image having a desired shape and appearance. The system stores cursor image data corresponding to the specific image, and a cursor display code. The cursor display code contains information in response to which the cursor image is modified to the specific image. A server computer transmits specified information to the remote terminal. The information includes at least one cursor display instruction. The cursor display instruction is operable to modify, in conjunction with the cursor information and the cursor image data, a cursor image displayed by a display of the remote terminal in the shape and appearance of the specific image.

Language of Publication: EN

INPADOC Legal Status Table:

Gazette Date	Code	INPADOC Legal Status Impact
2013-03-19	AS	-
Description: ASSIGNMENT LEXOS MEDIA IP, LLC, NEW YORK ASSIGNMENT OF ASSIGNORS INTEREST; ASSIGNOR:LEXOS MEDIA, INC.; REEL/FRAME:030044/0198 2013-01-15		
2012-03-14	SULP	+
Description: SURCHARGE FOR LATE PAYMENT		
2012-03-14	FPAY	+
Description: FEE PAYMENT		
2010-01-25	AS	-
Description: ASSIGNMENT LEXOS MEDIA, INC., FLORIDA ASSIGNMENT OF ASSIGNORS INTEREST; ASSIGNOR:ALOT, INC.; REEL/FRAME:023832/0990 2009-10-30		
2009-09-24	AS	-
Description: ASSIGNMENT ALOT, INC., NEW YORK CHANGE OF NAME; ASSIGNOR:MIVA DIRECT, INC.; REEL/FRAME:023273/0767 2009-06-03		
2009-09-24	AS	-
Description: ASSIGNMENT COMET SYSTEMS, INC., NEW YORK CHANGE OF NAME; ASSIGNOR:HALEY ACQUISITION CORP.; REEL/FRAME:023273/0639 2004-04-02		
2009-09-22	AS	-
Description: ASSIGNMENT HALEY ACQUISITION CORP., FLORIDA MERGER; ASSIGNOR:COMET SYSTEMS, INC.;		

REEL/FRAME:023263/0150 2004-03-22		
2008-02-07	FPAY	+
Description: FEE PAYMENT		
2007-04-04	AS	-
Description: ASSIGNMENT MIVA DIRECT, INC., NEW YORK ASSIGNMENT OF ASSIGNORS INTEREST; ASSIGNOR:COMET SYSTEMS, INC.; REEL/FRAME:019116/0255 2005-06-06		
2004-03-02	FPAY	+
Description: FEE PAYMENT		

Post-Issuance (US):

Reassignment (US) Table:

Assignee	Assignor	Date Signed	Reel/Frame	Date
LEXOS MEDIA IP LLC,NEW YORK,NY,US	LEXOS MEDIA, INC.	2013-01-15	030044/0198	2013-03-19
Conveyance: ASSIGNMENT OF ASSIGNORS INTEREST (SEE DOCUMENT FOR DETAILS).				
Corresponent: KEVIN M. MOSS 1177 AVENUE OF THE AMERICAS KRAMER LEVIN NAFTALIS & FRANKEL LLP NEW YORK, NY 10036				
LEXOS MEDIA INC.,FORT MYERS,FL,US	ALOT, INC.	2009-10-30	023832/0990	2010-01-25
Conveyance: ASSIGNMENT OF ASSIGNORS INTEREST (SEE DOCUMENT FOR DETAILS).				
Corresponent: DORSEY & WHITNEY LLP 250 PARK AVENUE NEW YORK, NY 10177				
ALOT INC.,NEW YORK,NY,US	MIVA DIRECT, INC.	2009-06-03	023273/0767	2009-09-24
Conveyance: CHANGE OF NAME (SEE DOCUMENT FOR DETAILS).				
Corresponent: WEINGARTEN SCHURGIN GAGNEBIN & LEBOVICI TEN POST OFFICE SQUARE BOSTON, MA 02109				
MIVA DIRECT INC.,NEW YORK,NY,US	COMET SYSTEMS, INC.	2005-06-06	019116/0255	2007-04-04
Conveyance: ASSIGNMENT OF ASSIGNORS INTEREST (SEE DOCUMENT FOR DETAILS).				
Corresponent: WEINGARTEN, SCHURGIN, GAGNEBIN & LEBOVICI LLP TEN POST OFFICE SQUARE BOSTON, MASSACHUSETTS 02109				

COMET SYSTEMS INC.,NEW YORK,NY,US	HALEY ACQUISITION CORP.	2004-04-02	023273/0639	2009-09-24
Conveyance: CHANGE OF NAME (SEE DOCUMENT FOR DETAILS).				
Corresponent: WEINGARTEN SCHURGIN GAGNEBIN & LEBOVICI TEN POST OFFICE SQUARE BOSTON, MA 02109				
HALEY ACQUISITION CORP.,FORT MYERS,FL,US	COMET SYSTEMS, INC.	2004-03-22	023263/0150	2009-09-22
Conveyance: MERGER (SEE DOCUMENT FOR DETAILS).				
Corresponent: WEINGARTEN, SCHURGIN, GAGNEBIN & LEBOVIC TEN POST OFFICE SQUARE BOSTON, MA 02109				

Maintenance Status (US):

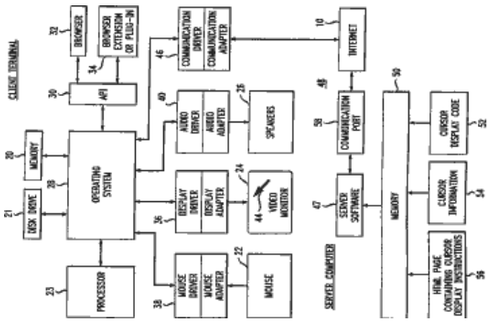
Litigation (US): 2017-04-28 2017 Lexos Media IP, LLC Boscov's Department Store, LLC E.D. Texas 2:17cv00373 | 2017-04-28 2017 Lexos Media IP, LLC Amerimark Direct, LLC E.D. Texas 2:17cv00372 | 2016-07-11 2016 Lexos Media IP, LLC Saks Incorporated E.D. Texas 2:16cv00751 | 2016-07-11 2016 Lexos Media IP, LLC Nordstrom, Inc.] E.D. Texas 2:16cv00750 | 2016-07-11 2016 Lexos Media IP, LLC Musician's Friend, Inc. E.D. Texas 2:16cv00749 | 2016-07-11 2016 Lexos Media IP, LLC Costco Wholesale Corp. E.D. Texas 2:16cv00748 | 2016-07-11 2016 Lexos Media IP, LLC Victoria's Secret Stores Brand Management, Inc. E.D. Texas 2:16cv00752 | 2016-07-11 2016 Lexos Media IP, LLC Apmex, Inc. E.D. Texas 2:16cv00747 | 2015-12-23 2015 Lexos Media IP, LLC Recreational Equipment, Inc. E.D. Texas 2:15cv02107 | 2015-12-18 2015 Lexos Media IP, LLC Sears Brands, LLC E.D. Texas 2:15cv02100 | 2015-12-18 2015 Lexos Media IP, LLC Sears Brands, LLC E.D. Texas 2:15cv02098 | 2015-12-14 2015 Lexos Media IP, LLC Express, LLC E.D. Texas 2:15cv02073 | 2015-12-08 2015 Lexos Media IP, LLC Avon Products, Inc. E.D. Texas 2:15cv02052 | 2015-12-04 2015 Lexos Media IP, LLC The Home Depot USA, Inc Homer TLC, Inc. E.D. Texas 2:15cv02051 | 2012-10-26 2012 Lexos Media, Inc. Zynga, Inc. S.D. New York 1:12cv07994 | 2012-07-24 2012 Lexos Media, Inc. Zynga, Inc. M.D. Florida 2:12cv00395 | 2012-04-19 2012 Zynga Inc Lexos Media, Inc N.D. California 5:12cv01952

Opposition (EP):

License (EP):

EPO Procedural Status:

Front Page Drawing:



Assignee - Current US: LEXOS MEDIA IP LLC

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United States Patent and Trademark Office

Office of the Commissioner for Patents

SERVER SYSTEM AND METHOD FOR MODIFYING A CURSOR IMAGE

PATENT #	APPLICATION #	FILING DATE	ISSUE DATE
6118449	09400038	09/21/1999	09/12/2000

Payment Window Status

WINDOW	STATUS	FEES
11.5 Year	Closed	Paid

No maintenance fees are due.

Window	First Day to Pay	Surcharge Starts	Last Day to Pay	Status	Fees
3.5 Year	09/12/2003	03/13/2004	09/13/2004	Closed	Paid
7.5 Year	09/12/2007	03/13/2008	09/12/2008	Closed	Paid
11.5 Year	09/12/2011	03/13/2012	09/12/2012	Closed	Paid

Patent Holder Information

Customer #

Entity Status SMALL

Phone Number

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