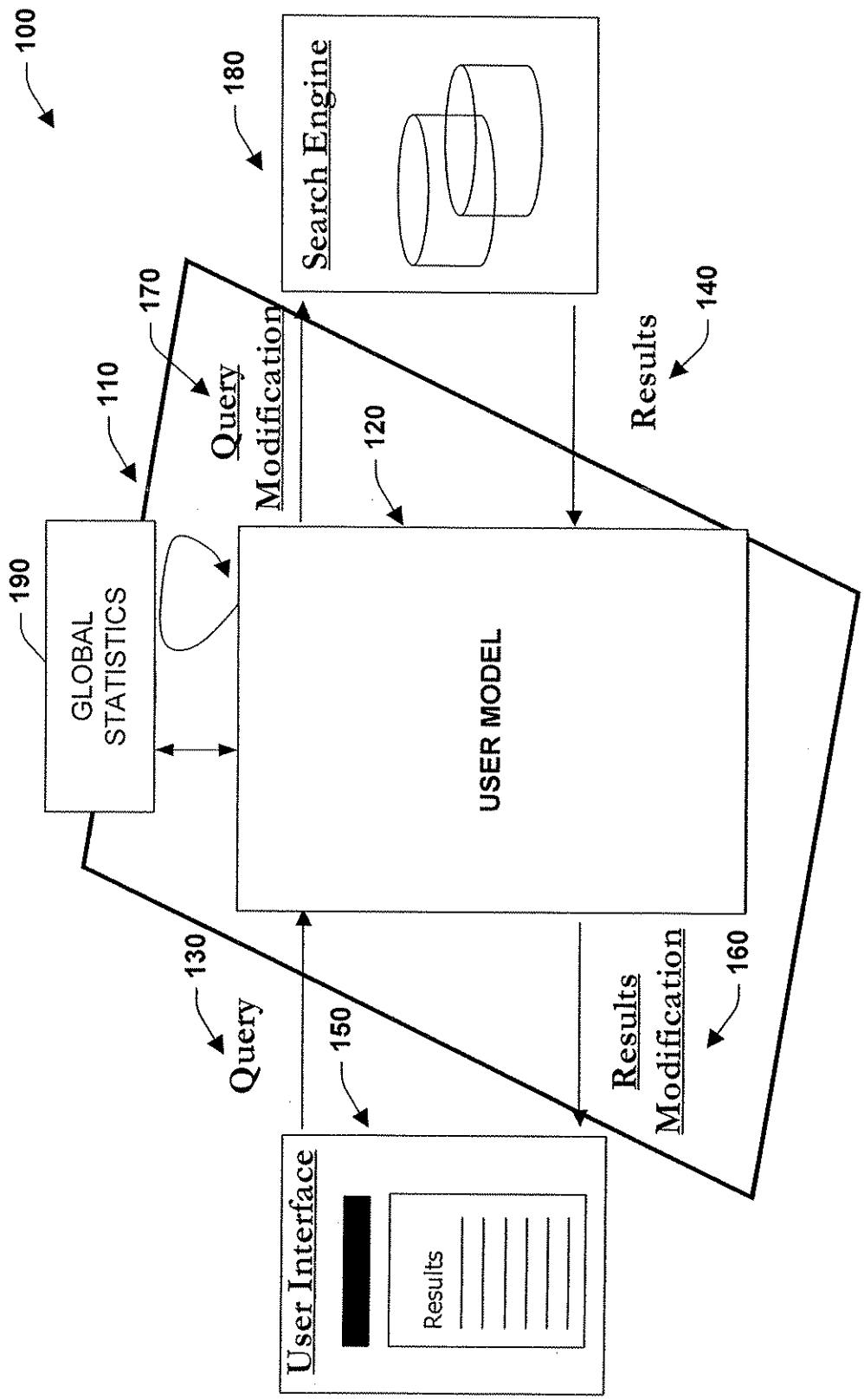

100
180
Search Engine
170
Query
Modification
110
120
140
Results
190
GLOBAL
STATISTICS
USER MODEL
130
Query
150
User Interface
Results
Results
Modification
160

FIG. 1

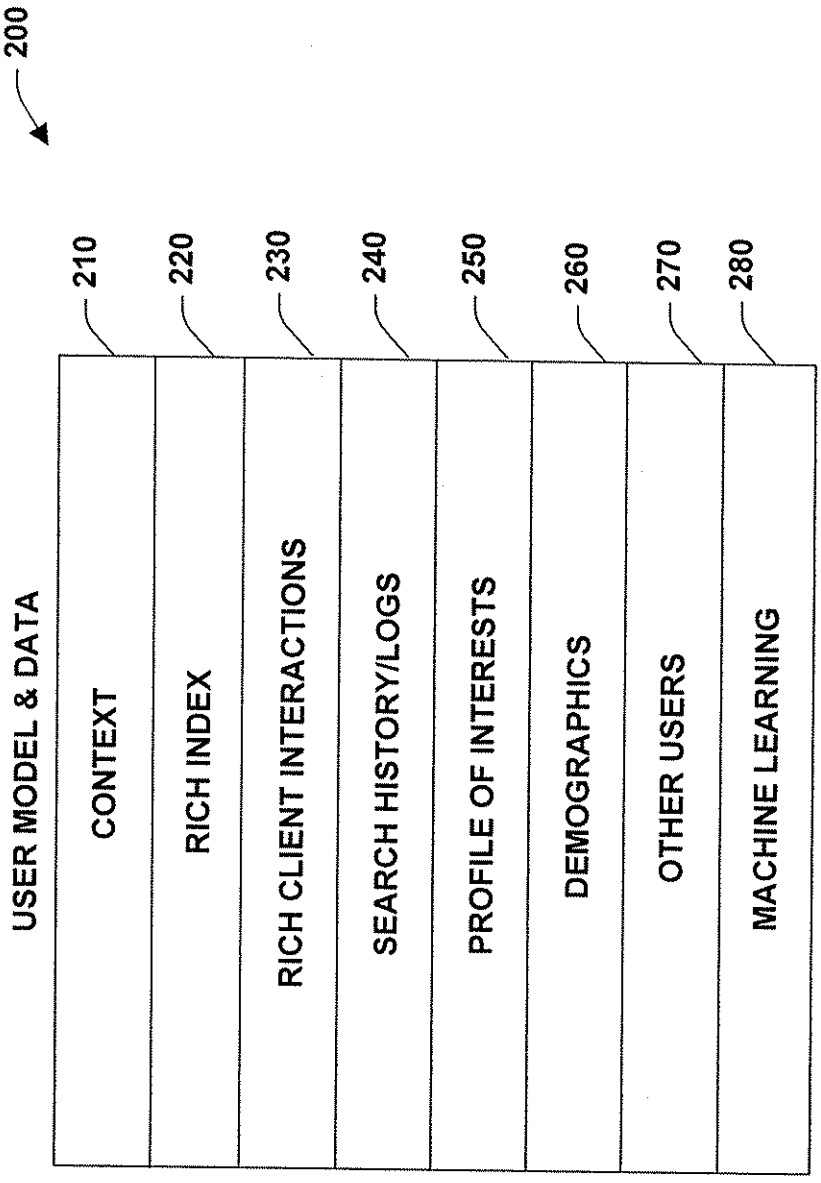

200
USER MODEL & DATA
CONTEXT
RICH INDEX
RICH CLIENT INTERACTIONS
SEARCH HISTORY/LOGS
PROFILE OF INTERESTS
DEMOGRAPHICS
OTHER USERS
MACHINE LEARNING
210
220
230
240
250
260
270
280

FIG. 2

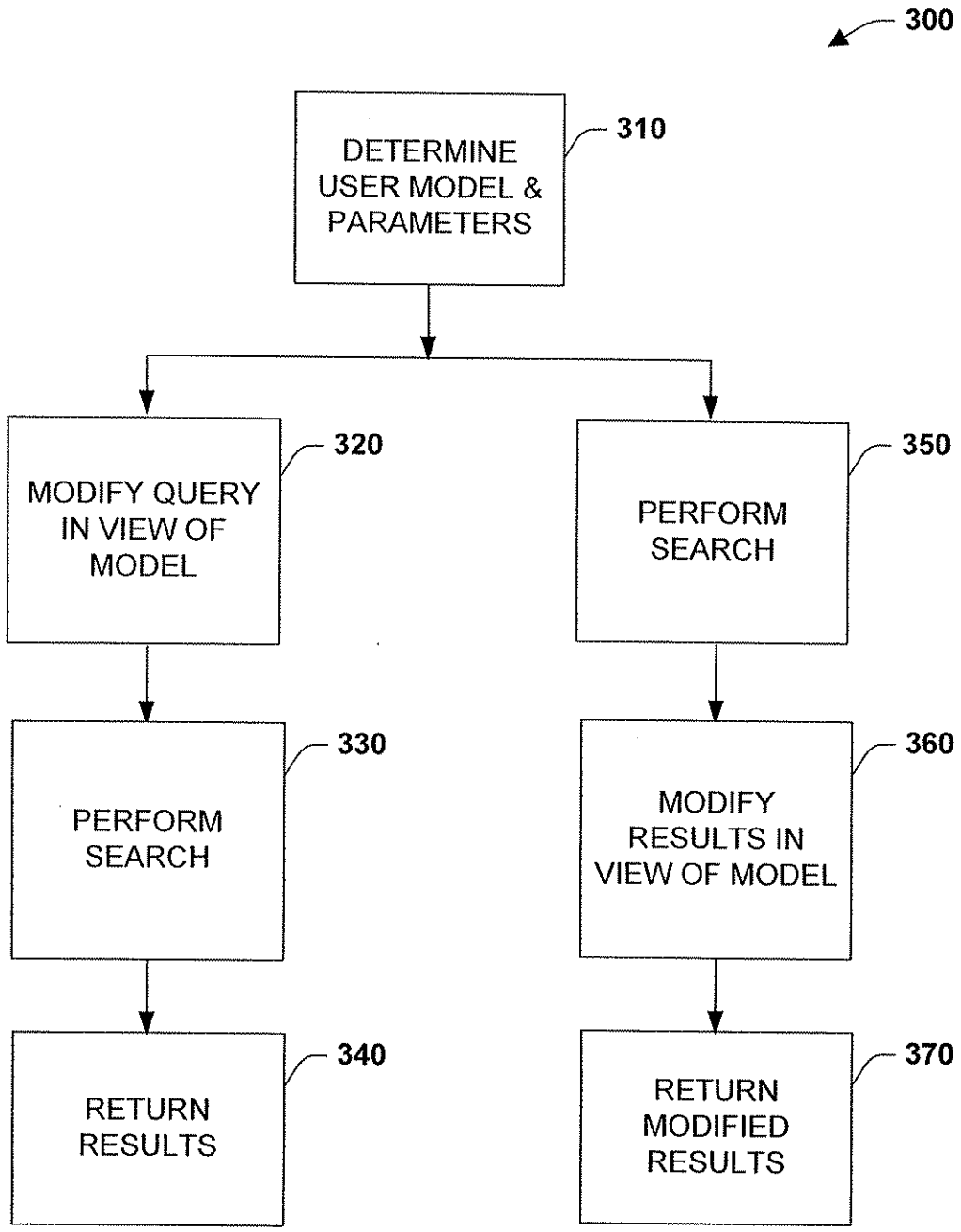

300
DETERMINE USER MODEL & PARAMETERS
310
MODIFY QUERY IN VIEW OF MODEL
320
PERFORM SEARCH
330
RETURN RESULTS
340
PERFORM SEARCH
350
MODIFY RESULTS IN VIEW OF MODEL
360
RETURN MODIFIED RESULTS
370

FIG. 3

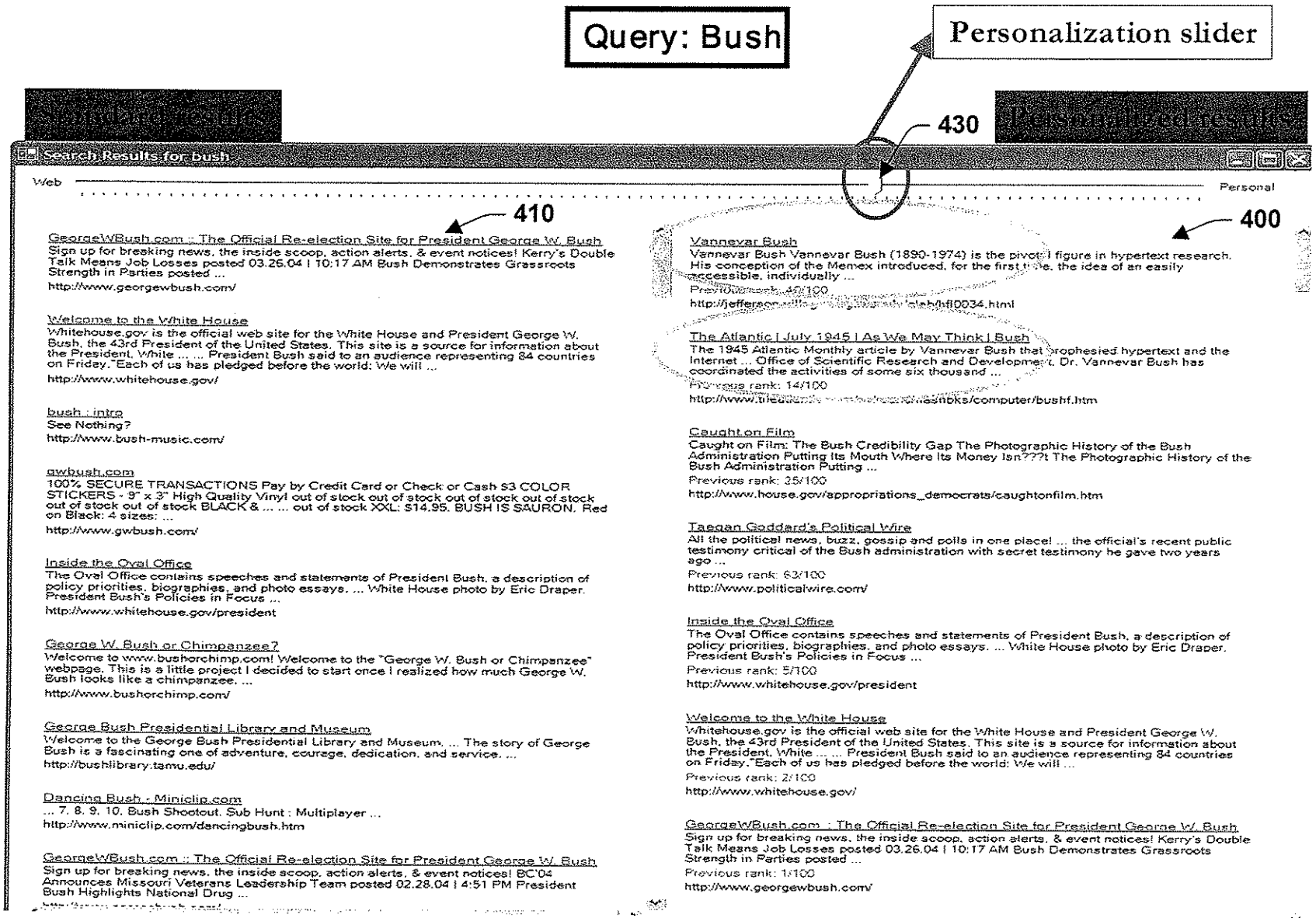

Query: Bush
Personalization slider
430
Search Results for bush
Web
Personal
410
400
GeorgeWBush.com :: The Official Re-election Site for President George W. Bush
Sign up for breaking news, the inside scoop, action alerts, & event notices! Kerry's Double Talk Means Job Losses posted 03.26.04 | 10:17 AM Bush Demonstrates Grassroots Strength in Parties posted ...
http://www.georgewbush.com/
Welcome to the White House
Whitehouse.gov is the official web site for the White House and President George W. Bush, the 43rd President of the United States. This site is a source for information about the President, White ... ... President Bush said to an audience representing 84 countries on Friday,"Each of us has pledged before the world: We will ...
http://www.whitehouse.gov/
bush :: intro
See Nothing?
http://www.bush-music.com/
gwbush.com
100% SECURE TRANSACTIONS Pay by Credit Card or Check or Cash $3 COLOR STICKERS - 9" x 3" High Quality Vinyl out of stock out of stock out of stock out of stock out of stock out of stock BLACK & ... ... out of stock XXL: $14.95. BUSH IS SAURON. Red on Black: 4 sizes: ...
http://www.gwbush.com/
Inside the Oval Office
The Oval Office contains speeches and statements of President Bush, a description of policy priorities, biographies, and photo essays. ... White House photo by Eric Draper. President Bush's Policies in Focus ...
http://www.whitehouse.gov/president
George W. Bush or Chimpanzee?
Welcome to www.bushorchimp.com! Welcome to the "George W. Bush or Chimpanzee" webpage. This is a little project I decided to start once I realized how much George W. Bush looks like a chimpanzee. ...
http://www.bushorchimp.com/
George Bush Presidential Library and Museum
Welcome to the George Bush Presidential Library and Museum. ... The story of George Bush is a fascinating one of adventure, courage, dedication, and service. ...
http://bushlibrary.tamu.edu/
Dancing Bush - Miniclip.com
... 7. 8. 9. 10. Bush Shootout. Sub Hunt : Multiplayer ...
http://www.miniclip.com/dancingbush.htm
GeorgeWBush.com :: The Official Re-election Site for President George W. Bush
Sign up for breaking news, the inside scoop, action alerts, & event notices! BC'04 Announces Missouri Veterans Leadership Team posted 02.28.04 | 4:51 PM President Bush Highlights National Drug ...
Vannevar Bush
Vannevar Bush Vannevar Bush (1890-1974) is the pivotal figure in hypertext research. His conception of the Memex introduced, for the first time, the idea of an easily accessible, individually ...
Previous rank: 4/100
http://jefferson.village.virginia.edu/bush/hfl0034.html
The Atlantic | July 1945 | As We May Think | Bush
The 1945 Atlantic Monthly article by Vannevar Bush that prophesied hypertext and the Internet ... Office of Scientific Research and Development, Dr. Vannevar Bush has coordinated the activities of some six thousand ...
Previous rank: 14/100
http://www.theatlantic.com/unbound/flashbks/computer/bushf.htm
Caught on Film
Caught on Film: The Bush Credibility Gap The Photographic History of the Bush Administration Putting Its Mouth Where Its Money Isn???t The Photographic History of the Bush Administration Putting ...
Previous rank: 35/100
http://www.house.gov/appropriations_democrats/caughtonfilm.htm
Taegan Goddard's Political Wire
All the political news, buzz, gossip and polls in one place! ... the official's recent public testimony critical of the Bush administration with secret testimony he gave two years ago ...
Previous rank: 62/100
http://www.politicalwire.com/
Inside the Oval Office
The Oval Office contains speeches and statements of President Bush, a description of policy priorities, biographies, and photo essays. ... White House photo by Eric Draper. President Bush's Policies in Focus ...
Previous rank: 5/100
http://www.whitehouse.gov/president
Welcome to the White House
Whitehouse.gov is the official web site for the White House and President George W. Bush, the 43rd President of the United States. This site is a source for information about the President, White ... ... President Bush said to an audience representing 84 countries on Friday,"Each of us has pledged before the world: We will ...
Previous rank: 2/100
http://www.whitehouse.gov/
GeorgeWBush.com :: The Official Re-election Site for President George W. Bush
Sign up for breaking news, the inside scoop, action alerts, & event notices! Kerry's Double Talk Means Job Losses posted 03.26.04 | 10:17 AM Bush Demonstrates Grassroots Strength in Parties posted ...
Previous rank: 1/100
http://www.georgewbush.com/

FIG. 4

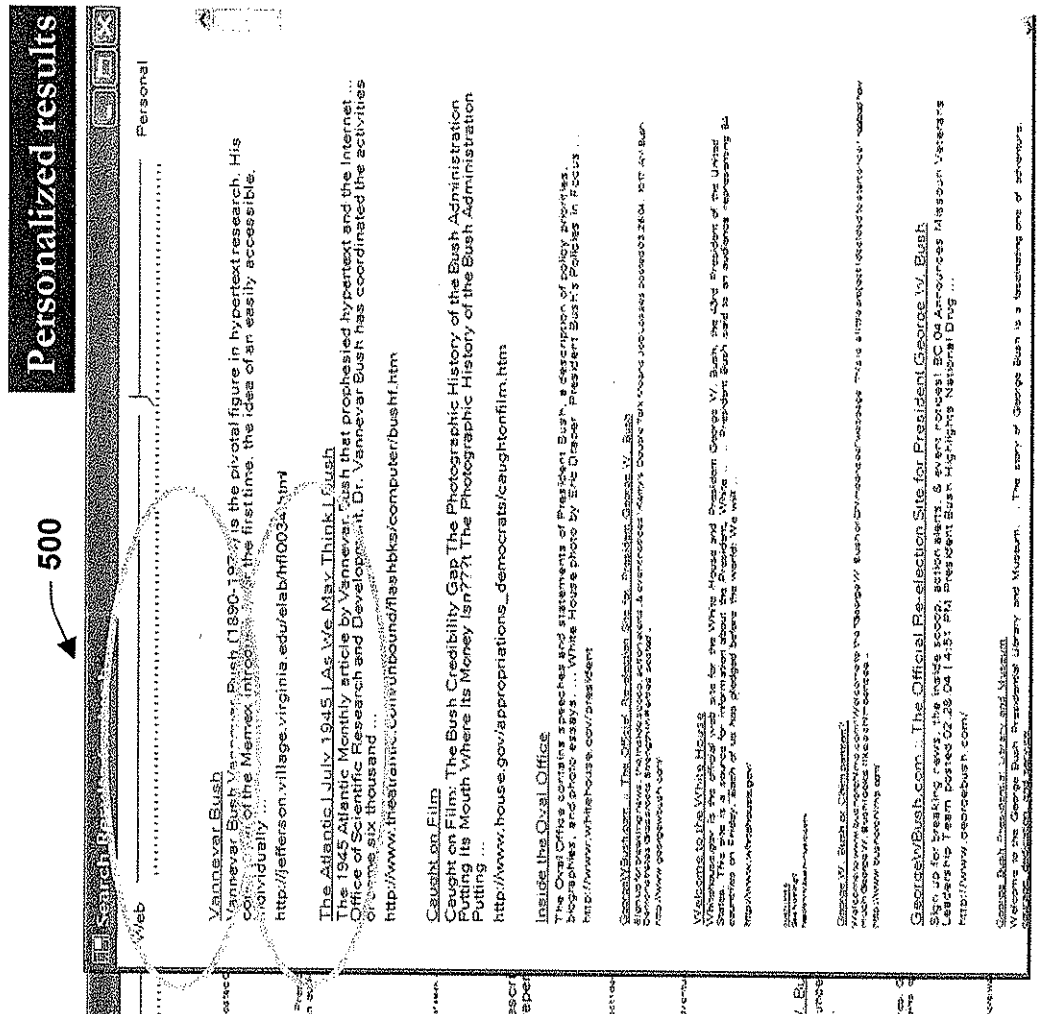

Standard results
510
500
Personalized results
Search Results for bush
Search Results for bush
Web
Personal
Vannevar Bush
Vannevar Bush Vannevar Bush (1890-1974) is the pivotal figure in hypertext research. His concept of the Memex, introduced ... the first time, the idea of an easily accessible.
http://jefferson.village.virginia.edu/elab/hf10034.html
The Atlantic Monthly | July 1945 | As We May Think | Bush
The 1945 Atlantic Monthly article by Vannevar Bush that prophesied hypertext and the Internet ... Office of Scientific Research and Development, Dr. Vannevar Bush has coordinated the activities of some six thousand ...
http://www.theatlantic.com/unbound/flashbks/computer/bushf.htm
Caught on Film
Caught on Film: The Bush Credibility Gap The Photographic History of the Bush Administration Putting Its Mouth Where Its Money Isn??t The Photographic History of the Bush Administration Putting ...
http://www.house.gov/appropriations_democrats/caughtonfilm.htm
Inside the Oval Office
The Oval Office contains speeches and statements of President Bush, a description of policy priorities, biographies, and photo essays. ... White House photo by Eric Draper President Bush's Policies in Focus ...
http://www.whitehouse.gov/president
George W. Bush at Stonecrest
George W. Bush at Stonecrest ... The Official Re-election Site for President George W. Bush ... President Bush said he is confident Democrats ...
www.georgewbush.com
Welcome to the White House
Welcome to the White House ... The official web site for the White House and President George W. Bush, the 43rd President of the United States. This is a secure, non-partisan server. ... President Bush said he is confident Democrats ... countries on Friday, each of us has pledged before the world. We will ...
http://www.whitehouse.gov/
George W. Bush Presidential Library and Museum
George W. Bush Presidential Library and Museum ... The story of George Bush is a fascinating one of adventure, service ...
www.bushlibrary.tamu.edu/
George W. Bush at Stonecrest
George W. Bush at Stonecrest ... The Official Re-election Site for President George W. Bush ... President Bush said he is confident Democrats ...
www.georgewbush.com/stonecrest/
George W. Bush - Official Site
Sign up for breaking news, the inside scoop, action alerts, & event notices! BC'04 Arrogance Leadership Team posted 02.28.04 14:51 PM President Bush Highlights National Drug ...
http://www.georgewbush.com/
GeorgeWBush.com - Official Site
Sign up for breaking news, the inside scoop, action alerts, & event notices! Press: Bush???s Agenda Prep: President Bush ? wonder if the gets Bush Lying Cheney News Room Blogs ... The Hate Wing remains ...
http://www.georgewbush.com/Blog
Welcome to the George Bush Presidential Library and Museum
Welcome to the George Bush Presidential Library and Museum ... The story of George Bush is a fascinating one of adventure, service ...
www.bushlibrary.tamu.edu/
GeorgeWBush.com - The Official Re-election Site for President George W. Bush
Sign up for breaking news, the inside scoop, action alerts, & event notices! BC'04 Arrogance Leadership Team posted 02.28.04 14:51 PM President Bush Highlights National Drug ...
http://www.georgewbush.com/
George W. Bush - Official Site
Sign up for breaking news, the inside scoop, action alerts, & event notices! Press: Bush???s Agenda Prep: President Bush ? wonder if the gets Bush Lying Cheney News Room Blogs ... The Hate Wing remains ...
http://www.georgewbush.com/Blog
Welcome to the George Bush Presidential Library and Museum
Welcome to the George Bush Presidential Library and Museum ... The story of George Bush is a fascinating one of adventure, service ...
www.bushlibrary.tamu.edu/

FIG. 5

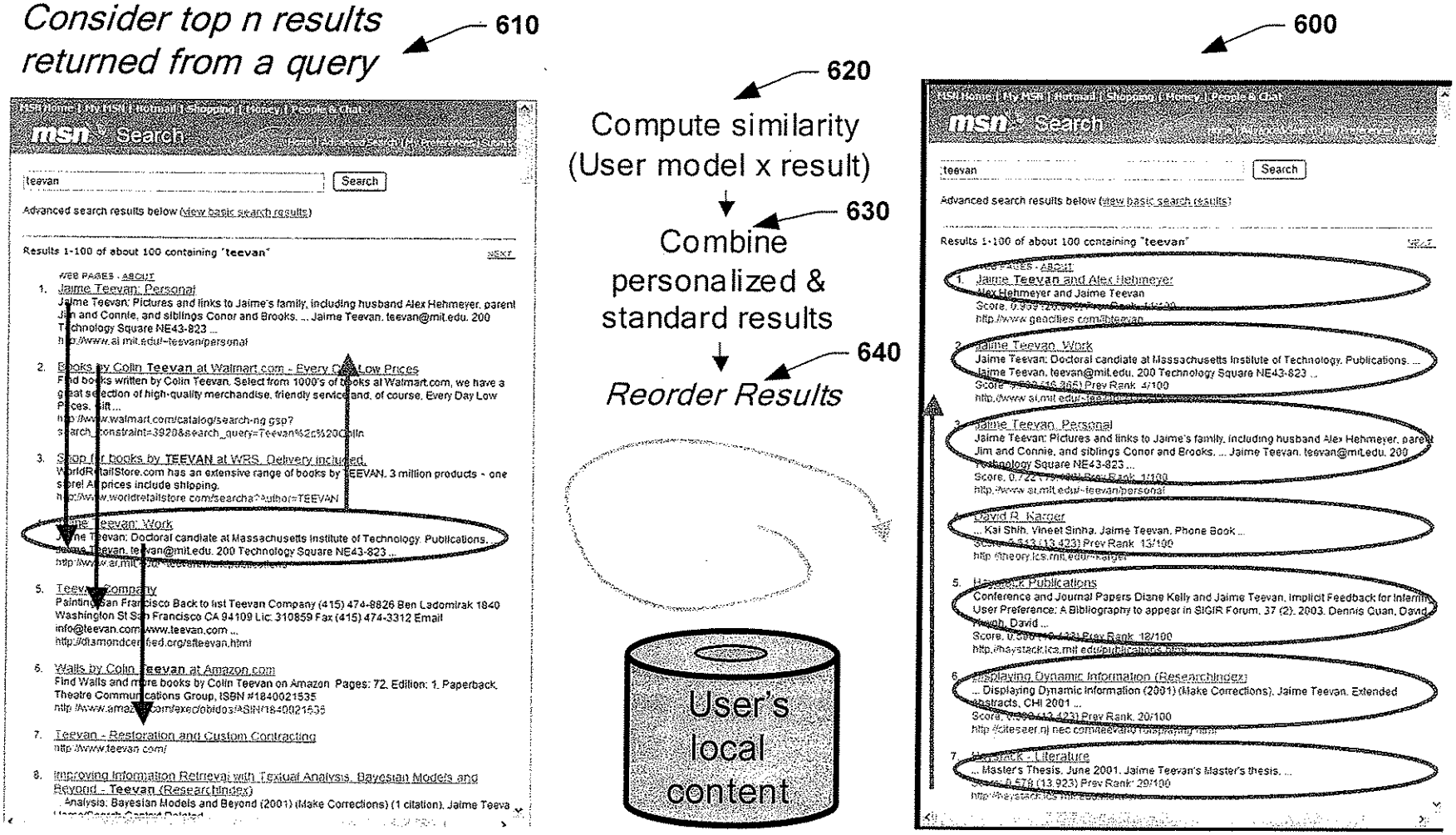

Consider top n results returned from a query
610
620
Compute similarity (User model x result)
630
Combine personalized & standard results
640
Reorder Results
User's local content
600
msn Search
teevan
Search
Advanced search results below (view basic search results)
Results 1-100 of about 100 containing "teevan"
1. Jaime Teevan: Personal
2. Books by Colin Teevan at Walmart.com - Every Day Low Prices
3. Shop for books by TEEVAN at WRS. Delivery included.
4. Jaime Teevan: Work
5. Teevan Company
6. Walls by Colin Teevan at Amazon.com
7. Teevan - Restoration and Custom Contracting
8. Improving Information Retrieval with Textual Analysis, Bayesian Models and Beyond - Teevan (Researchindex)
1. Jaime Teevan and Alex Hehmeyer
2. Jaime Teevan, Work
3. Jaime Teevan, Personal
4. David R. Karger
5. Haystack Publications
6. Displaying Dynamic Information (Researchindex)
7. Haystack - Literature

FIG. 6

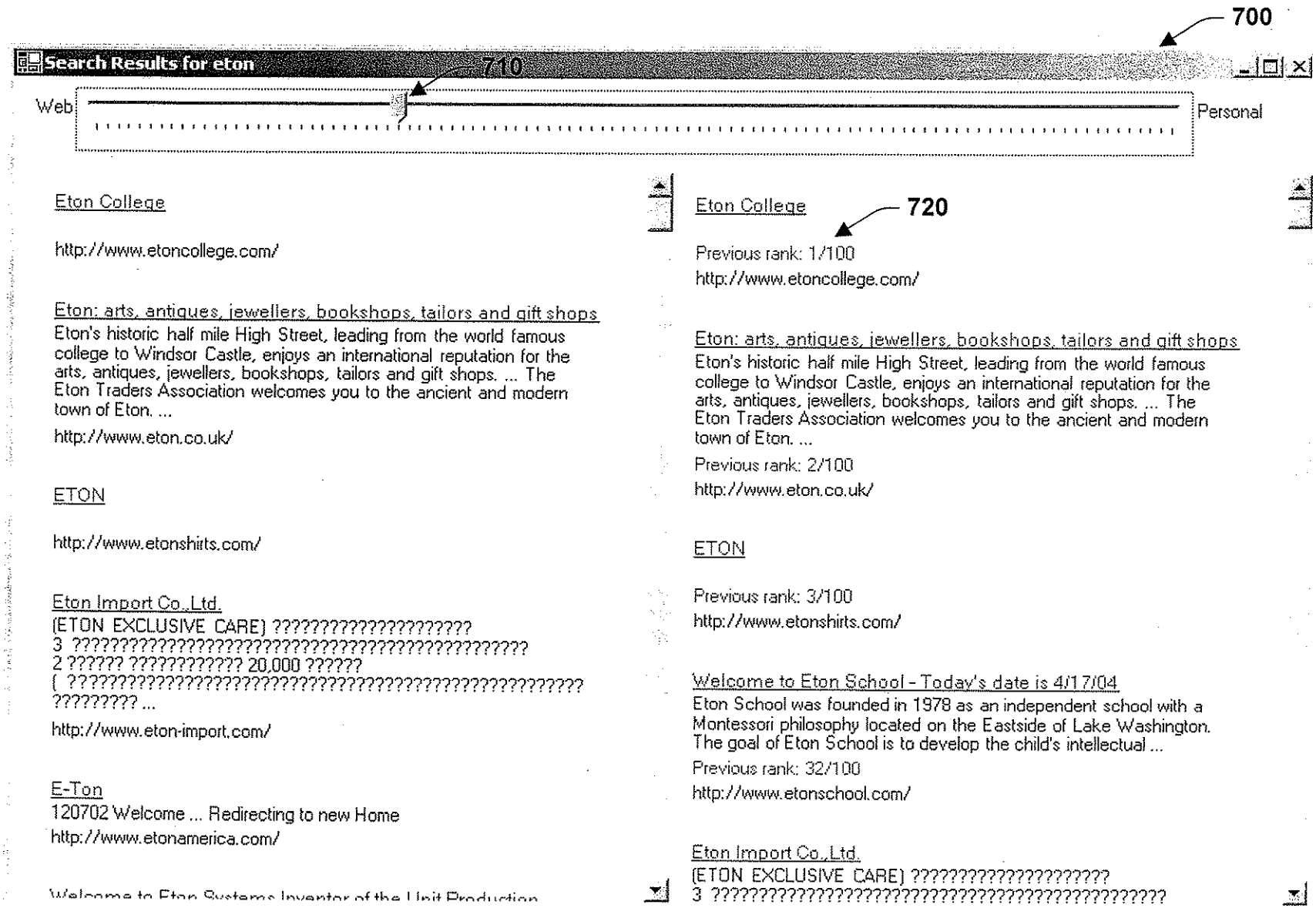

700
Search Results for eton
710
Web
Personal
Eton College
http://www.etoncollege.com/
Eton: arts, antiques, jewellers, bookshops, tailors and gift shops
Eton's historic half mile High Street, leading from the world famous college to Windsor Castle, enjoys an international reputation for the arts, antiques, jewellers, bookshops, tailors and gift shops. ... The Eton Traders Association welcomes you to the ancient and modern town of Eton. ...
http://www.eton.co.uk/
ETON
http://www.etonshirts.com/
Eton Import Co.,Ltd.
(ETON EXCLUSIVE CARE) ??????????????????
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2 ?????? ???????????? 20,000 ??????
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????????? ...
http://www.eton-import.com/
E-Ton
120702 Welcome ... Redirecting to new Home
http://www.etonamerica.com/
Eton College
720
Previous rank: 1/100
http://www.etoncollege.com/
Eton: arts, antiques, jewellers, bookshops, tailors and gift shops
Eton's historic half mile High Street, leading from the world famous college to Windsor Castle, enjoys an international reputation for the arts, antiques, jewellers, bookshops, tailors and gift shops. ... The Eton Traders Association welcomes you to the ancient and modern town of Eton. ...
Previous rank: 2/100
http://www.eton.co.uk/
ETON
Previous rank: 3/100
http://www.etonshirts.com/
Welcome to Eton School - Today's date is 4/17/04
Eton School was founded in 1978 as an independent school with a Montessori philosophy located on the Eastside of Lake Washington. The goal of Eton School is to develop the child's intellectual ...
Previous rank: 32/100
http://www.etonschool.com/
Eton Import Co.,Ltd.
(ETON EXCLUSIVE CARE) ??????????????????
3 ??

FIG. 7

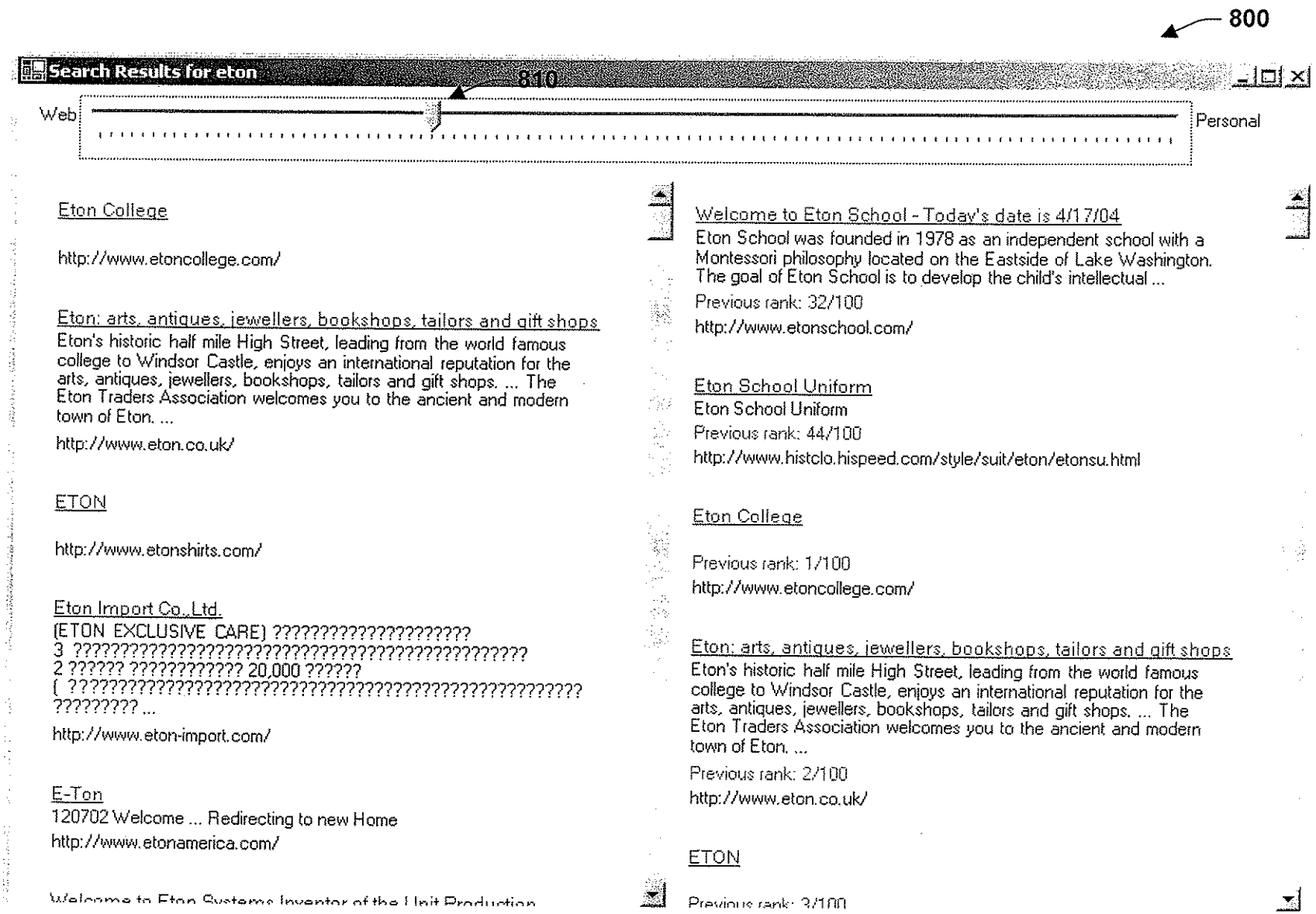

800
Search Results for eton
810
Web
Personal
Eton College
http://www.etoncollege.com/
Eton: arts, antiques, jewellers, bookshops, tailors and gift shops
Eton's historic half mile High Street, leading from the world famous college to Windsor Castle, enjoys an international reputation for the arts, antiques, jewellers, bookshops, tailors and gift shops. ... The Eton Traders Association welcomes you to the ancient and modern town of Eton. ...
http://www.eton.co.uk/
ETON
http://www.etonshirts.com/
Eton Import Co.,Ltd.
(ETON EXCLUSIVE CARE) ????????????????????
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http://www.eton-import.com/
E-Ton
120702 Welcome ... Redirecting to new Home
http://www.etonamerica.com/
Welcome to Eton Systems Inventor of the Unit Production
Welcome to Eton School - Today's date is 4/17/04
Eton School was founded in 1978 as an independent school with a Montessori philosophy located on the Eastside of Lake Washington. The goal of Eton School is to develop the child's intellectual ...
Previous rank: 32/100
http://www.etonschool.com/
Eton School Uniform
Eton School Uniform
Previous rank: 44/100
http://www.histclo.hispeed.com/style/suit/eton/etonsu.html
Eton College
Previous rank: 1/100
http://www.etoncollege.com/
Eton: arts, antiques, jewellers, bookshops, tailors and gift shops
Eton's historic half mile High Street, leading from the world famous college to Windsor Castle, enjoys an international reputation for the arts, antiques, jewellers, bookshops, tailors and gift shops. ... The Eton Traders Association welcomes you to the ancient and modern town of Eton. ...
Previous rank: 2/100
http://www.eton.co.uk/
ETON
Previous rank: 3/100

FIG. 8

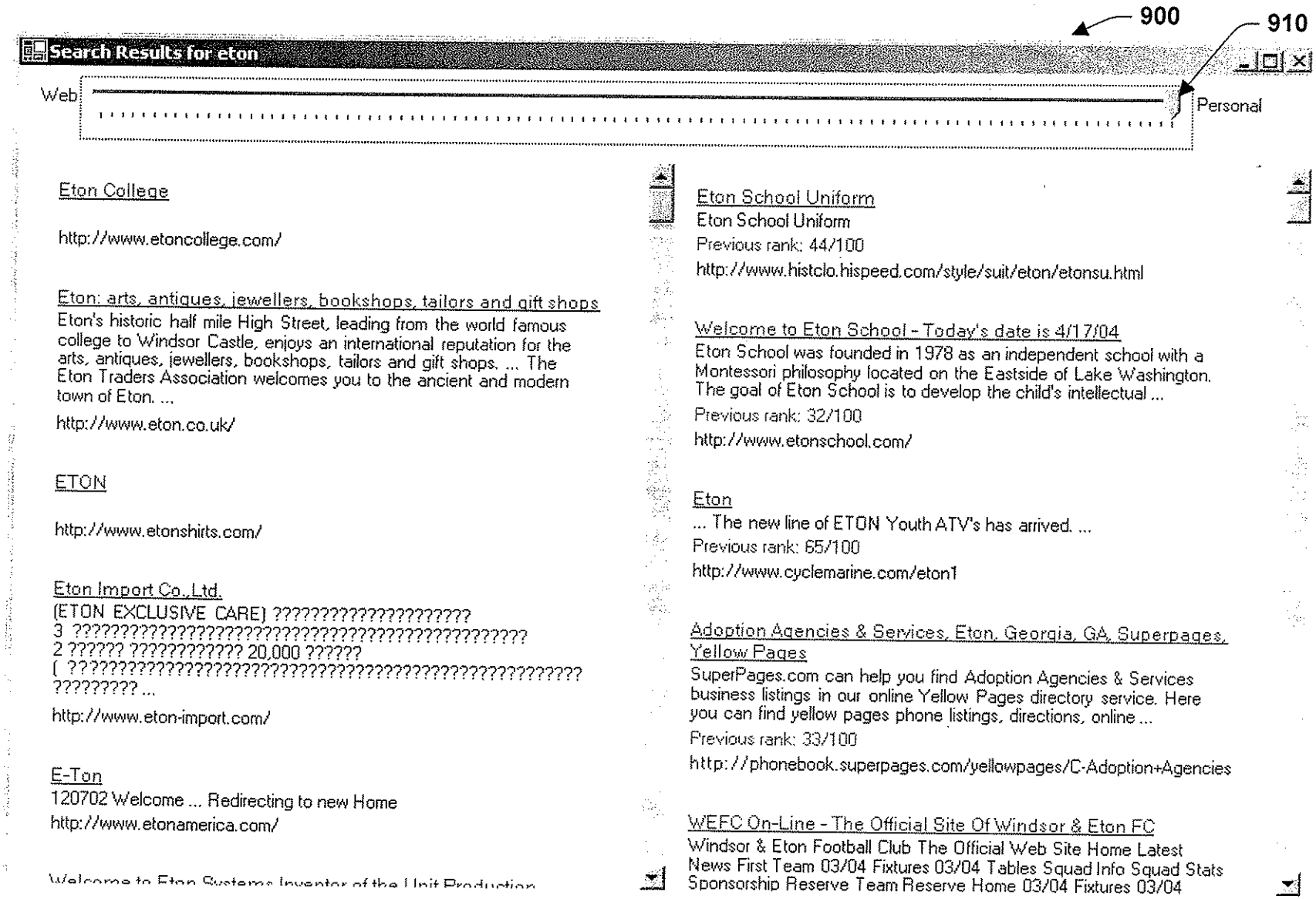

900
910
Search Results for eton
Web
Personal
Eton College
http://www.etoncollege.com/
Eton: arts, antiques, jewellers, bookshops, tailors and gift shops
Eton's historic half mile High Street, leading from the world famous college to Windsor Castle, enjoys an international reputation for the arts, antiques, jewellers, bookshops, tailors and gift shops. ... The Eton Traders Association welcomes you to the ancient and modern town of Eton. ...
http://www.eton.co.uk/
ETON
http://www.etonshirts.com/
Eton Import Co.,Ltd.
(ETON EXCLUSIVE CARE) ????????????????????
3 ??
2 ?????? ???????????? 20,000 ??????
(??
????????? ...
http://www.eton-import.com/
E-Ton
120702 Welcome ... Redirecting to new Home
http://www.etonamerica.com/
Welcome to Eton Systems Inventor of the Unit Production
Eton School Uniform
Eton School Uniform
Previous rank: 44/100
http://www.histclo.hispeed.com/style/suit/eton/etonsu.html
Welcome to Eton School - Today's date is 4/17/04
Eton School was founded in 1978 as an independent school with a Montessori philosophy located on the Eastside of Lake Washington. The goal of Eton School is to develop the child's intellectual ...
Previous rank: 32/100
http://www.etonschool.com/
Eton
... The new line of ETON Youth ATV's has arrived. ...
Previous rank: 65/100
http://www.cyclemarine.com/eton1
Adoption Agencies & Services, Eton, Georgia, GA, Superpages, Yellow Pages
SuperPages.com can help you find Adoption Agencies & Services business listings in our online Yellow Pages directory service. Here you can find yellow pages phone listings, directions, online ...
Previous rank: 33/100
http://phonebook.superpages.com/yellowpages/C-Adoption+Agencies
WEFC On-Line - The Official Site Of Windsor & Eton FC
Windsor & Eton Football Club The Official Web Site Home Latest News First Team 03/04 Fixtures 03/04 Tables Squad Info Squad Stats Sponsorship Reserve Team Reserve Home 03/04 Fixtures 03/04

FIG. 9

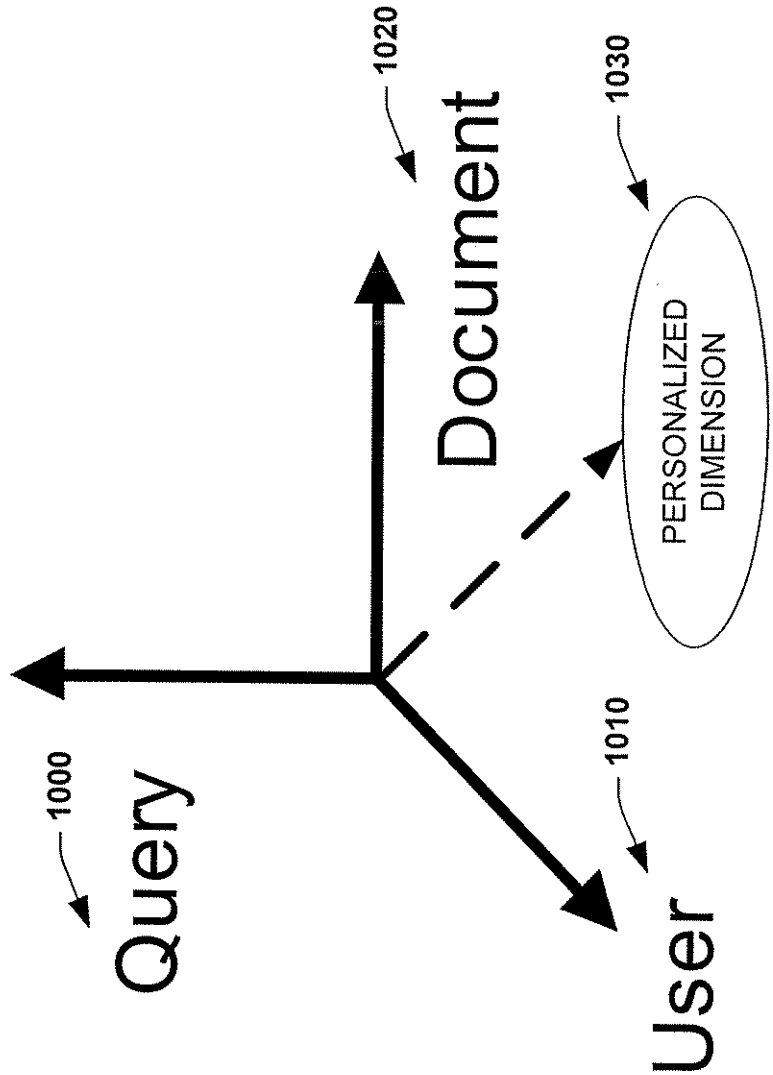
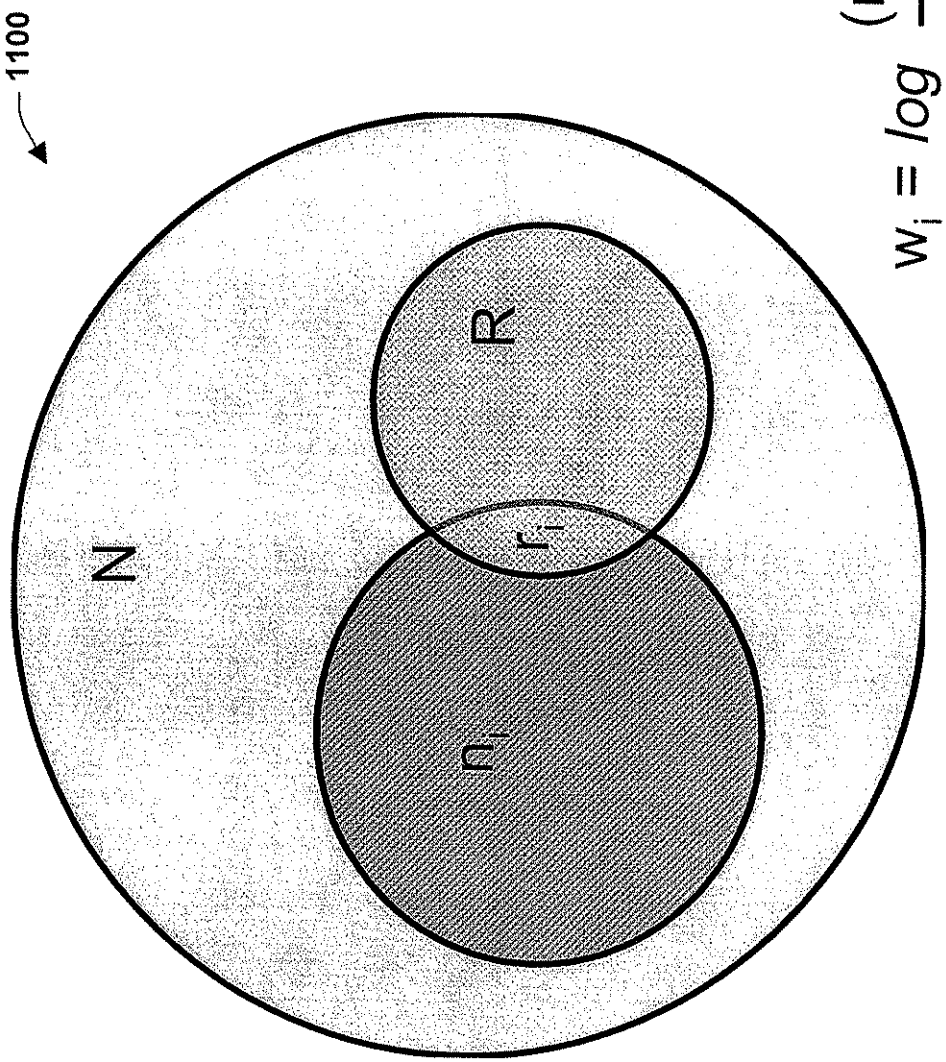

1000
Query
1020
Document
1030
PERSONALIZED DIMENSION
1010
User

FIG. 10



$$\text{Score} = \sum tf_i * w_i$$

$$w_i = log\frac{N}{n_i}$$

$$w_i = log\frac{(r_i+0.5)(N-n_i-R+r_i+0.5)}{(n_i-r_i+0.5)(R-r_i+0.5)}$$

FIG. 11

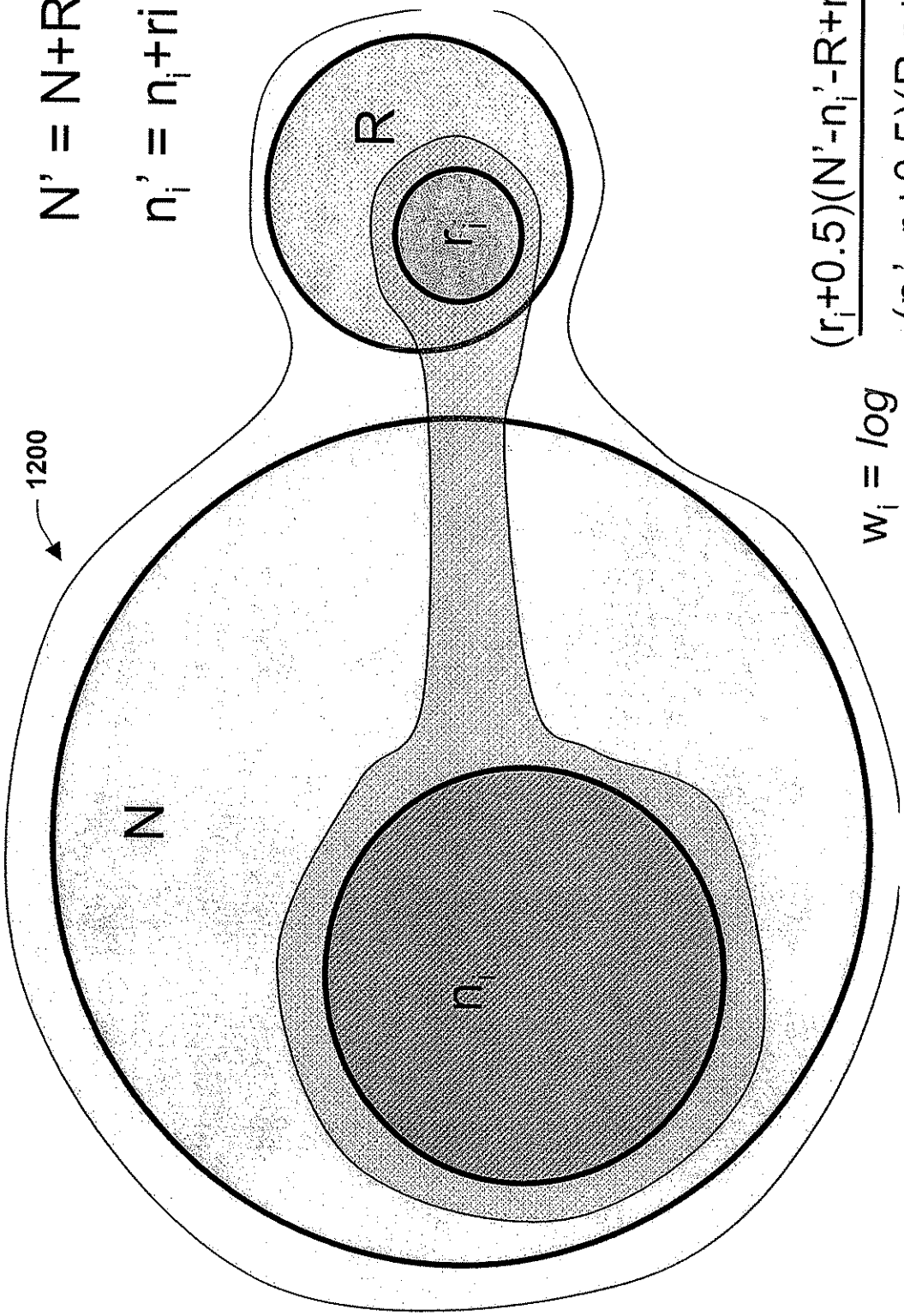


FIG. 12

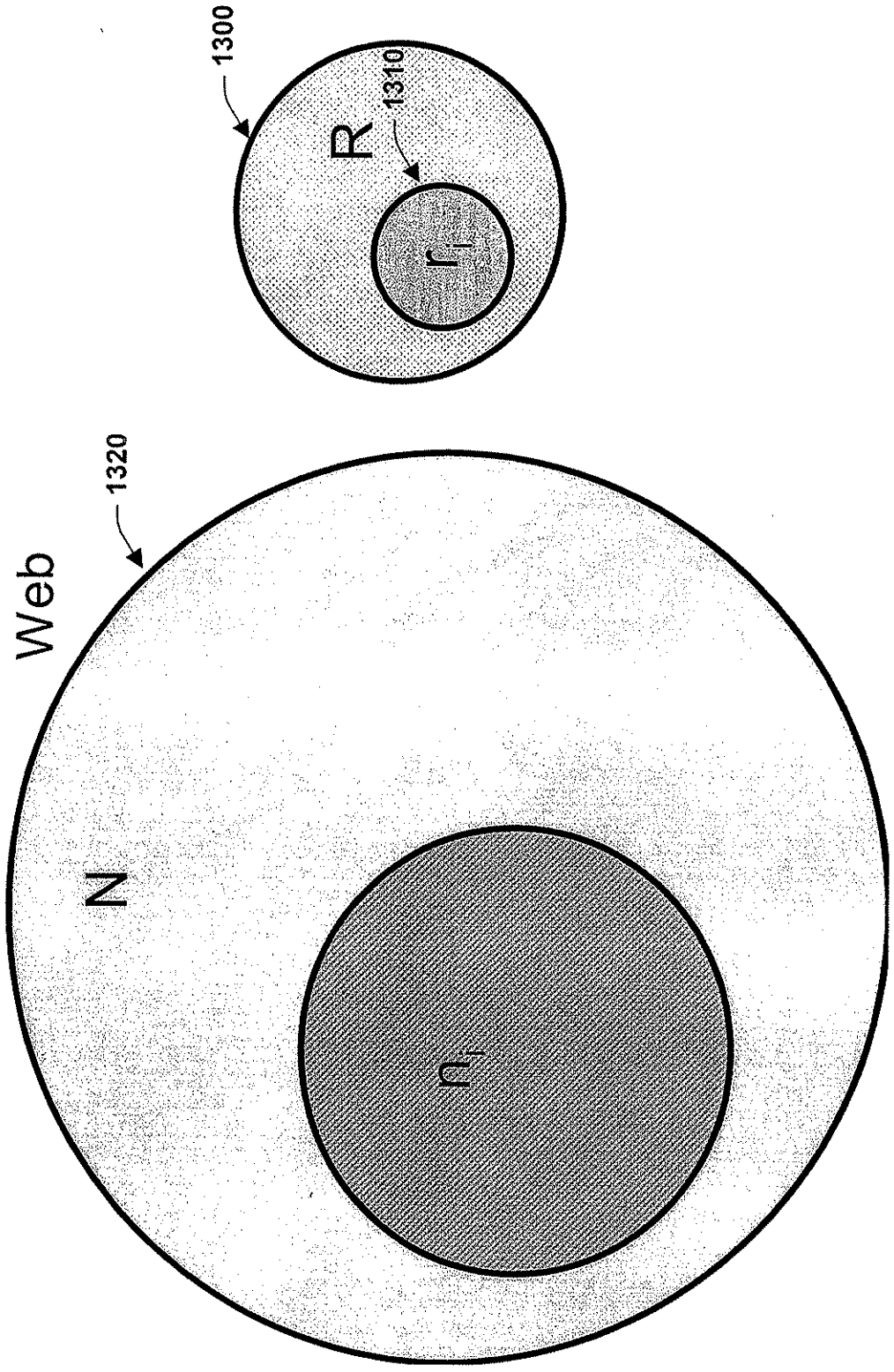


FIG. 13

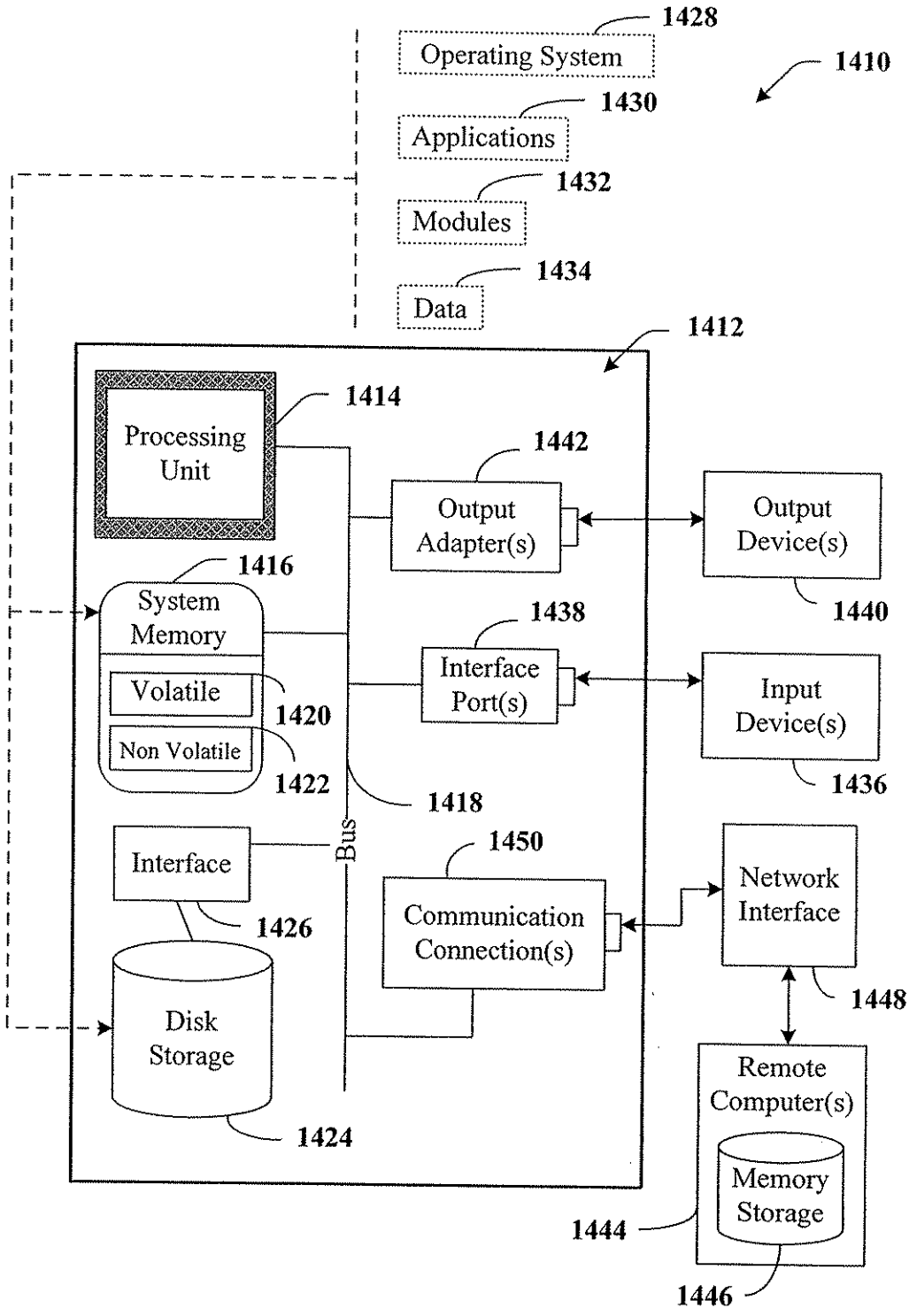

1428
Operating System
1410
1430
Applications
1432
Modules
1434
Data
1412
1414
Processing Unit
1442
Output Adapter(s)
Output Device(s)
1440
1416
System Memory
Volatile
1420
Non Volatile
1422
1438
Interface Port(s)
Input Device(s)
1436
1418
Bus
Interface
1426
1450
Communication Connection(s)
Network Interface
1448
Disk Storage
1424
Remote Computer(s)
Memory Storage
1444
1446

FIG. 14

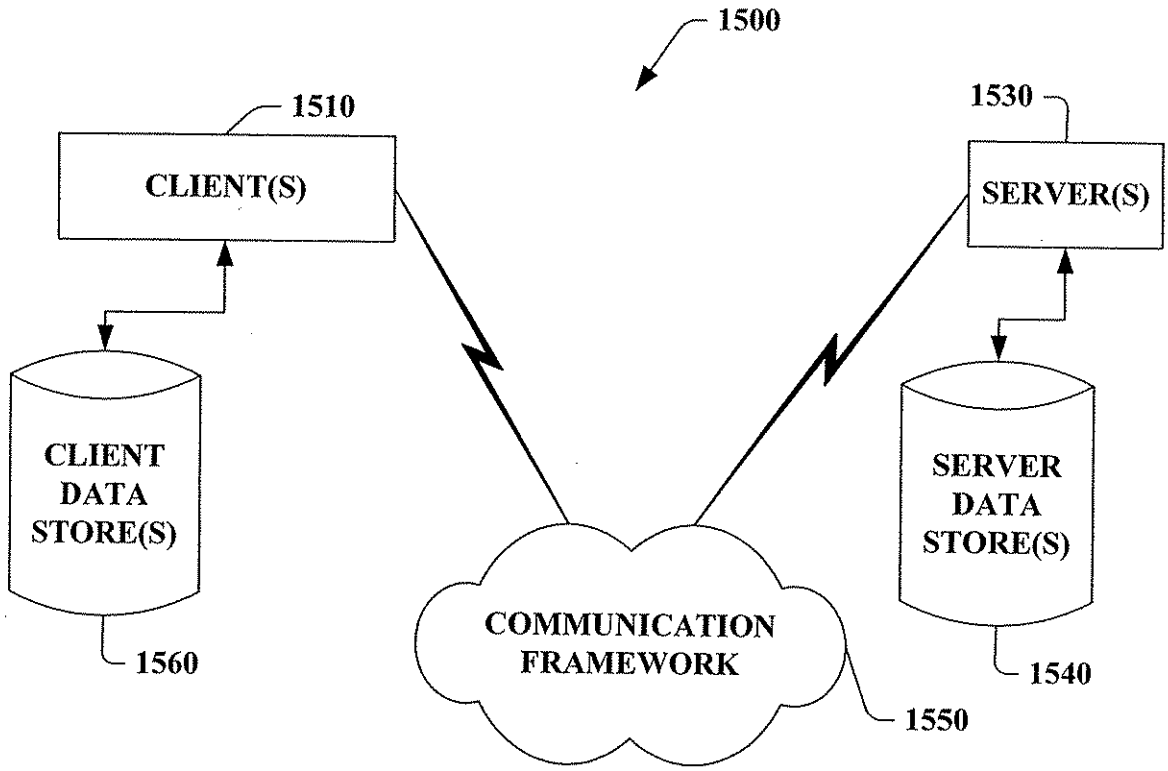

1500
1510
CLIENT(S)
1530
SERVER(S)
CLIENT DATA STORE(S)
1560
COMMUNICATION FRAMEWORK
1550
SERVER DATA STORE(S)
1540

FIG. 15