US 20090100357A1

(19) **United States**

(12) **Patent Application Publication**

Signorini et al.

(10) **Pub. No.: US 2009/0100357 A1**

(43) **Pub. Date: Apr. 16, 2009**

(54) **SYSTEMS AND METHODS FOR VISUALLY SELECTING INFORMATION**

(76) Inventors: **Alessio Signorini**, Pisa (IT); **Antonio Gulli**, Pisa (IT)

Correspondence Address:
SONNENSCHEIN NATH & ROSENTHAL LLP
P.O. BOX 061080, WACKER DRIVE STATION, SEARS TOWER
CHICAGO, IL 60606-1080 (US)

(21) Appl. No.: **11/974,386**

(22) Filed: **Oct. 11, 2007**

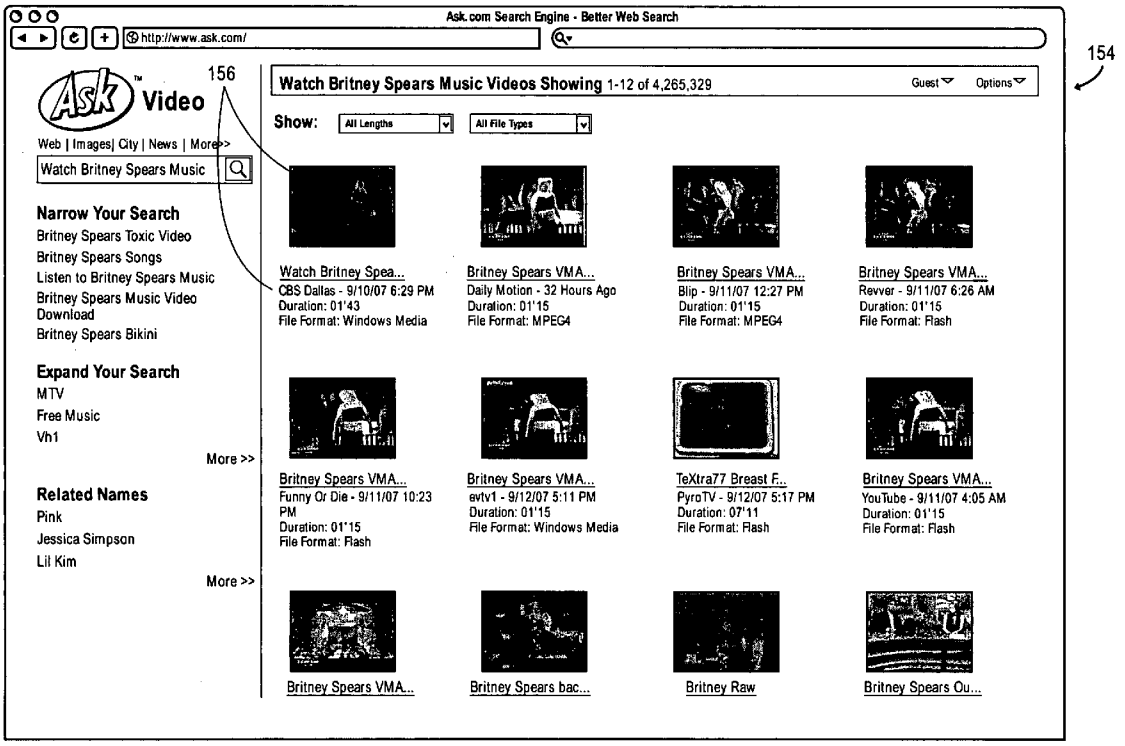
Publication Classification

(51) **Int. Cl.**
G06F 3/048 (2006.01)

(52) **U.S. Cl.** **715/760**; 715/781

(57) **ABSTRACT**

Systems and methods for presenting information are disclosed. Users are presented with a selectable representation of the information on a webpage. Users can access additional information and/or another web page by mousing over the selectable representation. The mouse over includes pointing the mouse pointer over the selectable representation for a predetermined amount of time.



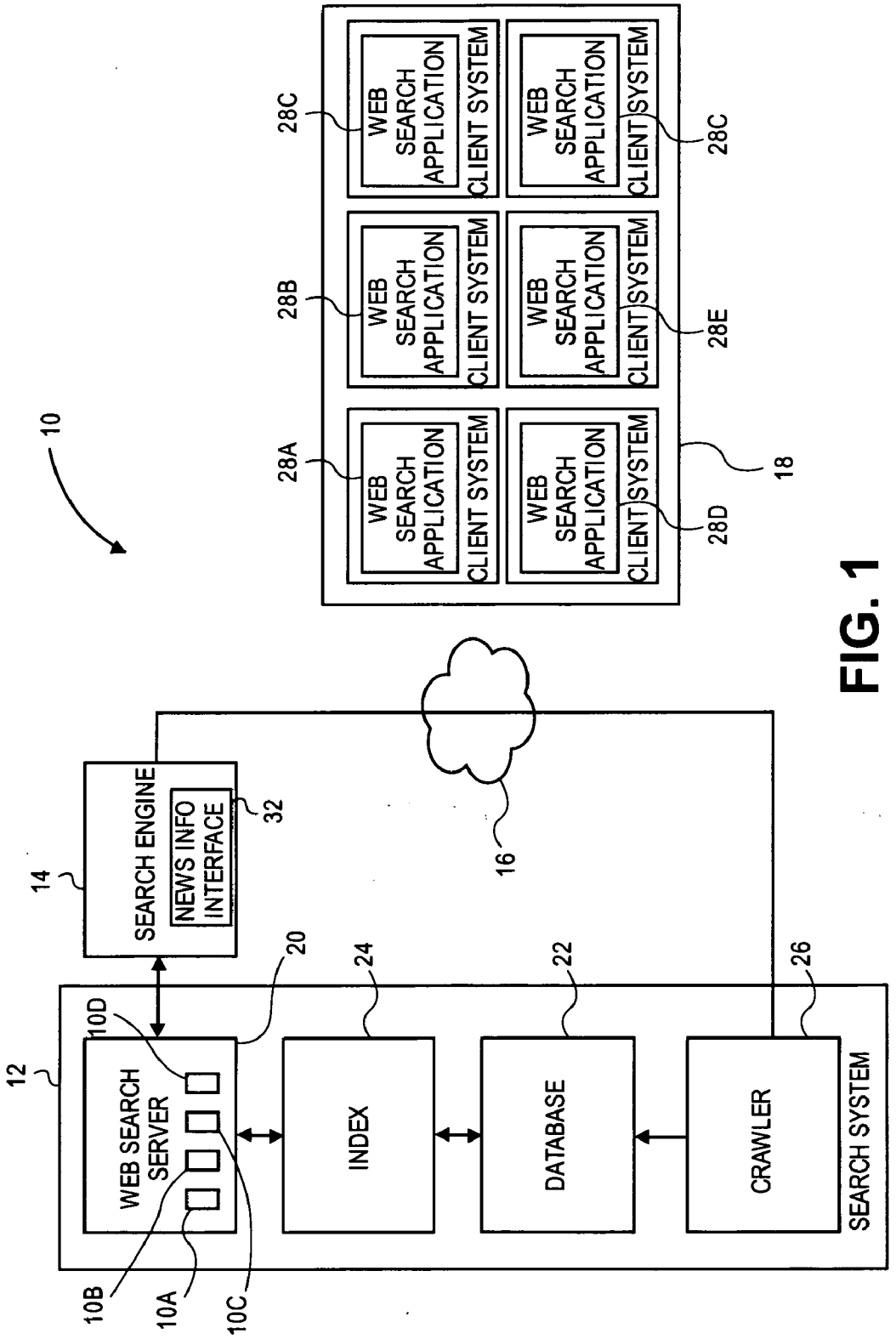

10
28A
28B
28C
28D
28E
18
WEB SEARCH APPLICATION
CLIENT SYSTEM
16
14
SEARCH ENGINE
NEWS INFO INTERFACE
32
20
24
22
26
12
10D
WEB SEARCH SERVER
INDEX
DATABASE
CRAWLER
SEARCH SYSTEM
10B
10A
10C

FIG. 1

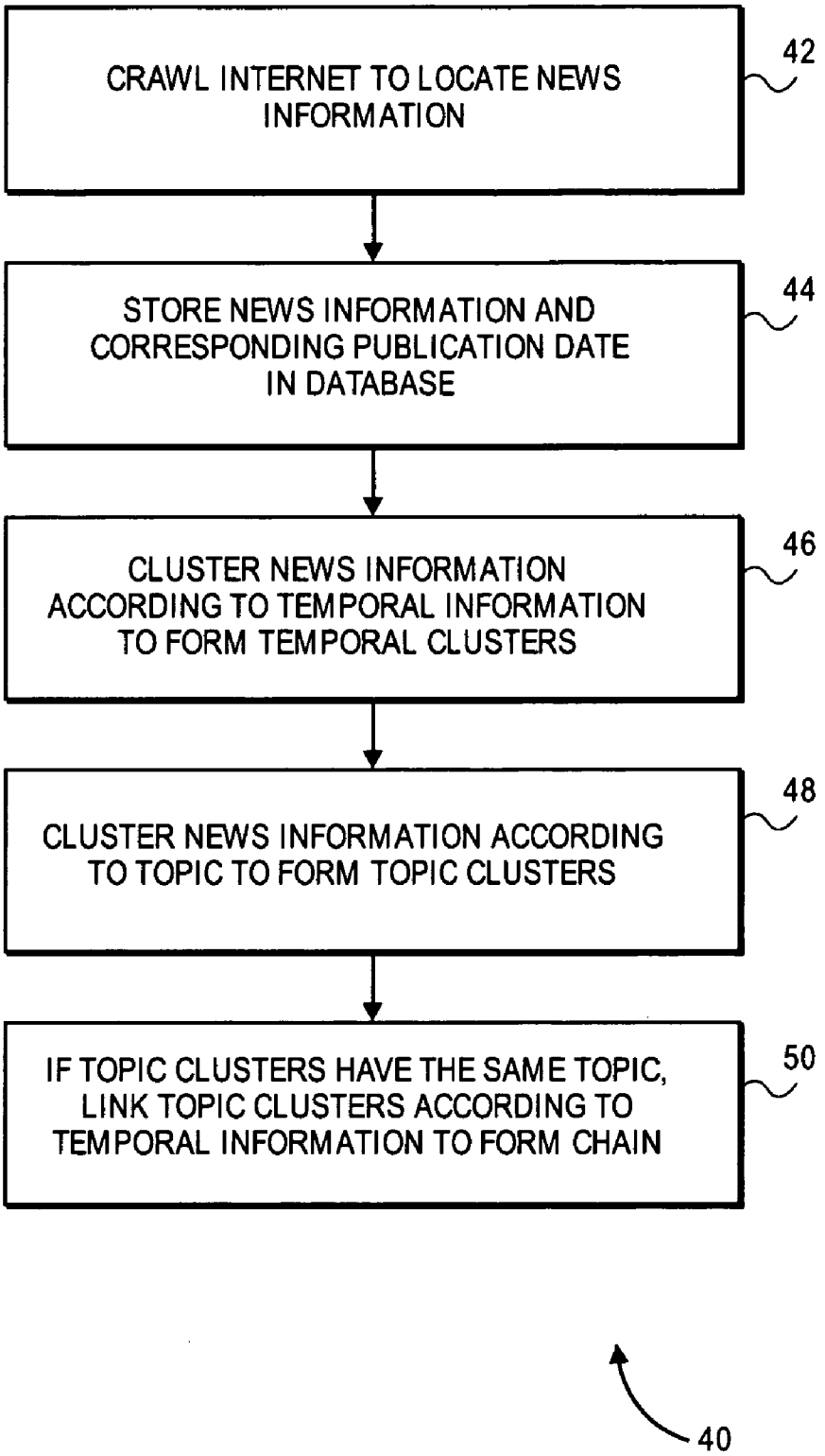

CRAWL INTERNET TO LOCATE NEWS INFORMATION
42
STORE NEWS INFORMATION AND CORRESPONDING PUBLICATION DATE IN DATABASE
44
CLUSTER NEWS INFORMATION ACCORDING TO TEMPORAL INFORMATION TO FORM TEMPORAL CLUSTERS
46
CLUSTER NEWS INFORMATION ACCORDING TO TOPIC TO FORM TOPIC CLUSTERS
48
IF TOPIC CLUSTERS HAVE THE SAME TOPIC, LINK TOPIC CLUSTERS ACCORDING TO TEMPORAL INFORMATION TO FORM CHAIN
50
40

FIG. 2

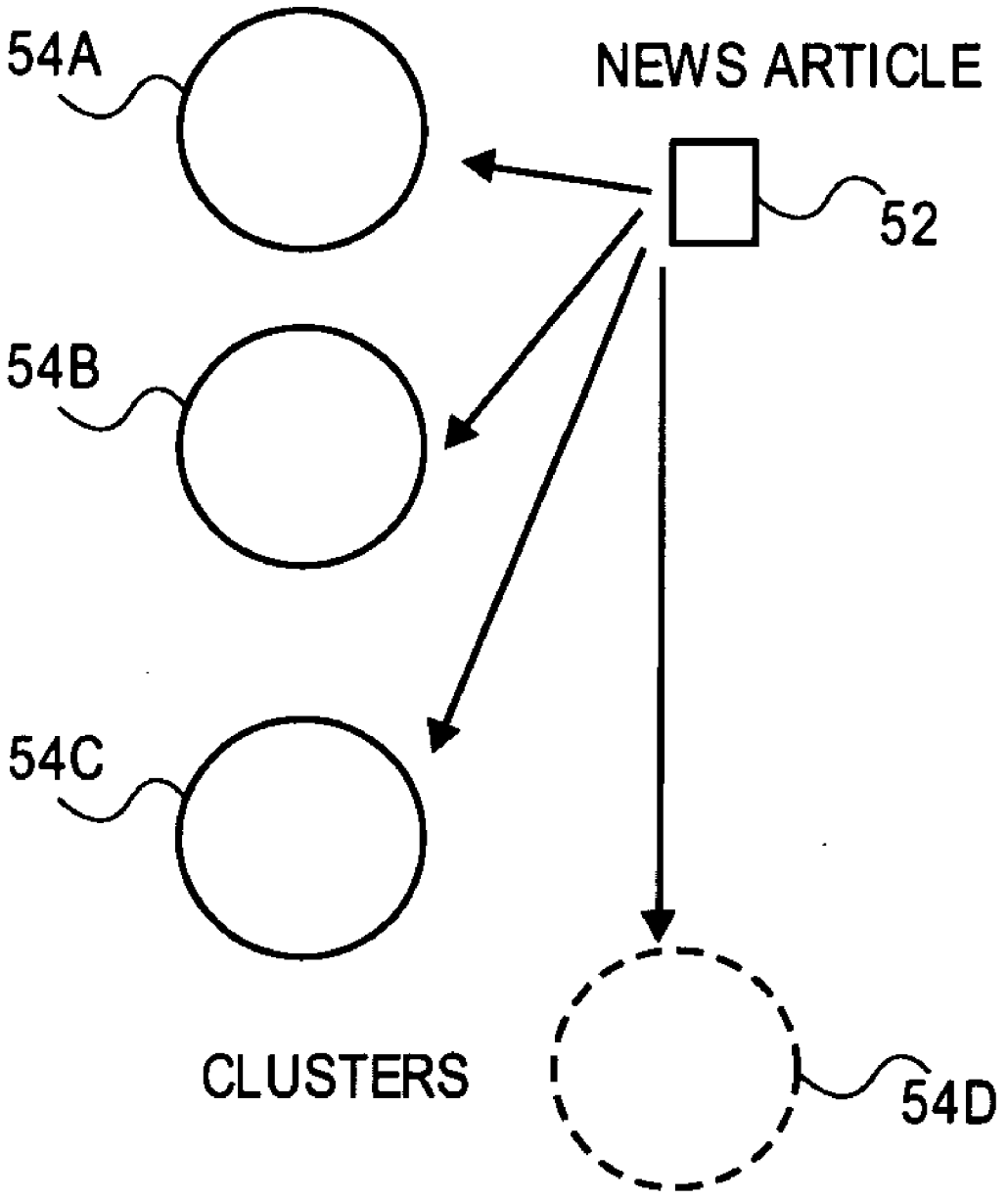


FIG. 2A

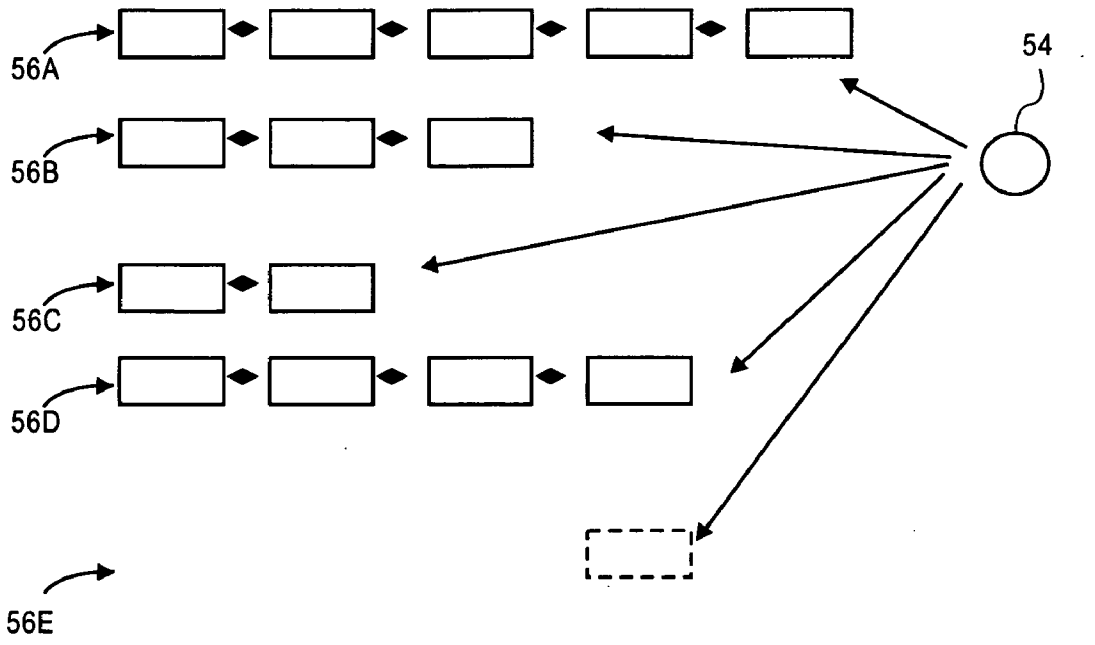


FIG. 2B

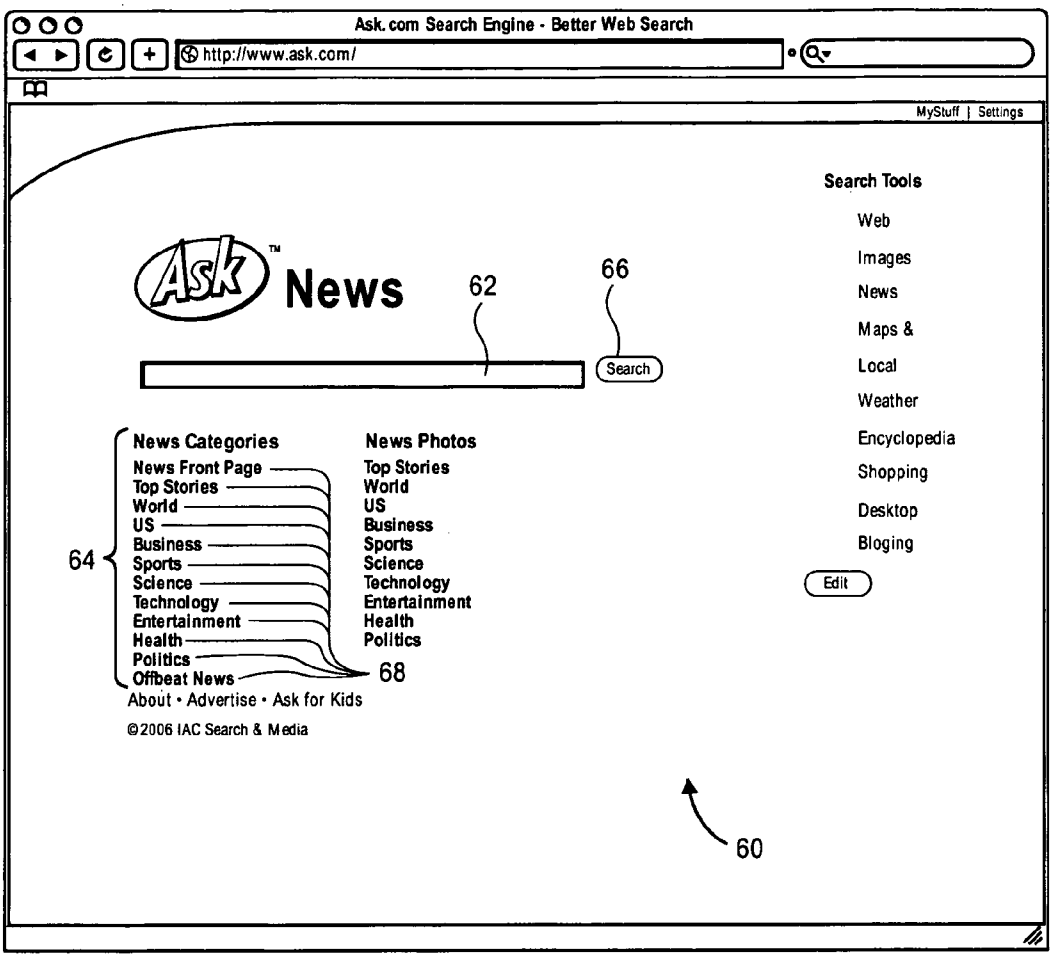

Ask.com Search Engine - Better Web Search
http://www.ask.com/
MyStuff | Settings
Search Tools
Web
Images
News
Maps &
Local
Weather
Encyclopedia
Shopping
Desktop
Bloging
Edit
News
62
66
Search
News Categories
News Front Page
Top Stories
World
US
Business
Sports
Science
Technology
Entertainment
Health
Politics
Offbeat News
64
News Photos
Top Stories
World
US
Business
Sports
Science
Technology
Entertainment
Health
Politics
68
About • Advertise • Ask for Kids
©2006 IAC Search & Media
60

FIG. 3

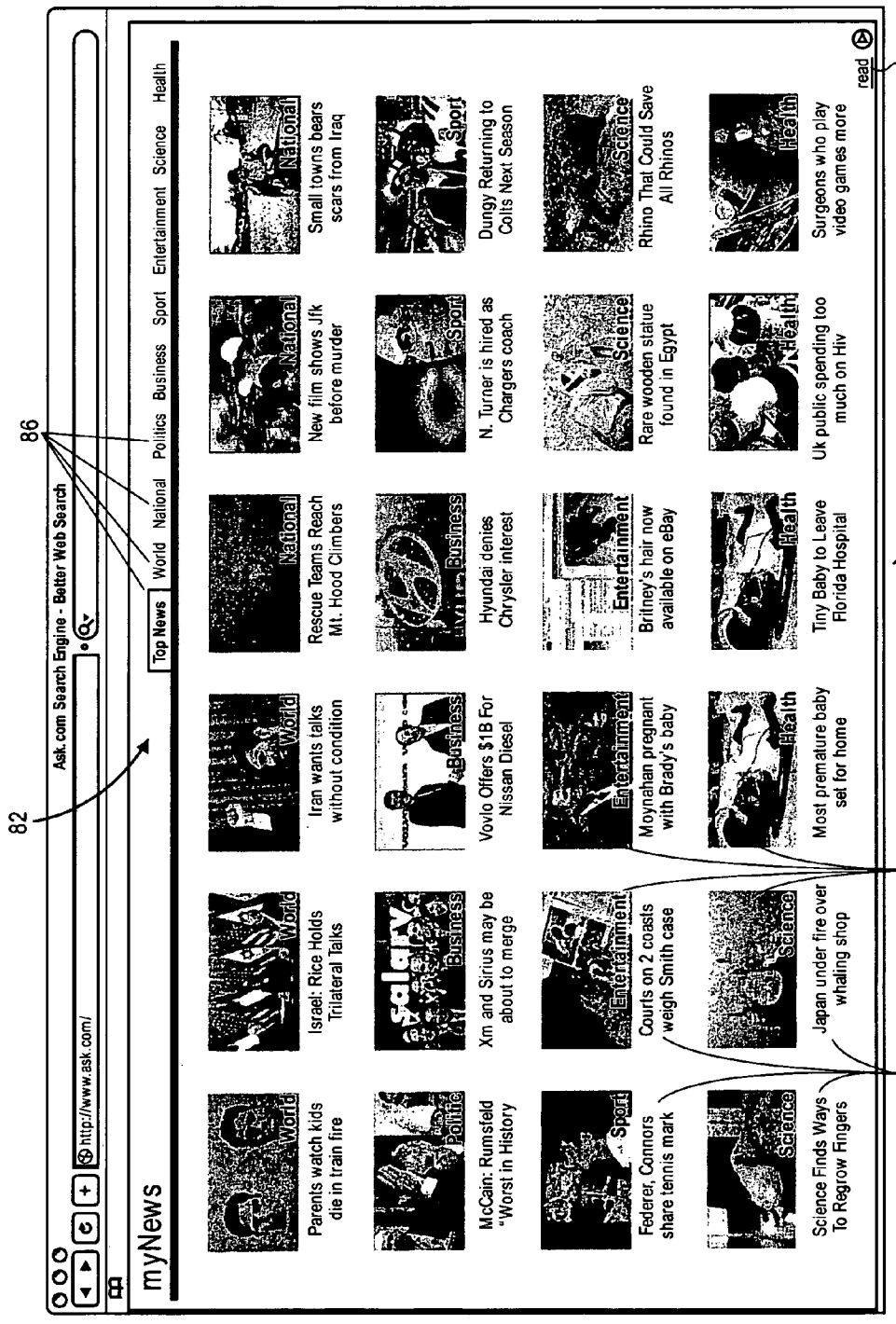

82
86
Ask.com Search Engine - Better Web Search
http://www.ask.com/
myNews
Top News
World
National
Politics
Business
Sport
Entertainment
Science
Health
Parents watch kids die in train fire
Israel: Rice Holds Trilateral Talks
Iran wants talks without condition
Rescue Teams Reach Mt. Hood Climbers
New film shows Jfk before murder
Small towns bears scars from Iraq
McCain: Rumsfeld "Worst in History
Xm and Sirius may be about to merge
Vovlo Offers $1B For Nissan Diesel
Hyundai denies Chrysler interest
N. Turner is hired as Chargers coach
Dungy Returning to Colts Next Season
Federer, Connors share tennis mark
Courts on 2 coasts weigh Smith case
Moynahan pregnant with Brady's baby
Britney's hair now available on eBay
Rare wooden statue found in Egypt
Rhino That Could Save All Rhinos
Science Finds Ways To Regrow Fingers
Japan under fire over whaling shop
Most premature baby set for home
Tiny Baby to Leave Florida Hospital
Uk public spending too much on Hiv
Surgeons who play video games more
read
90
88
90
80
84
90

FIG. 4

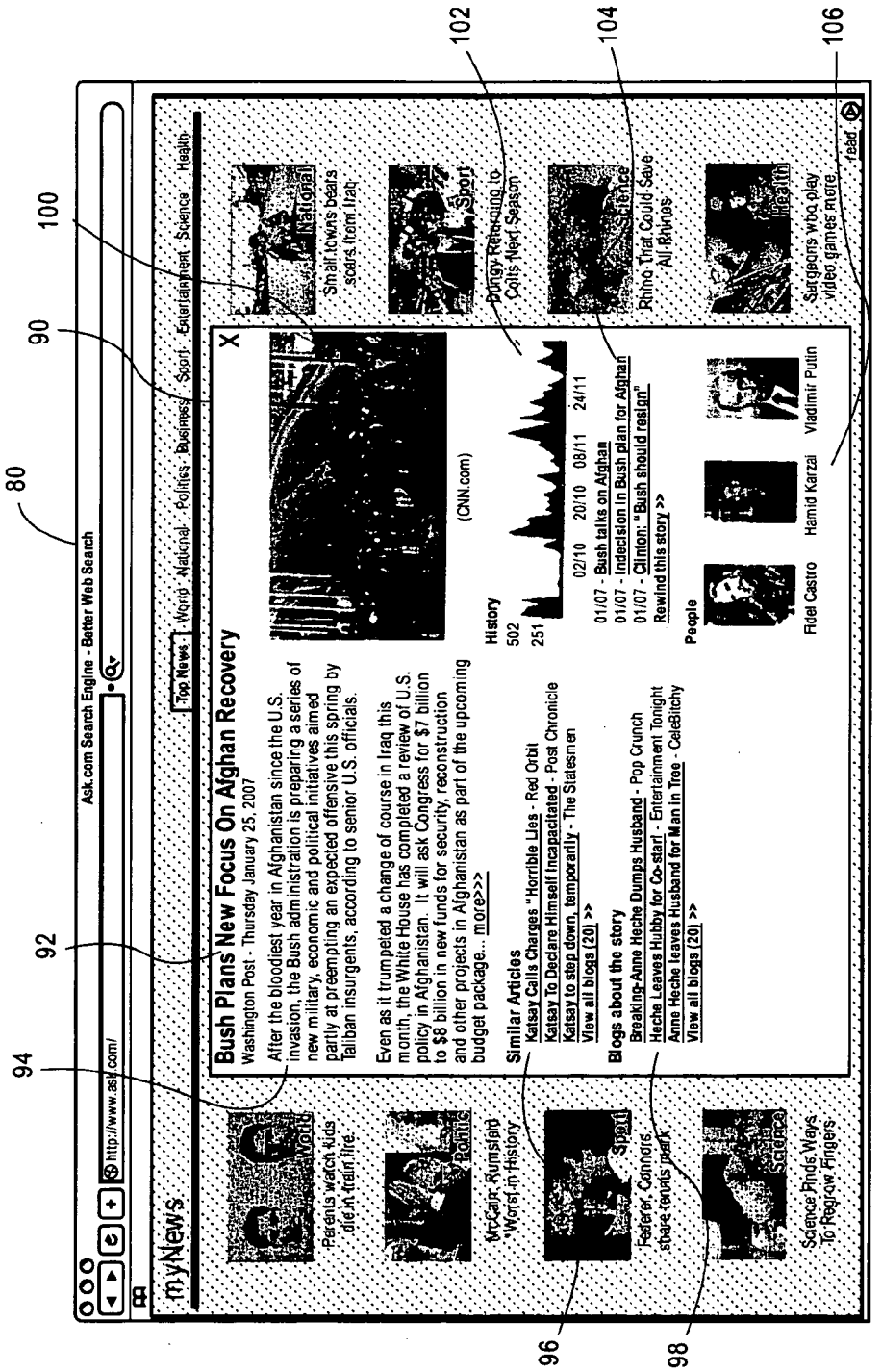

80
90
100
102
104
106
92
94
96
98
Ask.com Search Engine - Better Web Search
http://www.ask.com/
myNews
Top News | World | National | Politics | Business | Sport | Entertainment | Science | Health
Bush Plans New Focus On Afghan Recovery
Washington Post - Thursday January 25, 2007
After the bloodiest year in Afghanistan since the U.S. invasion, the Bush administration is preparing a series of new military, economic and political initiatives aimed partly at preempting an expected offensive this spring by Taliban insurgents, according to senior U.S. officials.
Even as it trumpeted a change of course in Iraq this month, the White House has completed a review of U.S. policy in Afghanistan. It will ask Congress for $7 billion to $8 billion in new funds for security, reconstruction and other projects in Afghanistan as part of the upcoming budget package... more>>>
(CNN.com)
Similar Articles
Katsay Calls Charges "Horrible Lies - Red Orbit
Katsay To Declare Himself Incapacitated - Post Chronicle
Katsay to step down, temporarily - The Statesmen
View all blogs (20) >>
Blogs about the story
Breaking-Anne Heche Dumps Husband - Pop Crunch
Heche Leaves Hubby for Co-star! - Entertainment Tonight
Anne Heche leaves Husband for Man in Tree - CeleBitchy
View all blogs (20) >>
History
502
251
02/10 20/10 08/11 24/11
01/07 - Bush talks on Afghan
01/07 - Indecision in Bush plan for Afghan
01/07 - Clinton: "Bush should resign"
Rewind this story >>
People
Fidel Castro
Hamid Karzai
Vladimir Putin
Parents watch kids die in train fire.
McCain: Rumsfeld 'Worst in History'
Federer, Connors share tennis mark
Science Finds Ways To Regrow Fingers
Shall towns beats scars from Iraq
Bungy Returning to Colts Next Season
Rhino That Could Save All Rhinos
Surgeons woo play video games more
read

FIG. 5

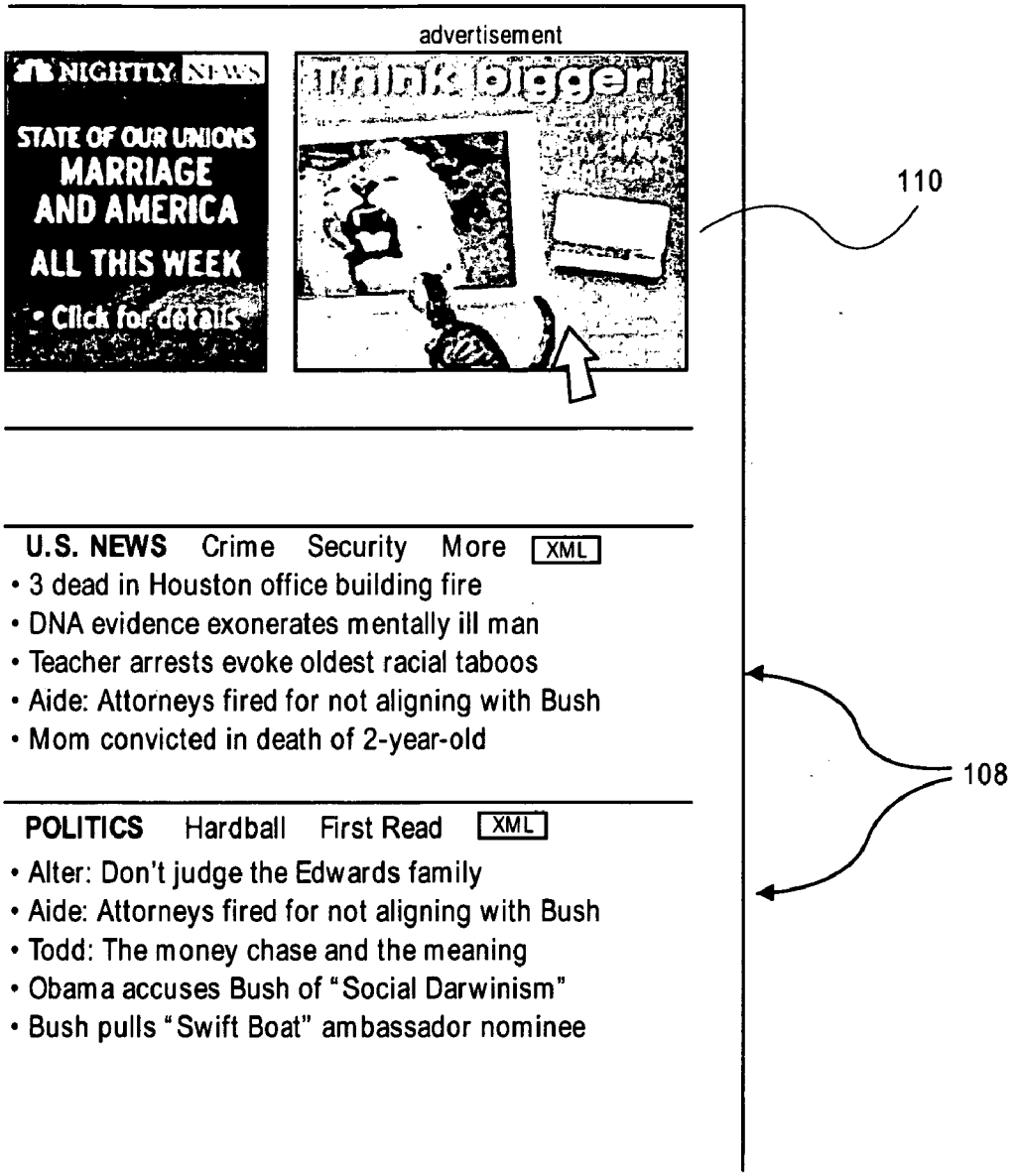

advertisement
NIGHTLY NEWS
STATE OF OUR UNIONS
MARRIAGE
AND AMERICA
ALL THIS WEEK
• Click for details
think bigger!
110
U.S. NEWS Crime Security More XML
• 3 dead in Houston office building fire
• DNA evidence exonerates mentally ill man
• Teacher arrests evoke oldest racial taboos
• Aide: Attorneys fired for not aligning with Bush
• Mom convicted in death of 2-year-old
108
POLITICS Hardball First Read XML
• Alter: Don't judge the Edwards family
• Aide: Attorneys fired for not aligning with Bush
• Todd: The money chase and the meaning
• Obama accuses Bush of "Social Darwinism"
• Bush pulls "Swift Boat" ambassador nominee

FIG. 6A

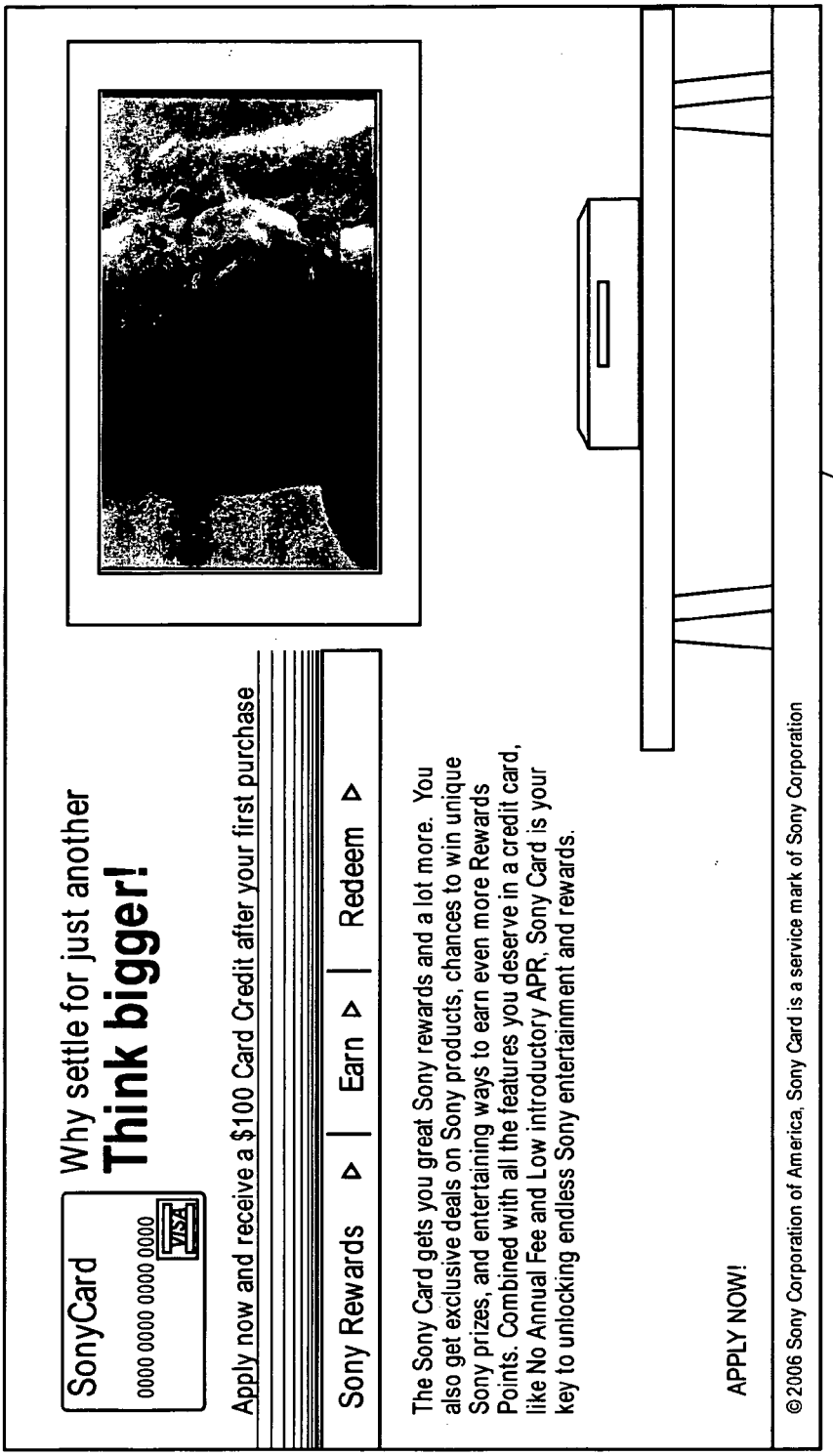

SonyCard
0000 0000 0000 0000
VISA
Why settle for just another
Think bigger!
Apply now and receive a $100 Card Credit after your first purchase
Sony Rewards
Earn
Redeem
The Sony Card gets you great Sony rewards and a lot more. You also get exclusive deals on Sony products, chances to win unique Sony prizes, and entertaining ways to earn even more Rewards Points. Combined with all the features you deserve in a credit card, like No Annual Fee and Low introductory APR, Sony Card is your key to unlocking endless Sony entertainment and rewards.
APPLY NOW!
© 2006 Sony Corporation of America, Sony Card is a service mark of Sony Corporation
112

FIG. 6B

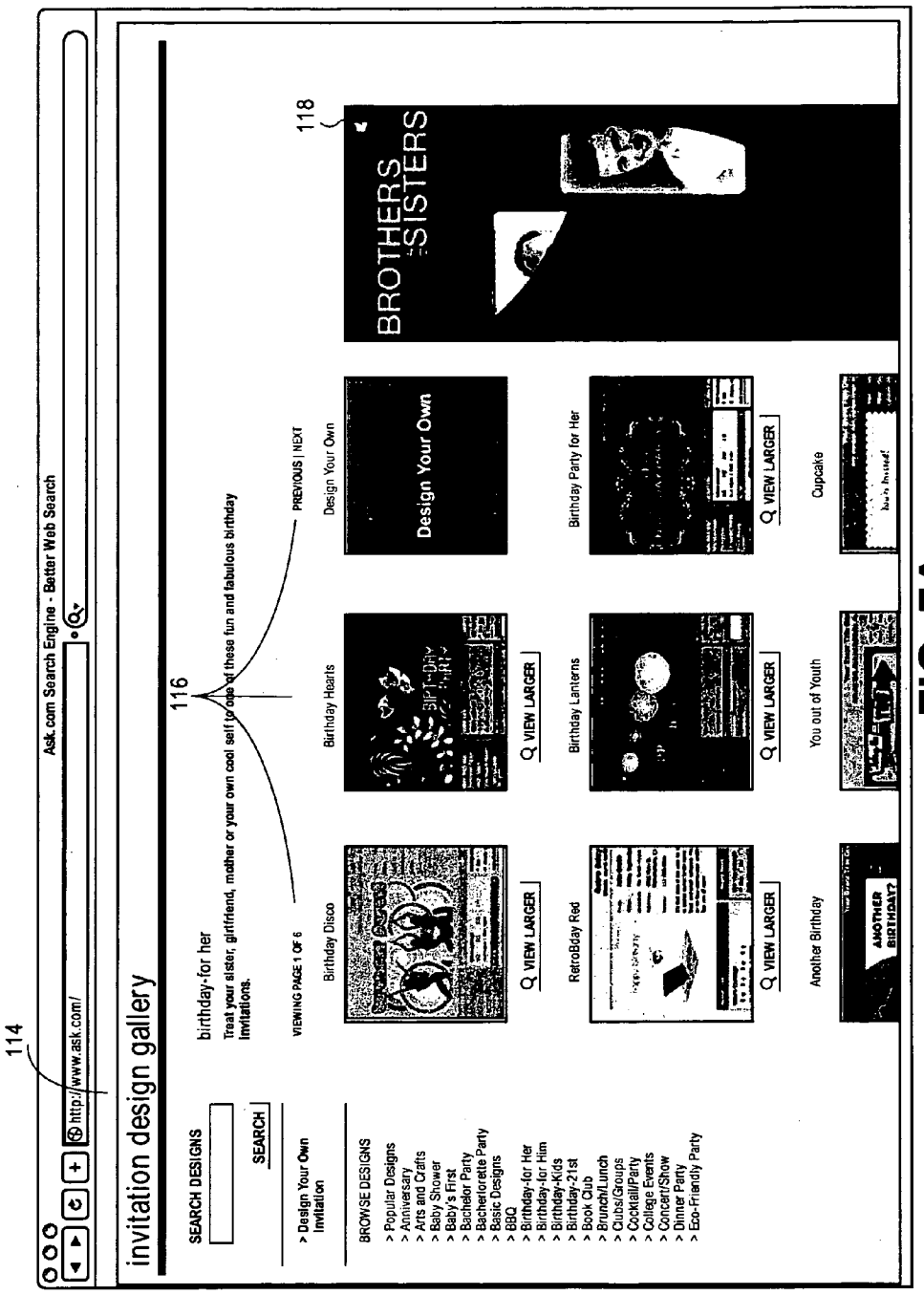

114
Ask.com Search Engine - Better Web Search
http://www.ask.com/
invitation design gallery
SEARCH DESIGNS
SEARCH
> Design Your Own Invitation
BROWSE DESIGNS
> Popular Designs
> Anniversary
> Arts and Crafts
> Baby Shower
> Baby's First
> Bachelor Party
> Bachelorette Party
> Basic Designs
> BBQ
> Birthday-for Her
> Birthday-for Him
> Birthday-Kids
> Birthday-21st
> Book Club
> Brunch/Lunch
> Clubs/Groups
> Cocktail/Party
> College Events
> Concert/Show
> Dinner Party
> Eco-Friendly Party
116
birthday-for her
Treat your sister, girlfriend, mother or your own cool self to one of these fun and fabulous birthday invitations.
VIEWING PAGE 1 OF 6
PREVIOUS | NEXT
Birthday Disco
Birthday Hearts
Design Your Own
Design Your Own
118
BROTHERS SISTERS
Q VIEW LARGER
RetroBday Red
Birthday Lanterns
Birthday Party for Her
Another Birthday
You out of Youth
Cupcake
ANOTHER BIRTHDAY?

FIG. 7A

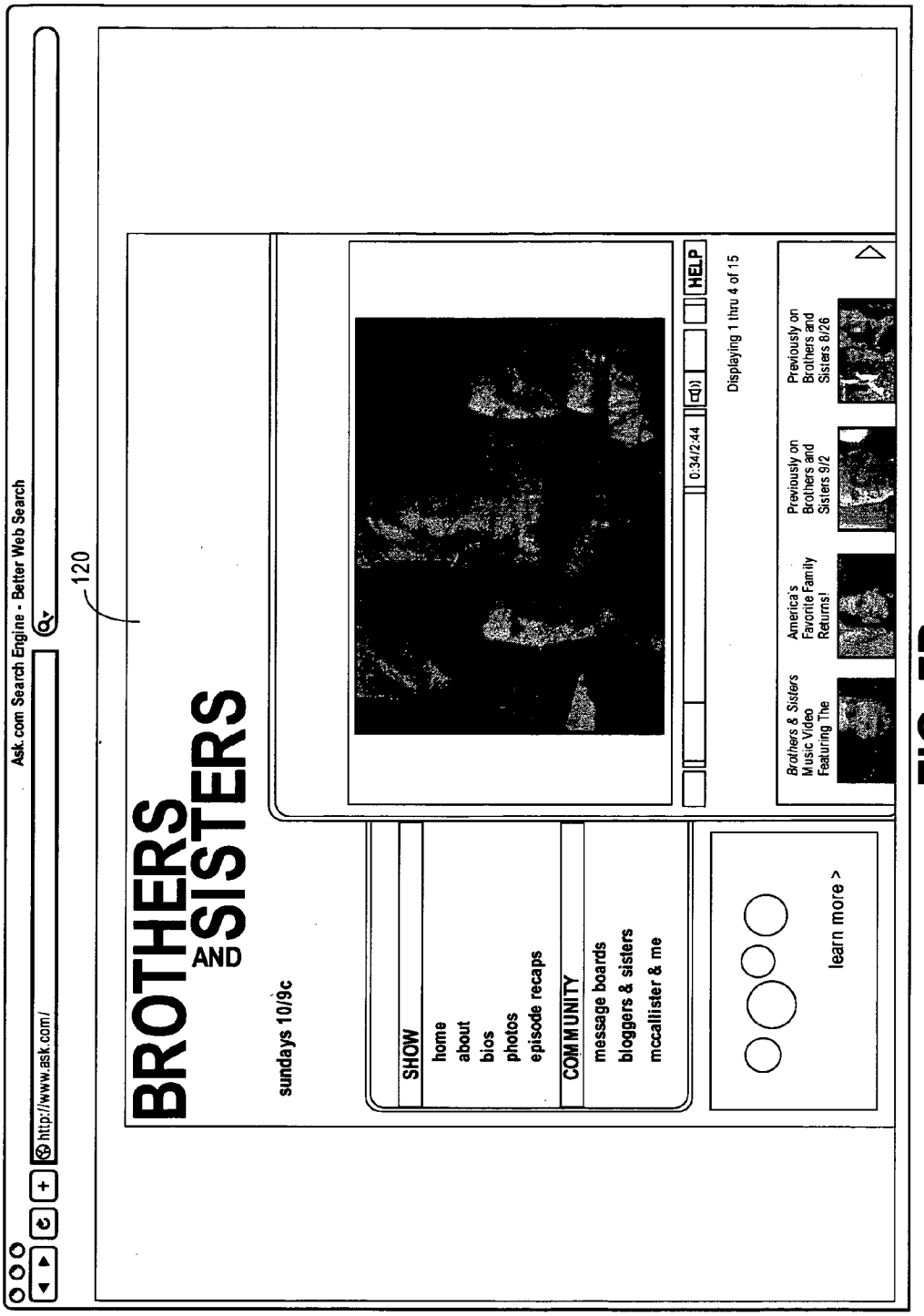

Ask.com Search Engine - Better Web Search
http://www.ask.com/
120
BROTHERS AND SISTERS
sundays 10/9c
SHOW
home
about
bios
photos
episode recaps
COMMUNITY
message boards
bloggers & sisters
mccallister & me
learn more >
0:34/2:44
HELP
Displaying 1 thru 4 of 15
Brothers & Sisters Music Video Featuring The
America's Favorite Family Returns!
Previously on Brothers and Sisters 9/2
Previously on Brothers and Sisters 8/26

FIG. 7B

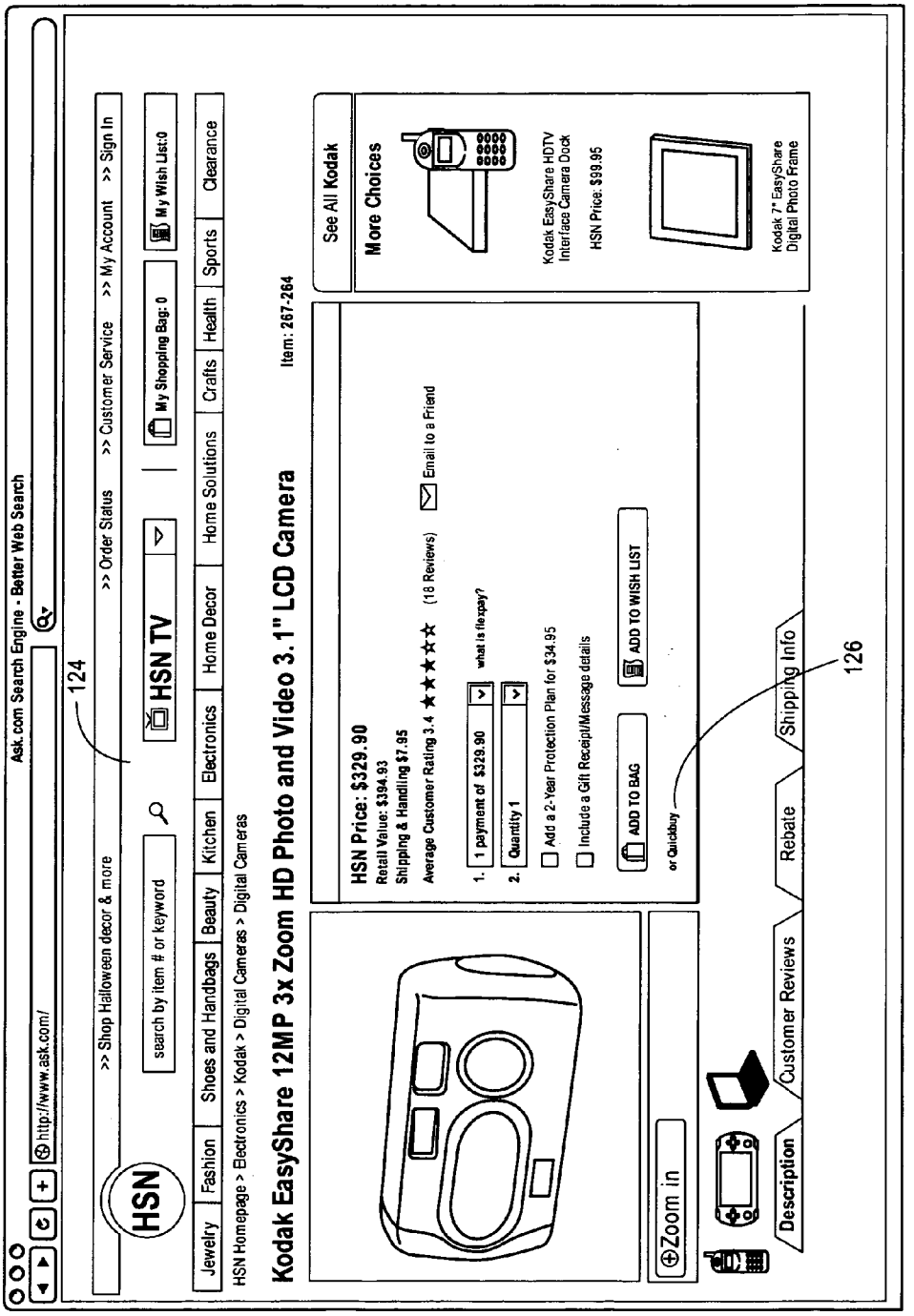

Ask.com Search Engine - Better Web Search
http://www.ask.com/
124
>> Shop Halloween decor & more
>> Order Status
>> Customer Service
>> My Account
>> Sign In
HSN
search by item # or keyword
HSN TV
My Shopping Bag: 0
My Wish List:0
Jewelry
Fashion
Shoes and Handbags
Beauty
Kitchen
Electronics
Home Decor
Home Solutions
Crafts
Health
Sports
Clearance
HSN Homepage > Electronics > Kodak > Digital Cameras > Digital Cameras
Kodak EasyShare 12MP 3x Zoom HD Photo and Video 3.1" LCD Camera
Item: 267-264
HSN Price: $329.90
Retail Value: $394.93
Shipping & Handling $7.95
Average Customer Rating 3.4
(18 Reviews)
Email to a Friend
1. 1 payment of $329.90
what is flexpay?
2. Quantity 1
Add a 2-Year Protection Plan for $34.95
Include a Gift Receipt/Message details
ADD TO BAG
ADD TO WISH LIST
or Quickbuy
Zoom in
See All Kodak
More Choices
Kodak EasyShare HDTV Interface Camera Dock
HSN Price: $99.95
Kodak 7" EasyShare Digital Photo Frame
Description
Customer Reviews
Rebate
Shipping Info
126

FIG. 8A

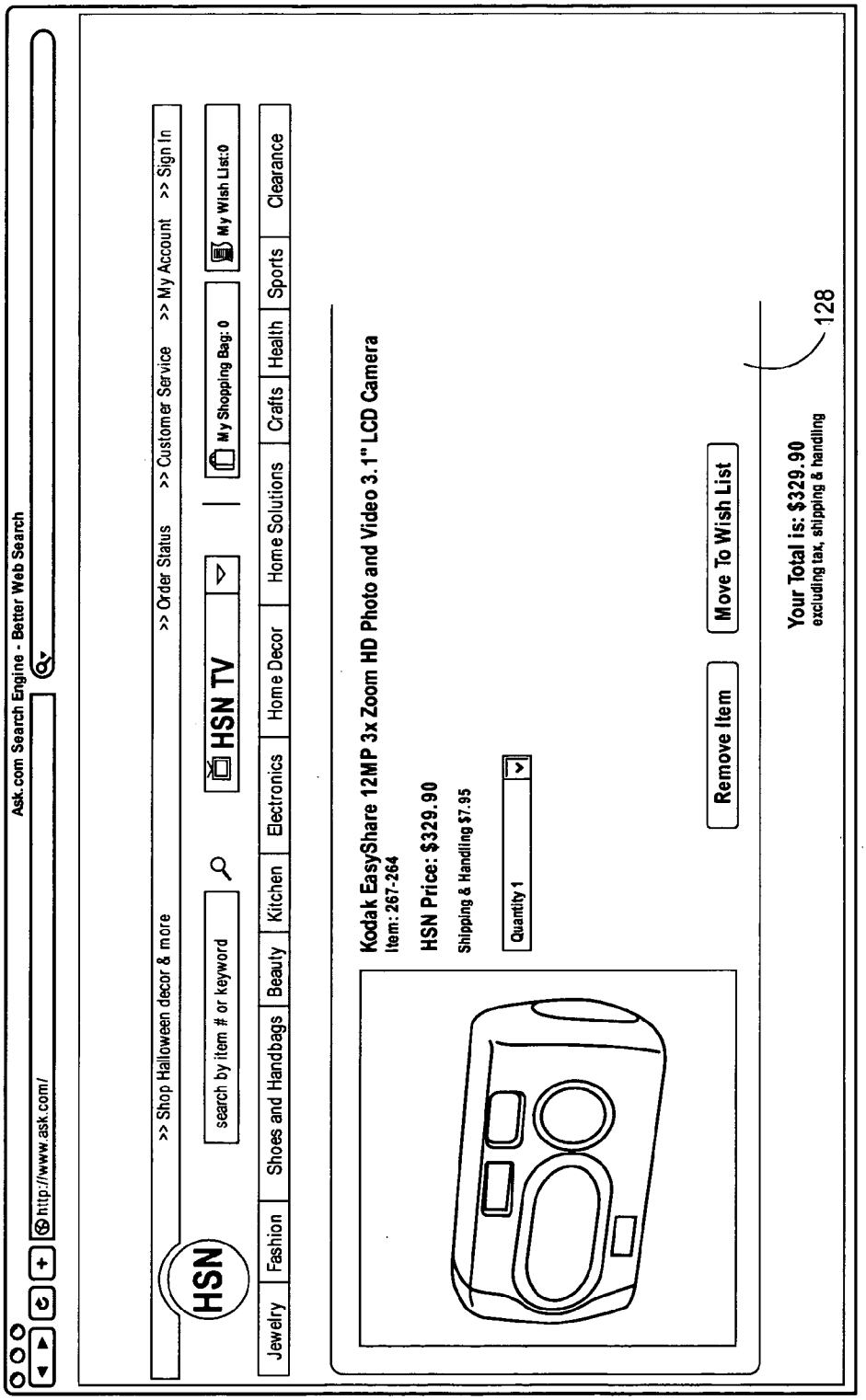

Ask.com Search Engine - Better Web Search
http://www.ask.com/
>> Shop Halloween decor & more
>> Order Status
>> Customer Service
>> My Account
>> Sign In
HSN
search by item # or keyword
HSN TV
My Shopping Bag: 0
My Wish List:0
Jewelry
Fashion
Shoes and Handbags
Beauty
Kitchen
Electronics
Home Decor
Home Solutions
Crafts
Health
Sports
Clearance
Kodak EasyShare 12MP 3x Zoom HD Photo and Video 3.1" LCD Camera
Item: 267-264
HSN Price: $329.90
Shipping & Handling $7.95
Quantity 1
Remove Item
Move To Wish List
Your Total is: $329.90
excluding tax, shipping & handling
128

FIG. 8B

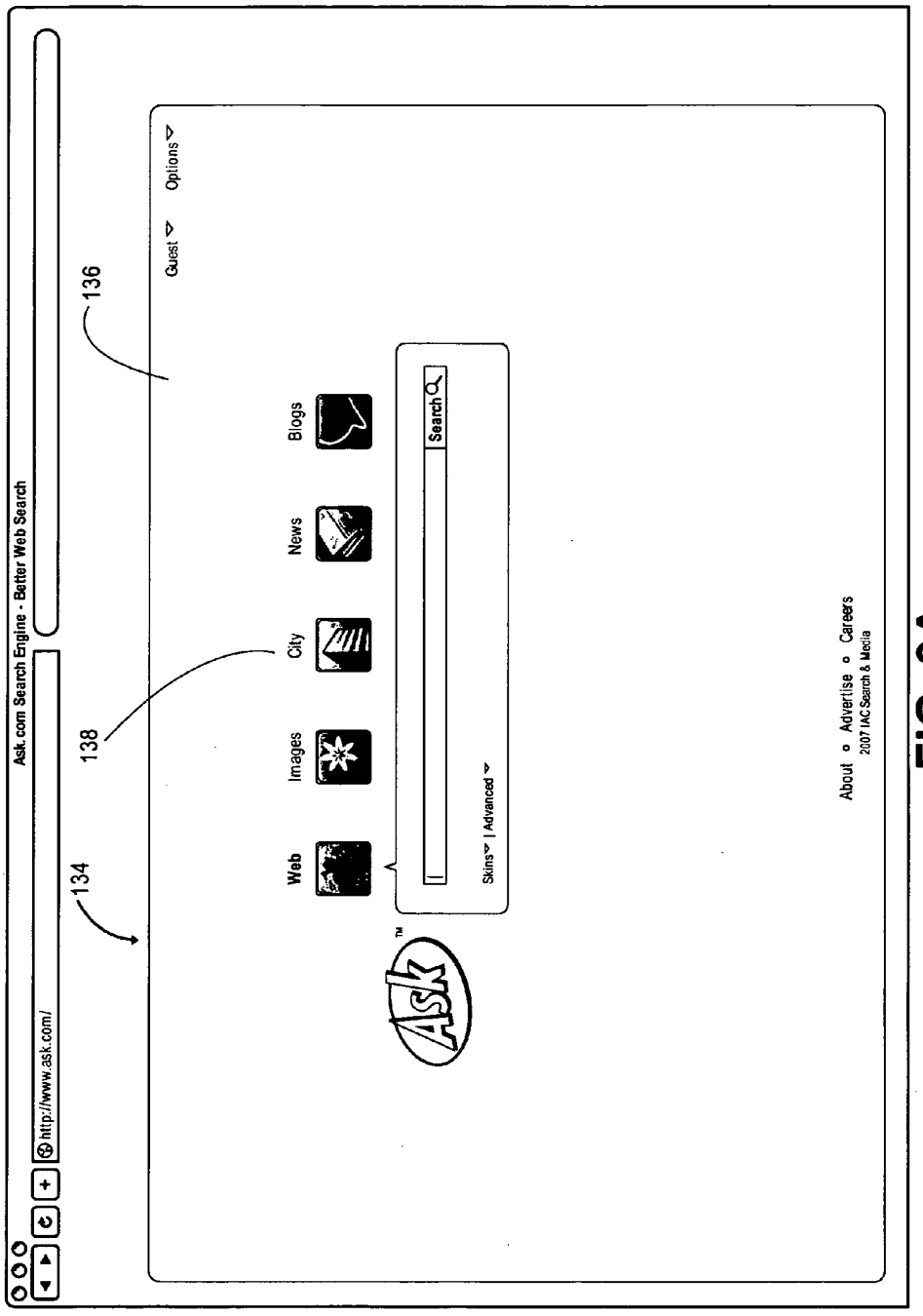

Ask.com Search Engine - Better Web Search
http://www.ask.com/
134
136
138
Guest
Options
Web
Images
City
News
Blogs
Search
Skins | Advanced
About
Advertise
Careers
2007 IAC Search & Media

FIG. 9A

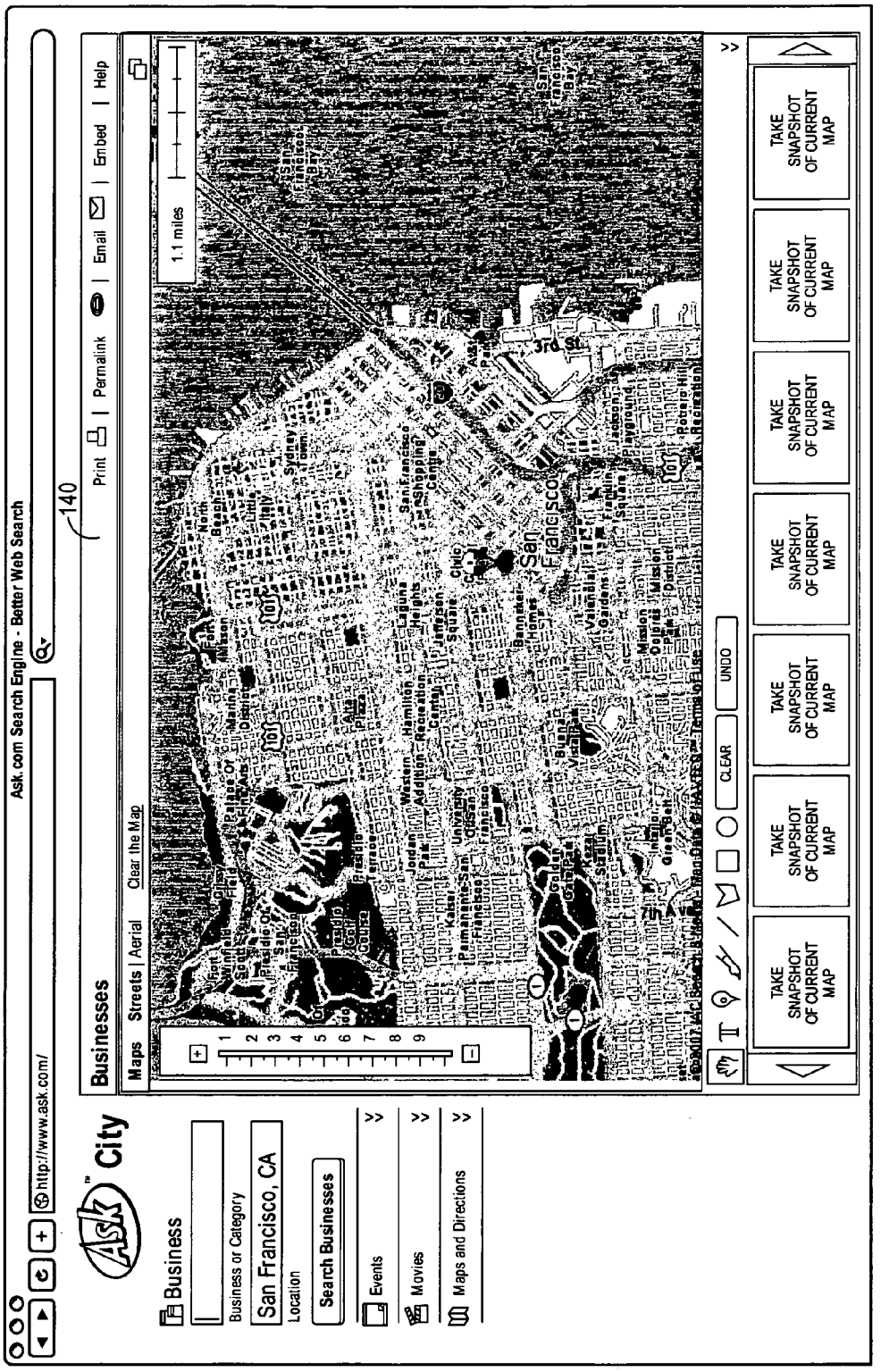

Ask.com Search Engine - Better Web Search
http://www.ask.com/
140
Ask City
Business
Business or Category
San Francisco, CA
Location
Search Businesses
Events
Movies
Maps and Directions
Businesses
Maps | Streets | Aerial | Clear the Map
Print | Permalink | Email | Embed | Help
1.1 miles
CLEAR
UNDO
TAKE SNAPSHOT OF CURRENT MAP
TAKE SNAPSHOT OF CURRENT MAP
TAKE SNAPSHOT OF CURRENT MAP
TAKE SNAPSHOT OF CURRENT MAP
TAKE SNAPSHOT OF CURRENT MAP
TAKE SNAPSHOT OF CURRENT MAP

FIG. 9B

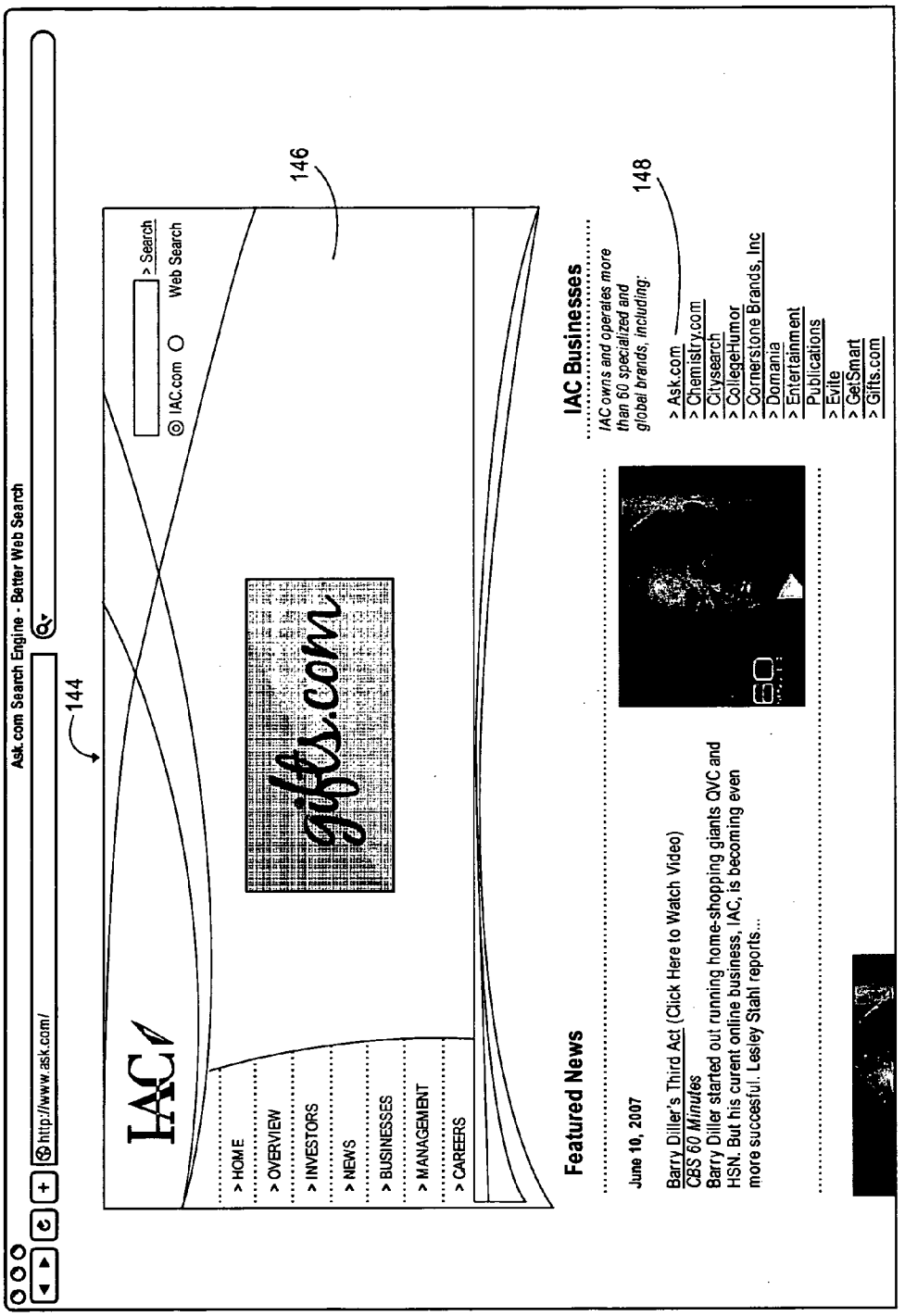

Ask.com Search Engine - Better Web Search
http://www.ask.com/
144
IAC
> Search
IAC.com
Web Search
146
> HOME
> OVERVIEW
> INVESTORS
> NEWS
> BUSINESSES
> MANAGEMENT
> CAREERS
gifts.com
Featured News
June 10, 2007
Barry Diller's Third Act (Click Here to Watch Video)
CBS 60 Minutes
Barry Diller started out running home-shopping giants QVC and HSN. But his curent online business, IAC, is becoming even more succesful. Lesley Stahl reports...
IAC Businesses
IAC owns and operates more than 60 specialized and global brands, including:
148
> Ask.com
> Chemistry.com
> Citysearch
> CollegeHumor
> Cornerstone Brands, Inc
> Domania
> Entertainment Publications
> Evite
> GetSmart
> Gifts.com

FIG. 10A

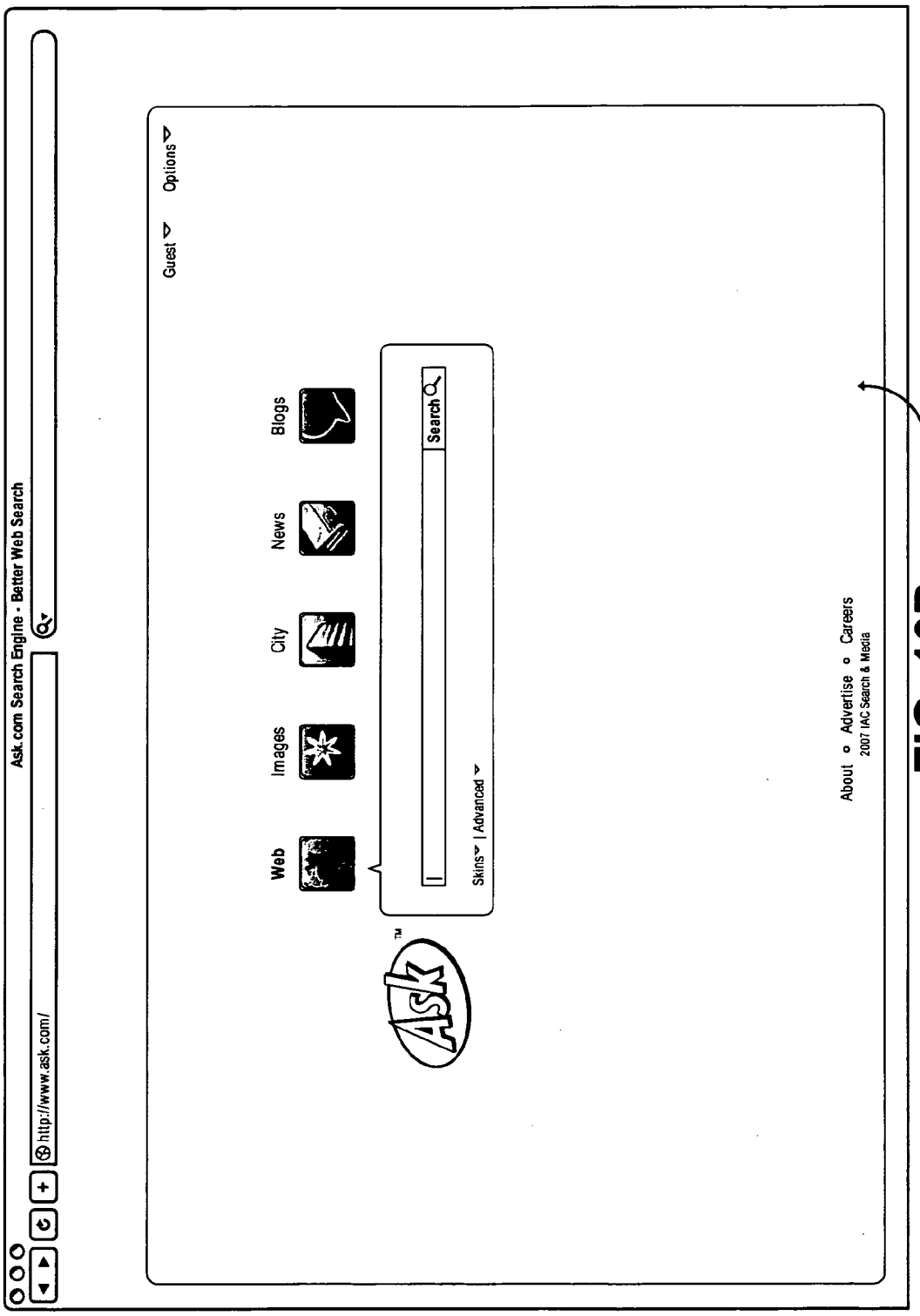

Ask.com Search Engine - Better Web Search
http://www.ask.com/
Guest
Options
Web
Images
City
News
Blogs
Search
Skins | Advanced
About
Advertise
Careers
2007 IAC Search & Media
150

FIG. 10B

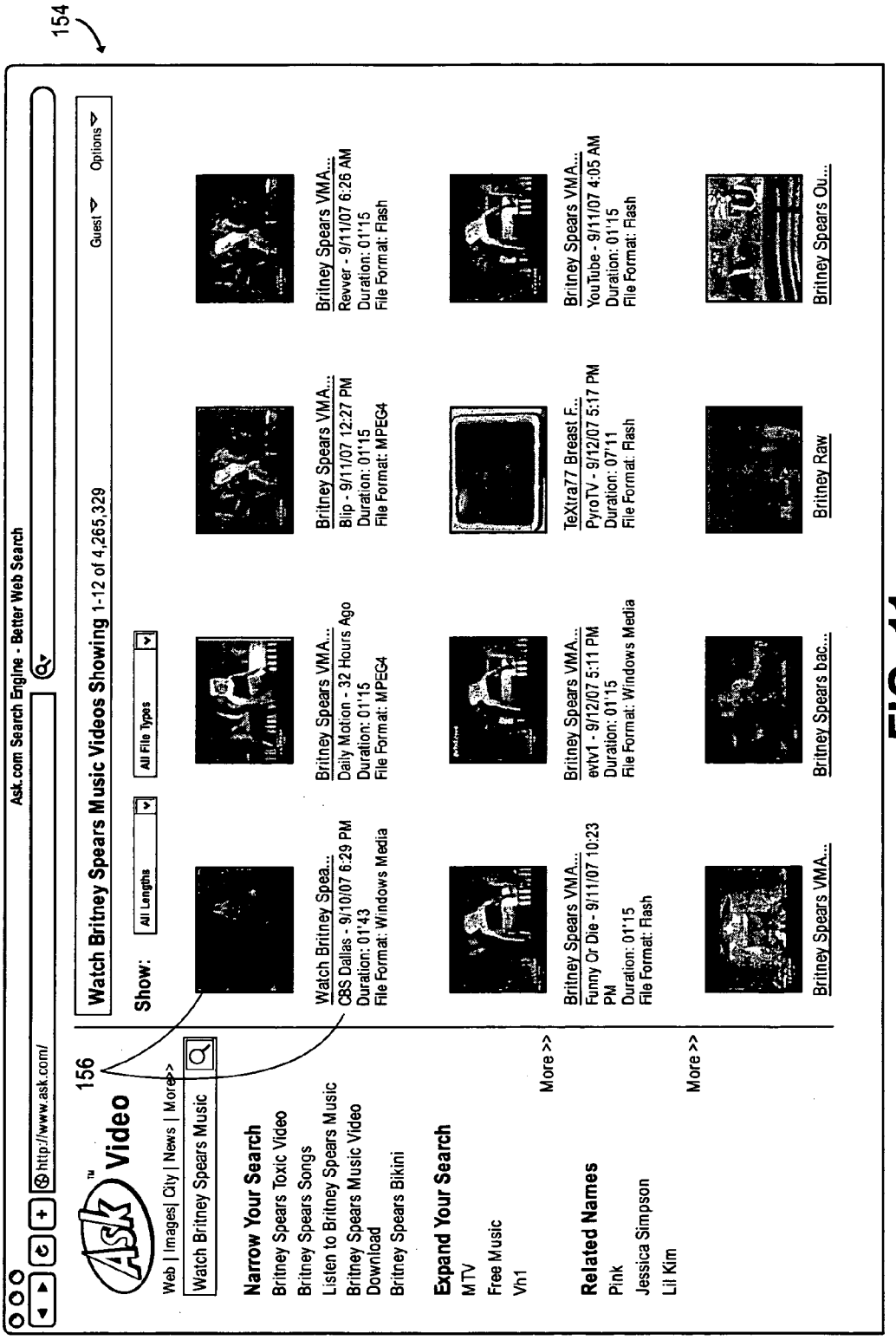

154
Ask.com Search Engine - Better Web Search
http://www.ask.com/
Ask Video
156
Web | Images| City | News | More>>
Watch Britney Spears Music
Narrow Your Search
Britney Spears Toxic Video
Britney Spears Songs
Listen to Britney Spears Music
Britney Spears Music Video
Download
Britney Spears Bikini
Expand Your Search
MTV
Free Music
Vh1
More >>
Related Names
Pink
Jessica Simpson
Lil Kim
More >>
Watch Britney Spears Music Videos Showing 1-12 of 4,265,329
Guest
Options
Show:
All Lengths
All File Types
Watch Britney Spea...
CBS Dallas - 9/10/07 6:29 PM
Duration: 01'43
File Format: Windows Media
Britney Spears VMA...
Daily Motion - 32 Hours Ago
Duration: 01'15
File Format: MPEG4
Britney Spears VMA...
Blip - 9/11/07 12:27 PM
Duration: 01'15
File Format: MPEG4
Britney Spears VMA...
Revver - 9/11/07 6:26 AM
Duration: 01'15
File Format: Flash
Britney Spears VMA...
Funny Or Die - 9/11/07 10:23 PM
Duration: 01'15
File Format: Flash
Britney Spears VMA...
evtv1 - 9/12/07 5:11 PM
Duration: 01'15
File Format: Windows Media
TeXtra77 Breast F...
PyroTV - 9/12/07 5:17 PM
Duration: 07'11
File Format: Flash
Britney Spears VMA...
YouTube - 9/11/07 4:05 AM
Duration: 01'15
File Format: Flash
Britney Spears VMA...
Britney Spears bac...
Britney Raw
Britney Spears Ou...

FIG. 11

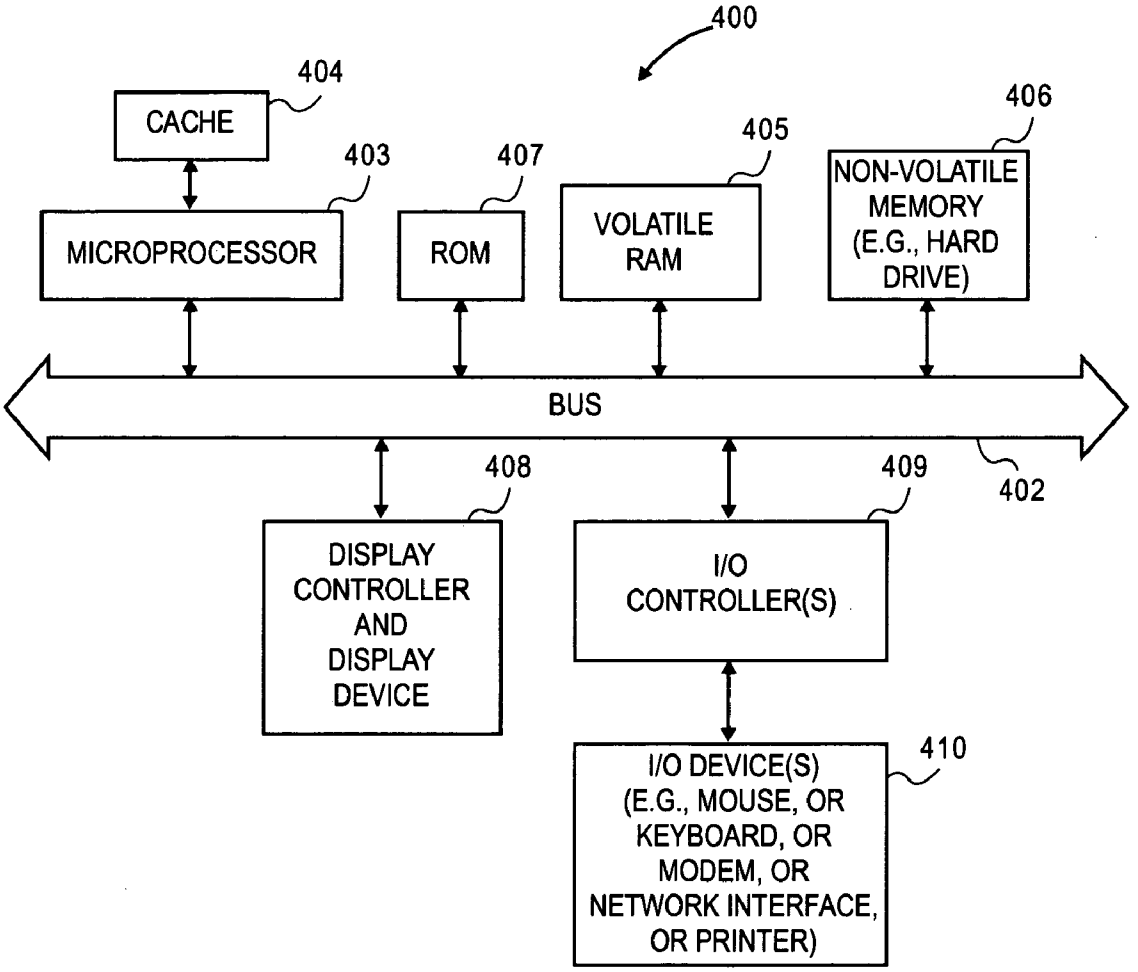

400
404
CACHE
403
MICROPROCESSOR
407
ROM
405
VOLATILE RAM
406
NON-VOLATILE MEMORY (E.G., HARD DRIVE)
BUS
402
408
DISPLAY CONTROLLER AND DISPLAY DEVICE
409
I/O CONTROLLER(S)
410
I/O DEVICE(S) (E.G., MOUSE, OR KEYBOARD, OR MODEM, OR NETWORK INTERFACE, OR PRINTER)

FIG. 12

SYSTEMS AND METHODS FOR VISUALLY SELECTING INFORMATION

FIELD

[0001] This invention relates to the field of presentation of information on the Internet and, in particular, to systems and methods for visually selecting information.

BACKGROUND

[0002] The Internet is a global network of computer systems and websites. These computer systems include a variety of documents, files, databases, and the like, which include information covering a variety of topics. Internet users are more frequently using the Internet as a source for information. In particular, Internet users are using the Internet as a source of news information, displacing conventional newspapers as their source for news information.

[0003] Typically, webpages display information and links to other webpages or websites. If a user wants to access the links, the user must move their mouse pointer over the link, and mouse click at least once or twice. Moreover, once at the linked webpage, the user must select the back button to return to the original webpage.

[0004] In the case of news information, users are typically presented with a website listing the titles of several representative articles, without any additional information. If a user wants to learn more about a story associated with a title, the user typically must select the article's title, a link, and is redirected to a webpage having the entire news article. The user is not able to access an abstract or other relevant information about the article, without accessing the entire article.

SUMMARY

[0005] Systems and methods for presenting electronic information are disclosed herein.

[0006] In one embodiment, the method includes clustering news information according to a topic to create topic clusters, each topic cluster having a plurality of news information objects associated with the topic cluster; presenting at least one of the news information objects associated with the topic clusters in a user interface, each presenting news information object having a selectable portion; and receiving a user selection of the at least one of the news information objects, the user selection being a mouse over of the selectable portion.

[0007] The method may also include presenting the user with news information associated with the selected topic clusters.

[0008] The method may also include associating a news information object with a topic cluster.

[0009] The topic cluster may be part of a topic chain, and the news information object may be associated with the topic chain.

[0010] The news information object may consist essentially of a representative image and a representative title.

[0011] The mouse over may include detecting a pointer over the news information object for a predetermined amount of time.

[0012] The method may also include presenting comprises presenting the user with an article from a selected topic cluster.

[0013] The news information object may be an anchor. The news information object may be a link to a webpage.

[0014] In another embodiment, the method includes allowing a user to access a collection of images, each image associated with at least one news article; receiving a user selection of an image from the collection of images, wherein the user selection is a mouse over of the image; and presenting the user with a plurality of news objects associated with the selected object.

[0015] Each image in the collection of images may be associated with a representative title, the user selecting either or both of the one or more images or representative titles.

[0016] The method may also include presenting comprises presenting an abstract of a selected news article and a link to access the entire article.

[0017] The mouse over may include detecting a pointer over the image for a predetermined amount of time.

[0018] The plurality of news objects may be images.

[0019] The image may be an anchor. The image may be a link to a webpage.

[0020] In yet another embodiment, the method may include providing a first webpage having a selectable object therein, the selectable object being a link to a second webpage; receiving a user selection of the selectable object, the user selection being a mouse over of the selectable object; and providing the second webpage to the user in response to the user selection.

[0021] The second webpage may be presented in a new window.

[0022] The user may be automatically redirected from the first webpage to the second webpage in response to the user selection.

[0023] The mouse over may include detecting a pointer over the selectable object for a predetermined amount of time.

[0024] The first webpage and second webpage may be associated with the same website. The first webpage may be associated with a first website and the second webpage may be associated with a second website.

BRIEF DESCRIPTION OF THE DRAWINGS

[0025] The invention is described by way of example with reference to the accompanying drawings, wherein:

[0026] FIG. **1** is a block diagram illustrating a system in accordance with one embodiment of the invention;

[0027] FIG. **2** is a block diagram illustrating a method of clustering news information in accordance with one embodiment of the invention;

[0028] FIG. **2**A is a block diagram illustrating organization of news information in accordance with one embodiment of the invention;

[0029] FIG. **2**B is a block diagram illustrating organization of news information in accordance with one embodiment of the invention;

[0030] FIG. **3** is a schematic view of a user interface for presenting news information in accordance with one embodiment of the invention;

[0031] FIG. **4** is a screen shot of an exemplary user interface for presenting visual news information in accordance with one embodiment of the invention;

[0032] FIG. **5** is a screen shot illustrating clickless selection in accordance with one embodiment of the invention;

[0033] FIG. **6**A is a screen shot of an exemplary user interface having news information and an advertisement in accordance with one embodiment of the invention;

[0034] FIG. **6**B is a screen shot illustrating clickless selection in accordance with one embodiment of the invention;

[0035] FIG. **7**A is a screen shot of an exemplary user interface having products for purchase in accordance with one embodiment of the invention;

[0036] FIG. **7**B is a screen shot illustrating clickless selection in accordance with one embodiment of the invention;

[0037] FIG. **8**A is a screen shot of an exemplary user interface in accordance with one embodiment of the invention;

[0038] FIG. **8**B is a screen shot illustrating clickless selection in accordance with one embodiment of the invention;

[0039] FIG. **9**A is a screen shot of an exemplary user interface in accordance with one embodiment of the invention;

[0040] FIG. **9**B is a screen shot illustrating clickless selection in accordance with one embodiment of the invention;

[0041] FIG. **10**A is a screen shot of an exemplary user interface in accordance with one embodiment of the invention;

[0042] FIG. **10**B is a screen shot illustrating clickless selection in accordance with one embodiment of the invention;

[0043] FIG. **11** is a screen shot illustrating clickless selection in accordance with one embodiment of the invention; and

[0044] FIG. **12** is a block diagram of a digital processing system in accordance with one embodiment of the present invention.

DETAILED DESCRIPTION

[0045] Embodiments of the present invention related to clickless selection of links, data, etc. in a website. Clickless selection, as described herein, may be used in any application for which a "point and click" selection is typically used.

[0046] The Internet is made up of different web pages stored in a distributed set of independent servers. Each web page can contain one or more links to other web pages. The Internet has been traditionally described as a direct graph WG=(WN,WE), where nodes WN represent the web pages and direct edges WE represent the oriented hyperlink between pages. Each edge is annotated by an anchor. The anchor is defined as the text portion surrounding a hyperlink. Users can navigate among pages using a browser, such as Microsoft's Internet Explorer, and selecting the anchors. As described above, users have conventionally been required to point to the anchor with a mouse and click the mouse button to make a selection (i.e., point and click or double click selections)

[0047] In accordance with embodiments of the present invention, the user can select the anchors without clicking the anchors by moving the mouse over the link. The mouse is represented by a mouse pointer. The pointer or mouse is positioned over the anchor for a predetermined amount of time. The predetermined amount of time may be several seconds. For example, the predetermined amount of time may be any time or range of times between about 1 second and 30 seconds. It will be appreciated that the amount of time may be smaller than 1 second or greater than 30 seconds.

[0048] When a user mouses over an anchor on a webpage, the user is redirected to the hyperlink associated with the anchor. In one embodiment, the user is redirected to the hyperlink associated with the anchor using a pop-up window in response to a mouse over selection.

[0049] FIG. **1**, of the accompanying drawings, shows a network system **10** which can be used in accordance with one embodiment of the present invention. The network system **10** includes a search system **12**, a search engine **14**, a network **16**, and a plurality of client systems **18**. The search system **12** includes a server **20**, a database **22**, an indexer **24**, and a crawler **26**. The plurality of client systems **18** includes a plurality of web applications **28***a-f*, located on each of the plurality of client systems **18**. The server **20** may include a plurality of databases **30***a-d*. The search engine **14** may also include a news information interface **32**.

[0050] The server **12** is connected to the search engine **14**. The search engine **14** is connected to the plurality of client systems **18** via the network **16**. The server **20** is in communication with the database **22** which is in communication with the indexer **24**. The indexer **24** is in communication with the crawler **26**. The crawler **26** is capable of communicating with the plurality of client systems **18** via the network **16** as well.

[0051] The web search server **20** is typically a computer system, and may be an HTTP server. It is envisioned that the search engine **14** may be located at the web search server **20**. The web search server **20** typically includes at least processing logic and memory.

[0052] The indexer **24** is typically a software program which is used to create an index, which is then stored in storage media. The index is typically a table of alphanumeric terms with a corresponding list of the related documents or the location of the related documents (e.g., a pointer). An exemplary pointer is a Uniform Resource Locator (URL). The indexer **24** may build a hash table, in which a numerical value is attached to each of the terms. The database **22** is stored in a storage media, which typically includes the documents which are indexed by the indexer **24**. The index may be included in the same storage media as the database **22** or in a different storage media. The storage media may be volatile or non-volatile memory that includes, for example, read only memory (ROM), random access memory (RAM), magnetic disk storage media, optical storage media, flash memory devices and zip drives.

[0053] The crawler **26** is a software program or software robot, which is typically used to build lists of the information found on web sites. Another common term for the crawler **26** is a spider. The crawler **26** typically searches web sites on the Internet and keeps track of the information located in its search and the location of the information.

[0054] The network **16** is a local area network (LAN), wide area network (WAN), a telephone network, such as the Public Switched Telephone Network (PSTN), an intranet, the Internet, or combinations thereof.

[0055] The plurality of client systems **18** may be mainframes, minicomputers, personal computers, laptops, personal digital assistants (PDA), cell phones, and the like. The plurality of client systems **18** are capable of being connected to the network **16**. Web sites may also be located on the client systems **18**. The web application **28***a-f* is typically an Internet browser or other software. It will be appreciated that the number of client systems **18** is not limited to the number shown.

[0056] The databases **30***a-d* are stored in storage media located at the server **20**. The storage media may be volatile or non-volatile memory that includes, for example, read only memory (ROM), random access memory (RAM), magnetic disk storage media, optical storage media, flash memory devices and zip drives. It will be appreciated that a smaller number or greater number of databases may be provided than those illustrated.

[0057] In use, the crawler **26** crawls websites, such as the websites of the plurality of client systems **18**, to locate information on the web. The crawler **26** employs software robots to build lists of the information. The crawler **26** may include one

or more crawlers to search the web. The crawler **26** typically extracts the information and stores it in the database **22**. The indexer **24** creates an index of the information stored in the database **22**. Alternatively, if a database **22** is not used, the indexer **24** creates an index of the located information and the location of the information on the Internet (typically a URL).

[0058] When a user of one of the plurality of client systems **18** enters a search on the web application **28**, the search is communicated to the search engine **14** over the network **16**. The search engine **14** communicates the search to the server **20** at the search system **12**. The server **20** accesses the index and/or database to provide a search result, which is communicated to the user via the search engine **14** and network **16**.

[0059] If a user of one of the plurality of client systems **18** accesses the news information interface **32** through the web search application **28**, the search engine **14** still communicates the search to the server **20**, which provides a search result. The search result may be obtained from either or both the web index and a dedicated news information index. The search result is typically searchable news information. As will be described hereinafter, the news information is searchable using a search query, such as a keyword or natural language search, or using a browser.

[0060] In one embodiment, the search engine may be a news engine. A news engine is a search engine specialized in searching and browsing news articles, blog postings and related user comments. As discussed above, the articles and other related news information may be located by crawling of web pages or documents available on the Internet. In addition, pull technologies, such as RSS, Atom feeds, XML and the like may be used to locate the news information. News information can also be obtained through direct submission by users or companies. News information may include news articles, blogs, RSS/Atom feeds, video news, photographs, audio content, a stream of textual information enriched with other media content, or any other media content. Each article may have one or more multimedia elements associated therewith. Exemplary multimedia elements include images, videos, audio content and the like. Each article may also be classified under a category. Exemplary categories include World, National Stories, Politics, Business, Sports, Entertainment, Science, Health, Technology, and the like. In one embodiment, the news information is classified by the search engine into categories by a classifier.

[0061] In embodiments wherein the search engine is a news search engine, the crawler **26** may search the web for news information and store the news information and/or properties of the news information in index and/or database, and/or in a dedicated news index and/or news database (not shown). It will be appreciated that different crawlers may be provided for different types of news information. In one embodiment, a separate crawler is provided for each of news articles, blogs, etc.

[0062] Searchable news information, as will be described hereinafter, may be stored in one or more of databases **30***a-d*. The news information interface **32** may be connected to the server, one or more databases **30***a-d* having news information stored therein, database **22** and/or indexer **24**. In one embodiment, each database **30***a-d* includes news information in a particular category or classification. In another embodiment, each database **30***a-d* includes different types of news information (e.g., articles, blogs, images, etc.).

[0063] In one embodiment, the news search system is one aspect of a multi-purpose search system. In another embodiment, the news search system may be an independent search system. In one embodiment, the news search system includes a dedicated news crawler, news indexer, news database, news server, and the like, with the news interface being directly connected to the news search system.

[0064] FIG. **2** illustrates a method **40** for clustering a stream of information in accordance with one embodiment of the invention. Clustering the stream of information allows news information related to the same story or topic to be grouped together. It will be appreciated that other methods for clustering a stream of information may be used and the process may vary from that illustrated.

[0065] The method **40** begins at block **42**, where a crawler, such as crawler **16** (FIG. **1**) or a dedicated news information crawler, searches the Internet to locate news information. At block **44**, located news information (and/or properties about the news information) is stored in an index and/or database. At block **46**, the news information is clustered according to temporal information to form temporal clusters. At block **48**, the temporal clusters are clustered according to topic to form topic clusters. At block **50**, if topic clusters have the same topic, the topic clusters are linked together to form a chain according to the temporal information.

[0066] FIG. **2**A illustrates an exemplary process for identifying a topic cluster for a news article. For each news article **52**, the system determines whether an existing cluster **54***a-c* is related to the same topic as the news article **52**. If the news article **52** is related to the same topic as one of the existing clusters **54***a-c*, the news article **52** is added to the corresponding existing cluster. If the news article **52** is not related to the same topic as one of the existing clusters **54***a-c*, a new cluster **54***d* is formed for the topic corresponding to the news article **52**.

[0067] FIG. **2**B illustrates an exemplary process for identifying a topic chain for a cluster. For each cluster **54**, the system determines whether an existing chain **56***a-d* is related to the same topic as the cluster **54**. If the cluster **54** is related to the same topic as one of the existing chains **56***a-d*, the cluster **54** is added to the corresponding existing chain. If the chain **54** is not related to the same topic as one of the existing clusters **56***a-d*, a new chain **56***e* is formed for the topic corresponding to cluster **54**.

[0068] In one embodiment, temporal clustering is carried out on daily basis. In this case, the chains of previous days may be consolidated and stored off-line for efficiency reasons. The clusters formed for the current day may be created every m minutes, for example, and dynamically merged with the offline chains.

[0069] Each of the clusters and/or chains is typically stored in the external memory. Typically, the external memory includes a database, such as one or more of databases **30***a-d*, and/or an index, as described hereinabove.

[0070] The temporal information used to cluster the information is typically the publication date and/or time, posting date and/or time, clustering date and/or time (i.e., when the news information is clustered) or crawling date and/or time (i.e., when the news information is located, indexed and/or stored by the crawler).

[0071] The process for clustering a stream of information typically occurs periodically. The process for classifying a stream of information may also occur periodically. The crawler **26** typically locates more news information each time it searches the Internet; thus, the above process may occur concurrently with crawling. Alternatively, a window of time

ω, such as an hour, a day, a week, etc. is selected for clustering. It will also be appreciated that news stories in different categories may be clustered at different periods of time and, thus, different periods of time can be selected for different news categories. For example, business news is typically updated more frequently than world news; thus, the time increment for clustering business news may be more frequent (e.g., every five minutes) than the time increment for clustering world news (e.g., every hour).

[0072] A clustering algorithm is used to cluster the information. An exemplary clustering algorithm is disclosed in U.S. patent application Ser. No. 11/417,405, filed May 3, 2006, the entirety of which is hereby incorporated by reference. In one embodiment, the news information is clustered according to a selected window of time ω. New clusters can be periodically linked to chains or new topic clusters can be identified periodically. The new clusters are compared to other clusters to discover similarities in topic. When similarities are found among clusters in different time windows, the clusters are linked together to form a chain or are added to a preexisting chain. This comparison with clusters in previous time windows can stop if no similar information is found for a period of time proportional to the extension of the current cluster or to an extension of the chain. The chain of clusters is organized in a hierarchy according to the temporal information of each cluster: the most recent cluster is typically displayed at the top of the chain and the oldest cluster is typically displayed at the bottom of the chain.

[0073] Clusters may be represented by visual and nonvisual information or objects. In one embodiment, the clusters are represented by a multimedia element or visual or nonvisual information or objects associated with the news information. For example, the visual information may include an image or video associated with the cluster. The nonvisual information may be a title for the cluster. The title of the cluster may be the complete title of an article in the cluster, a substring of the title of a cluster's article, a novel title automatically generated using the titles of the articles in the cluster, or the like. In one embodiment, the clustering algorithm includes associating the visual and/or nonvisual information with the cluster. It will be appreciated that a chain may be similarly represented by visual and nonvisual information.

[0074] FIG. **3** shows an exemplary user interface **60** for selecting news information in accordance with one embodiment of the present invention. The user interface **60** may be connected to or otherwise related to the news information interface **32** (FIG. **1**).

[0075] The illustrated user interface **60** includes a search box **62** and a list of selectable news categories **64**.

[0076] The search box **62** may also include a selectable button **66**. Users of the user interface **60** enter a search query into the search box **62** and select the selectable button **66** to search for news information related to the search query. The search query may be, for example, a keyword search or a natural language search.

[0077] The list of selectable news categories **64** may include selectable links **68** corresponding to each of the categories in the list of selectable news categories **64**. Users of the user interface **60** select one of the selectable links **68** from the list of selectable news categories **64** to link to browsable news information relating to the selected news category. It will be appreciated that any number or type of news categories may be presented to a user for selection. For example, the illustrated news categories **64** include top stories, world, U.S., business, sports, science, technology, health, politics, entertainment and offbeat news.

[0078] FIG. **4** is a user interface **80** for presenting news information in accordance with one embodiment of the invention. In one embodiment, the user interface **80** is accessible from the interface **60** of FIG. **3**. For example, if a user selects a category link **68**, the category link **68** redirects the user to user interface **80**. In another embodiment, a user automatically arrives at user interface **80** when they access the website associated with the news search system.

[0079] In FIG. **4**, the user interface **80** includes a header **82** and a main portion **84**. The header **82** includes a plurality of tabs **86**. Each of the illustrated tabs corresponds to a news category. For example, in FIG. **4**, the tab corresponding to "Top News" is highlighted.

[0080] A plurality of images **88** are shown in the main portion **84**. The images **88** also have text **90** associated therewith. Each of these images **88** and corresponding text **90** is associated with a news article, news cluster or news article. The images **88**, text **90**, and associated news article, cluster or chain are from the selected category, corresponding to the selected tab **86**.

[0081] The interface **80** provides a visual interface. The visual interface includes a collection of images (or videos) associated with the articles, cluster, and/or chain. The visual information may also include some text therewith, such as a title of the article, cluster, and/or chain, or certain keywords associated with the visual information.

[0082] In use, a user reviews the images **88** and text **90** in the interface **80**. The user can select the images **88** and text **90** if the user wants to access more information about the corresponding story (e.g., article, cluster or chain). The user can also select images **88** from different categories by selecting the tab **86** to access images **88** associated with the selected category.

[0083] As discussed above, articles may be clustered into clusters and/or chains. A cluster of articles or a chain of articles are articles written about a common topic, and a chain is an ordered set of clusters of articles with the same topic as the article/cluster with which the chain is associated.

[0084] Each story or topic may be represented by multiple objects. These objects may include a representative title, a snippet of the main article, an authoritative multimedia object (e.g., image, video, audio content) associated with the cluster, a cluster of related news article(s), an authoritative title of past clusters of related news articles, a cluster of related blogs and/or blog postings, authoritative entities (e.g., people, companies, places, events, etc.) involved in the story, comments posted by users on the topic, and the like.

[0085] In one embodiment, when the user selects an image from the collection of images **88**, a window **90** is presented over the images **88**, as shown in FIG. **5**.

[0086] In one embodiment, the user selects an image by mouse-ing over the image **88**. A mouse over occurs when a user holds a mouse pointer over the image for a predetermined amount of time. For example, the user may be required to hold the pointer over the image for 5 seconds to access the news information associated with a particular image. It will be appreciated that the actual amount of time may be any value or range of values between about 1 second and 30 seconds, less than 1 second or greater than 30 seconds. Thus, the user is able to select an image without clicking a button on the mouse or touch pad. The selection is, therefore, clickless.

[0087] In one embodiment, each image **88** in the user interface **80** of FIG. **4** is an anchor. The zero-click or clickless navigation can be used to access news information, advertisements, web pages, etc. Users are therefore able to visually select information in a web page.

[0088] The illustrated window **90** includes the cluster or chain information associated with the selected image, such as the associated news articles, past correlated clusters, blog postings, user comments, images, videos and sounds (i.e., news information associated with, for example, a cluster). For example, in FIG. **5**, the window **90** includes a title **92**, abstract of the article **94**, similar articles **96**, blogs **98**, image **100**, histogram **102**, history **104**, and authoritative people **106**.

[0089] In FIG. **5**, the user interface **80** is lowlighted and the window **90** is highlighted. It will be appreciated that the window **90** need not be highlighted as illustrated. In addition, the user interface **80** need not be visible.

[0090] Each of the news information objects **92-106** may also be selected. In one embodiment, the news information objects **92-106** are also selected without clicking (i.e., mouse over). For example, if a user selects a title from a selected cluster, the user may be then access the entire article. In another example, if a user selects a link associated with a person related to the cluster, the user may then access a description of the person. It will be appreciated that each of the title, articles images, people, etc., can be selected via a mouse over to access the information without clicking.

[0091] FIGS. **6**A-**6**B illustrate clickless selection in accordance with one embodiment of the invention. In FIG. **6**A, a user interface includes news information **108** and advertisements **110**. A user can select, without clicking (i.e., mouse over), the news information **108** or the advertisement **110**. If the user selects the advertisement **108**, the user may be redirected to the website **112** associated with the advertisement, as shown in FIG. **6**B.

[0092] FIGS. **7**A-**7**B illustrate yet another application of clickless selection. In FIG. **7**A, user interface **114** includes a plurality of search results **116** provided to a user in response to a search query. Methods of providing search results in response to a search query are well known in the art; accordingly, these methods are not described in detail. Often, when users enter a search query, the search engine also publishes one or more advertisements **118** that may or may not be related to the search query together with the search results **116**. A user can select an advertisement **118** from the user interface **114** by moving the pointer to the advertisement and maintaining the pointer over the advertisement or an area near the advertisement for a predetermined amount of time. If the user selects the advertisement **118**, the user may be redirected to a website **120** associated with the advertisement **118**, as shown in FIG. **7**B.

[0093] FIGS. **8**A-**8**B illustrate still another application of clickless selection. In FIG. **8**A, a user interface **124** includes information related to a product that can be purchased. The user interface **124** includes a link **126** designated by "Quick-buy." A user can select, without clicking (i.e., mouse over), the link **126**. If the user selects the link **126**, the user may automatically purchase the product in the interface **128**, as shown in FIG. **8**B.

[0094] FIGS. **9**A-**9**B illustrate another application of clickless selection. In FIG. **9**A, a user interface **134** allows a user to view a webpage **136** from a website. The webpage **136** includes a link **138** to another page within the same website. A user can select, without clicking, the link **138**. If the user selects the link **138**, the user is redirected to the webpage **140** within the same website, as shown in FIG. **9**B.

[0095] FIGS. **10**A-**10**B illustrate a further application of clickless selection. In FIG. **10**A, a user interface **144** allows a user to view a webpage **146** from a first website. The webpage **146** includes a link **148** associated with another website (i.e., second website). A user can select, without clicking, the link **148**. If the user selects the link **148**, the user is redirected to a webpage **150** of the second website associated with the link **148**, as shown in FIG. **10**B.

[0096] FIG. **11** illustrate a still further application of clickess selection. In FIG. **11**, a user interface **154** allows a user to listen to music or watch videos. In FIG. **11**, images and text **156** associated with the music and/or videos are provided in the user interface **154**. A user can select, without clicking, the image and/or text **156** associated with the music and/or videos. When the user selects the music and/or videos without clicking, the music and/or videos play.

[0097] It will be appreciated that a mouse over is also applicable to holding a pointer associated with a touchpad-based system (i.e., computers without a mouse) over a link or anchor for a predetermined amount of time, as described above.

[0098] FIG. **12** is a block diagram of a digital processing system which may be used in accordance with one embodiment of the invention. Note, that while FIG. **12** illustrates various components of a computer system, it is not intended to represent any particular architecture or manner of interconnecting the components, as such details are not germane to the present invention. It will also be appreciated that network computers, handheld computers, cell phones, multimedia players, and other data processing systems which have fewer components or perhaps more components may also be used with the present invention.

[0099] As shown in FIG. **12**, the processing system **400** includes a bus **402** which is coupled to a microprocessor **403** and a ROM **407**, a volatile RAM **405**, and a non-volatile memory **406**. The microprocessor **403**, which may be, for example, a PowerPC G4 or PowerPC G5 microprocessor from Motorola, Inc. or IBM, is coupled to cache memory **404** as shown in the example of FIG. **12**. The bus **402** interconnects these various components together and also interconnects these components **403**, **407**, **405** and **406** to a display controller and display device **408**, as well as to input/output (I/O) devices **410**. Typically, the I/O devices **410** are coupled to the system through I/O controllers **409**. The volatile RAM **405** is typically implemented as dynamic RAM (DRAM) which requires power continuously in order to refresh or maintain the data in the memory. The non-volatile memory **406** is typically a magnetic hard drive, a magnetic optical drive, an optical drive, or other type of memory system which maintains data even after power is removed from the system. Typically, the non-volatile memory will also be a random access memory, although this is not required. While FIG. **12** shows the non-volatile memory is a local device coupled directly to the rest of the components in the processing system, it will be appreciated that the present invention may utilize a non-volatile memory which is remote from the system, such as a network storage device which is coupled to the data processing system through a network interface. The bus **402** may include one or more buses connected to each other through various bridges, controllers and/or adapters, as is well-known in the art. In one embodiment, the I/O controller **409** includes a USB (Universal Serial Bus) adapter for con-

trolling USB peripherals. Alternatively, I/O controller **409** may include an IEEE01394 adapter, also known as FireWire adapter, for controlling FireWire devices. Other components may be included.

[0100] The foregoing description with attached drawings is only illustrative of possible embodiments of the described method and should only be construed as such. Other persons of ordinary skill in the art will realize that many other specific embodiments are possible that fall within the scope and spirit of the present idea. The scope of the invention is indicated by the following claims rather than by the foregoing description. Any and all modifications which come within the meaning and range of equivalency of the following claims are to be considered within their scope.

1. A method comprising:
- providing a first webpage having a selectable object therein, the selectable object being a link to a second webpage;
- receiving a user selection of the selectable object, the user selection being a mouse over of the selectable object; and
- providing the second webpage to the user in response to the user selection.

2. The method of claim **1**, wherein the second webpage is presented in a new window.

3. The method of claim **1**, wherein the user is automatically redirected from the first webpage to the second webpage in response to the user selection.

4. The method of claim **1**, wherein the mouse over comprises detecting a pointer over the selectable object for a predetermined amount of time.

5. The method of claim **1**, wherein the first webpage and second webpage are associated with a website.

6. The method of claim **1**, wherein the first webpage is associated with a first website and the second webpage is associated with a second website.

7. A method for presenting electronic information comprising:
- clustering news information according to a topic to create topic clusters, each topic cluster having a plurality of news information objects associated with the topic cluster;
- presenting at least one of the news information objects associated with the topic clusters in a user interface, each presenting news information object having a selectable portion; and
- receiving a user selection of the at least one of the news information objects, the user selection being a mouse over of the selectable portion.

8. The method of claim **7**, further comprising presenting the user with news information associated with the selected topic clusters.

9. The method of claim **7**, further comprising associating a news information object with a topic cluster.

10. The method of claim **7**, wherein the topic cluster is part of a topic chain, and wherein the news information object is associated with the topic chain.

11. The method of claim **7**, wherein the news information object consists essentially of a representative image and a representative title.

12. The method of claim **7**, wherein the mouse over comprises detecting a pointer over the news information object for a predetermined amount of time.

13. The method of claim **8**, wherein presenting comprises presenting the user with an article from a selected topic cluster.

14. The method of claim **7**, wherein the selectable object is an anchor.

15. The method of claim **7**, wherein the selectable object is a link to a webpage.

16. A method for presenting electronic information comprising:
- allowing a user to access a collection of images, each image associated with at least one news article;
- receiving a user selection of an image from the collection of images, wherein the user selection is a mouse over of the image; and
- presenting the user with a plurality of news objects associated with the selected object.

17. The method of claim **16**, wherein each image in the collection of images is associated with a representative title, the user selecting either or both of the one or more images or representative titles.

18. The method of claim **16**, wherein presenting comprises presenting an abstract of a selected news article and a link to access the entire article.

19. The method of claim **16**, wherein the mouse over comprises detecting a pointer over the image for a predetermined amount of time.

20. The method of claim **16**, wherein the plurality of news objects comprise images.

21. The method of claim **16**, wherein the image is an anchor.

22. The method of claim **16**, wherein the image is a link to a webpage.

* * * * *