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Gerace et al.

(54) COMPUTER METHOD AND APPARATUS FOR TARGETING ADVERTISING

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(21) Appl. No.: **11/451,995**

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Publication Classification

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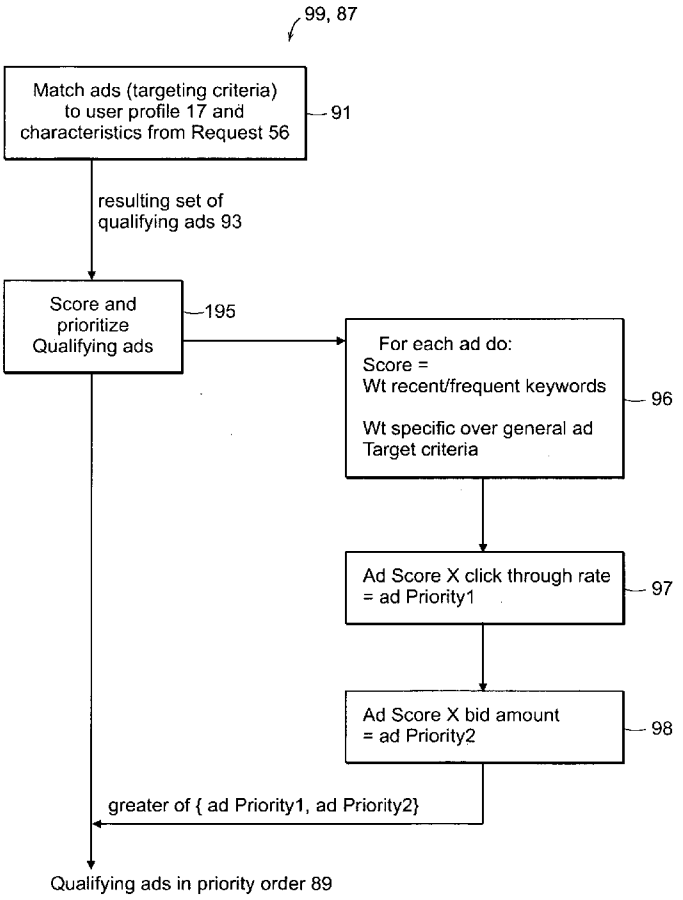
G07G	*1/00*	(2006.01)

(52) **U.S. Cl.** **705/14**; 707/3; 705/10

(57) **ABSTRACT**

In a global network of computers, a method ad system of profiling a user for targeting advertisements is disclosed. The method and system obtains and/or infers demographic information from end-users using on-line means. The invention next monitors end user activity and determines keywords therefrom. The system and method profiles an end user as a function of the determined end-user activity keywords and obtained/inferred end-user demographic information. Profiles of end-users are matched against targeted profiles of advertisements which are defined by the respective advertisers. This results in targeting advertisements to end-users based on end user profiles. Advertisers bid for advertisement placement with the system. In some embodiments, the system employs Vickrey auction type bidding. Using observed user behavior and the auction results, ads are prioritized for selection and viewing placement in a manner that provides the greatest potential value to the system.



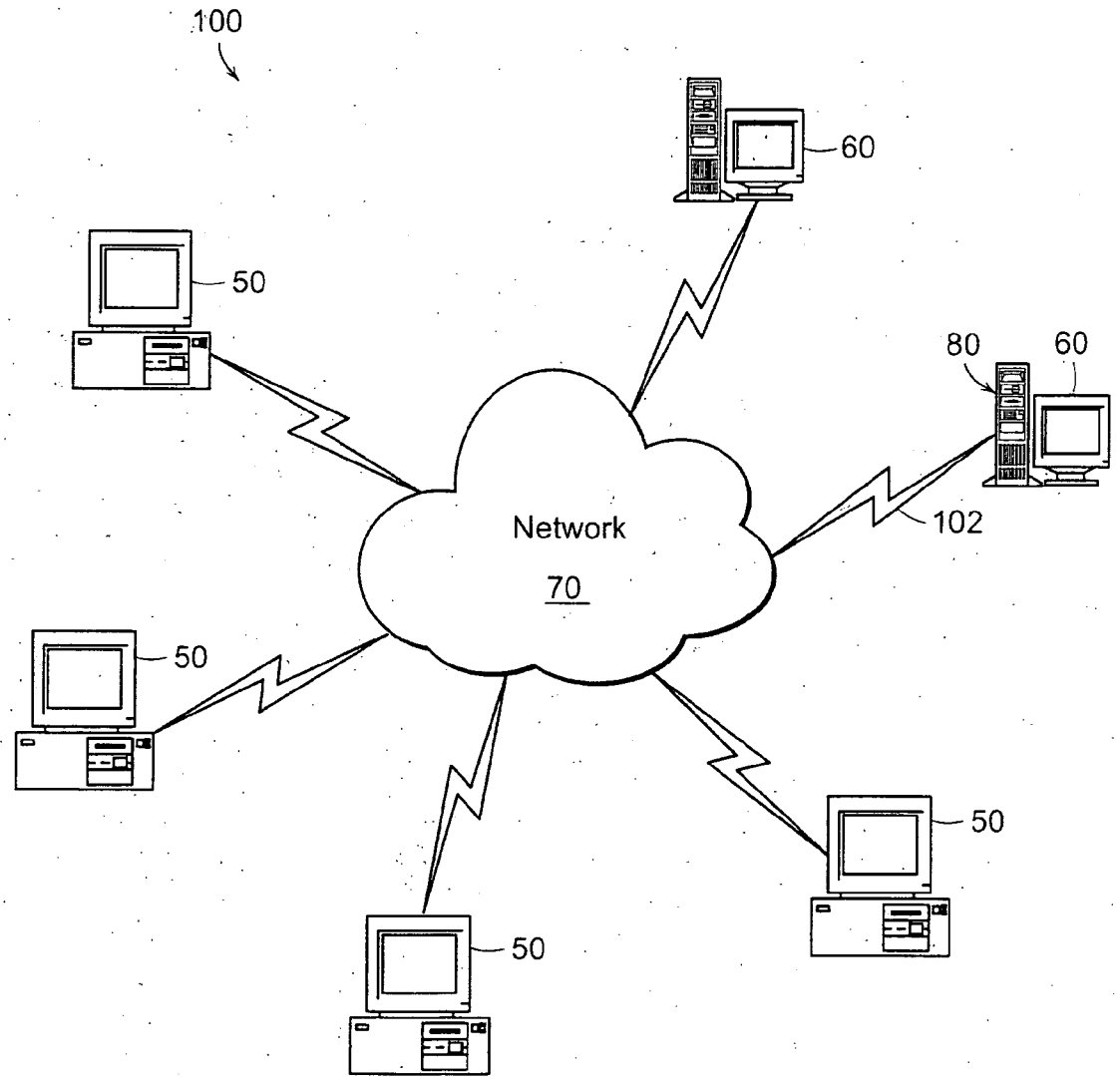


FIG. 1A

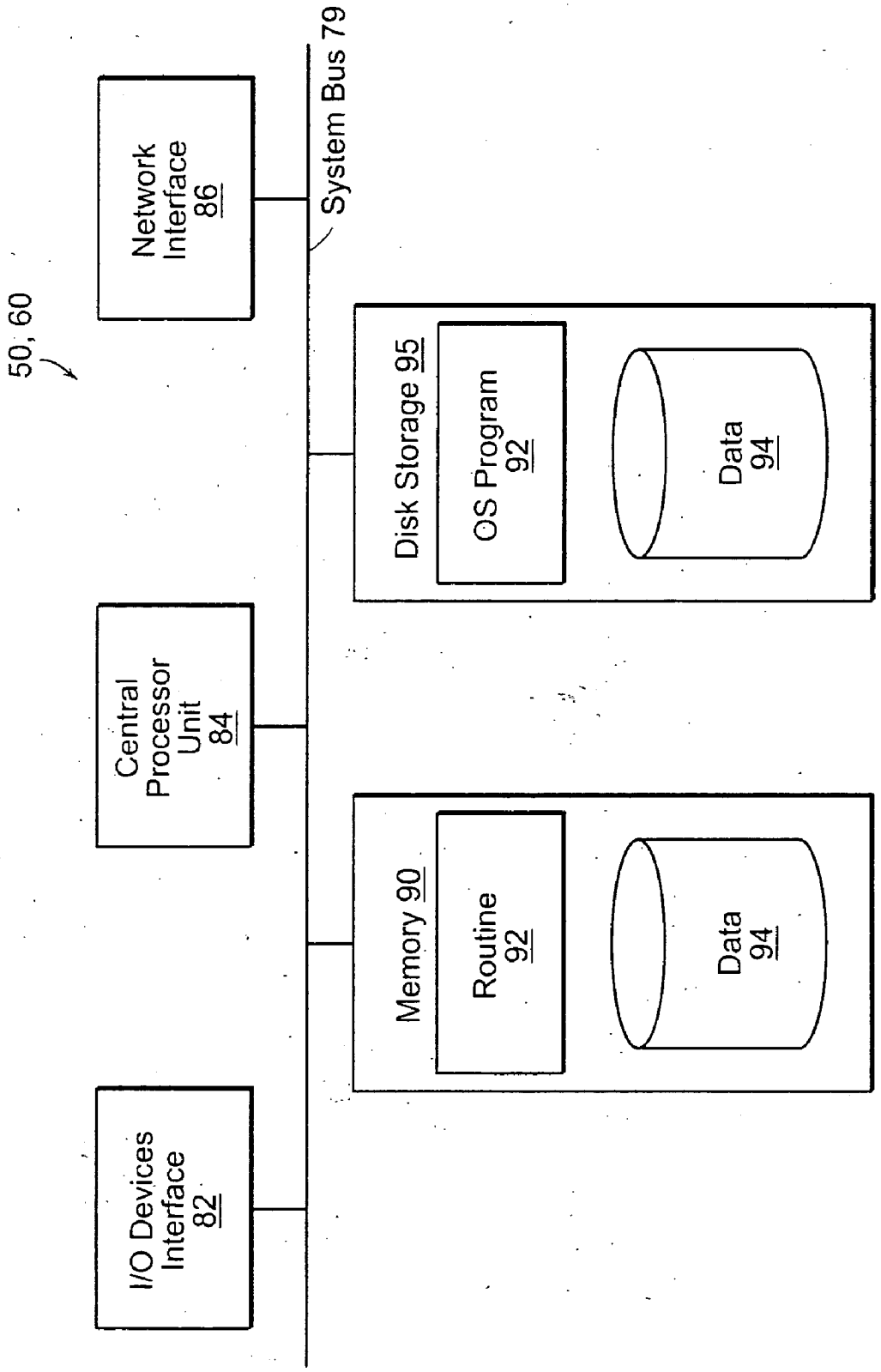

50, 60
Network Interface 86
System Bus 79
Disk Storage 95
OS Program 92
Data 94
Central Processor Unit 84
Memory 90
Routine 92
Data 94
I/O Devices Interface 82

FIG. 1B

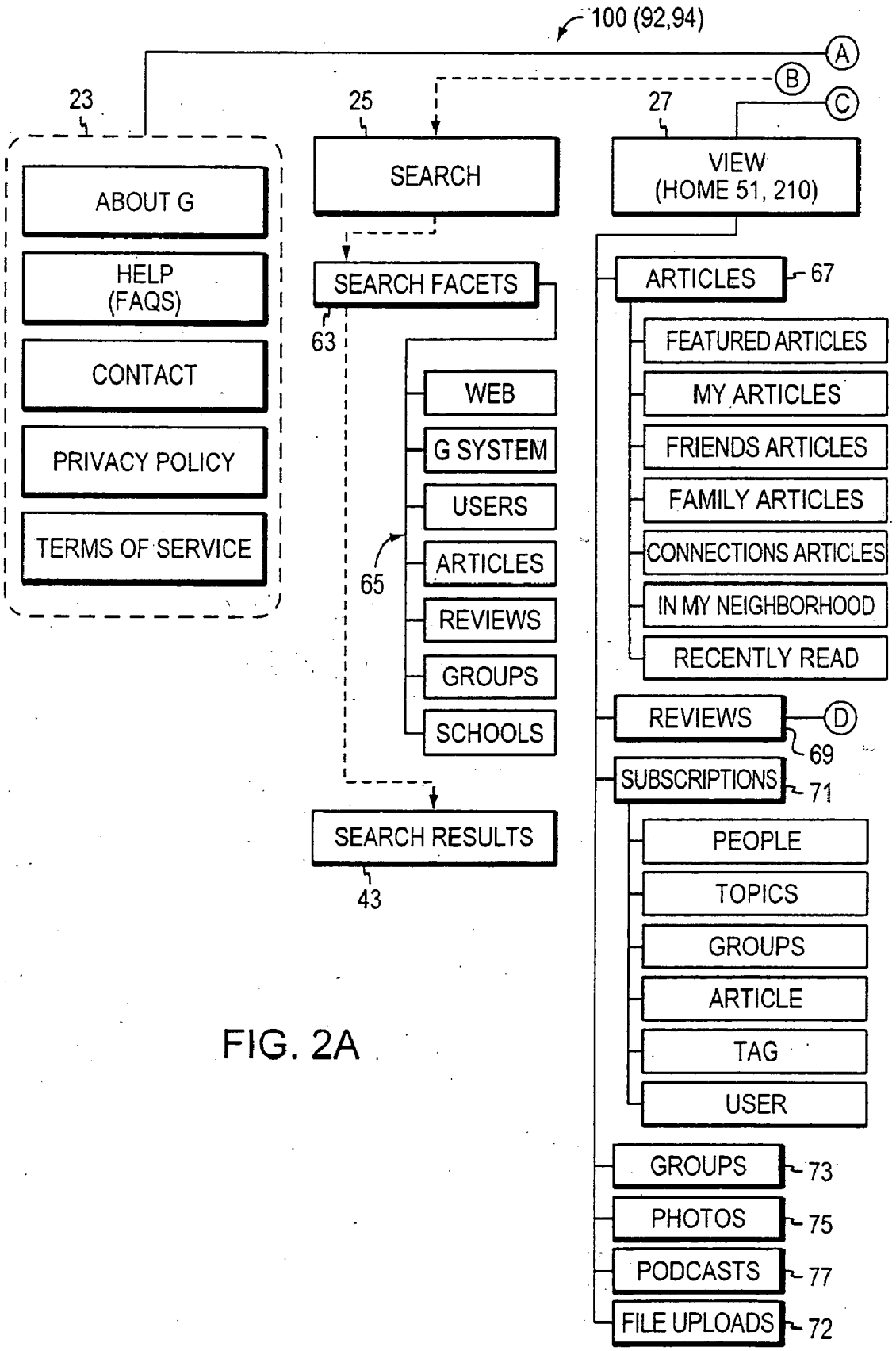

100 (92,94)
A
B
C
23
25
27
ABOUT G
HELP (FAQS)
CONTACT
PRIVACY POLICY
TERMS OF SERVICE
SEARCH
VIEW (HOME 51, 210)
SEARCH FACETS
63
WEB
G SYSTEM
USERS
ARTICLES
REVIEWS
GROUPS
SCHOOLS
65
SEARCH RESULTS
43
ARTICLES
67
FEATURED ARTICLES
MY ARTICLES
FRIENDS ARTICLES
FAMILY ARTICLES
CONNECTIONS ARTICLES
IN MY NEIGHBORHOOD
RECENTLY READ
REVIEWS
D
69
SUBSCRIPTIONS
71
PEOPLE
TOPICS
GROUPS
ARTICLE
TAG
USER
GROUPS
73
PHOTOS
75
PODCASTS
77
FILE UPLOADS
72

FIG. 2A

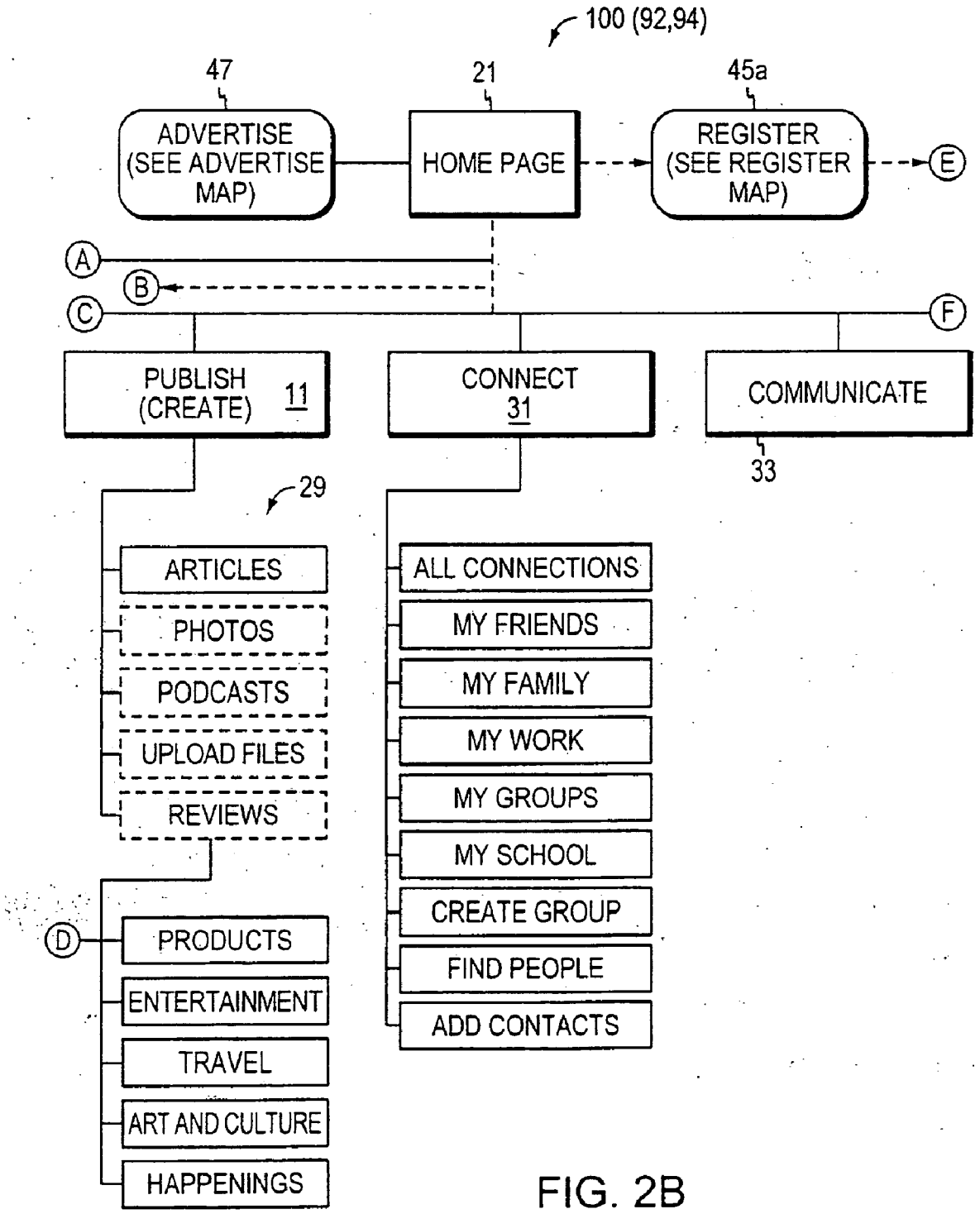
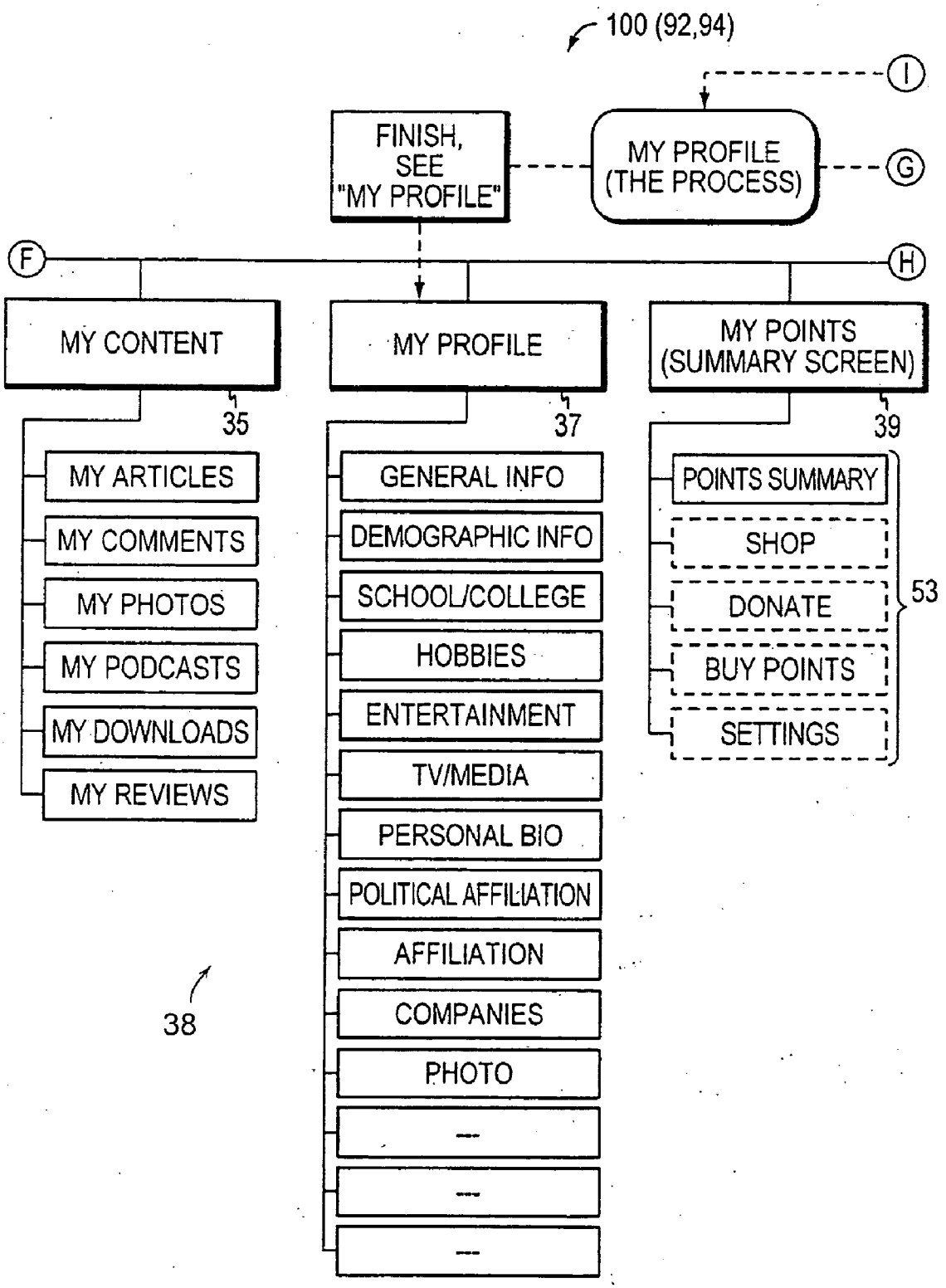

100 (92,94)
47
21
45a
ADVERTISE (SEE ADVERTISE MAP)
HOME PAGE
REGISTER (SEE REGISTER MAP)
E
A
B
C
F
PUBLISH (CREATE) 11
CONNECT 31
COMMUNICATE
33
29
ARTICLES
PHOTOS
PODCASTS
UPLOAD FILES
REVIEWS
D
PRODUCTS
ENTERTAINMENT
TRAVEL
ART AND CULTURE
HAPPENINGS
ALL CONNECTIONS
MY FRIENDS
MY FAMILY
MY WORK
MY GROUPS
MY SCHOOL
CREATE GROUP
FIND PEOPLE
ADD CONTACTS

FIG. 2B


100 (92,94)
I
FINISH, SEE "MY PROFILE"
MY PROFILE (THE PROCESS)
G
F
H
MY CONTENT
MY PROFILE
MY POINTS (SUMMARY SCREEN)
35
37
39
MY ARTICLES
MY COMMENTS
MY PHOTOS
MY PODCASTS
MY DOWNLOADS
MY REVIEWS
GENERAL INFO
DEMOGRAPHIC INFO
SCHOOL/COLLEGE
HOBBIES
ENTERTAINMENT
TV/MEDIA
PERSONAL BIO
POLITICAL AFFILIATION
AFFILIATION
COMPANIES
PHOTO

POINTS SUMMARY
SHOP
DONATE
BUY POINTS
SETTINGS
53
38

FIG. 2C

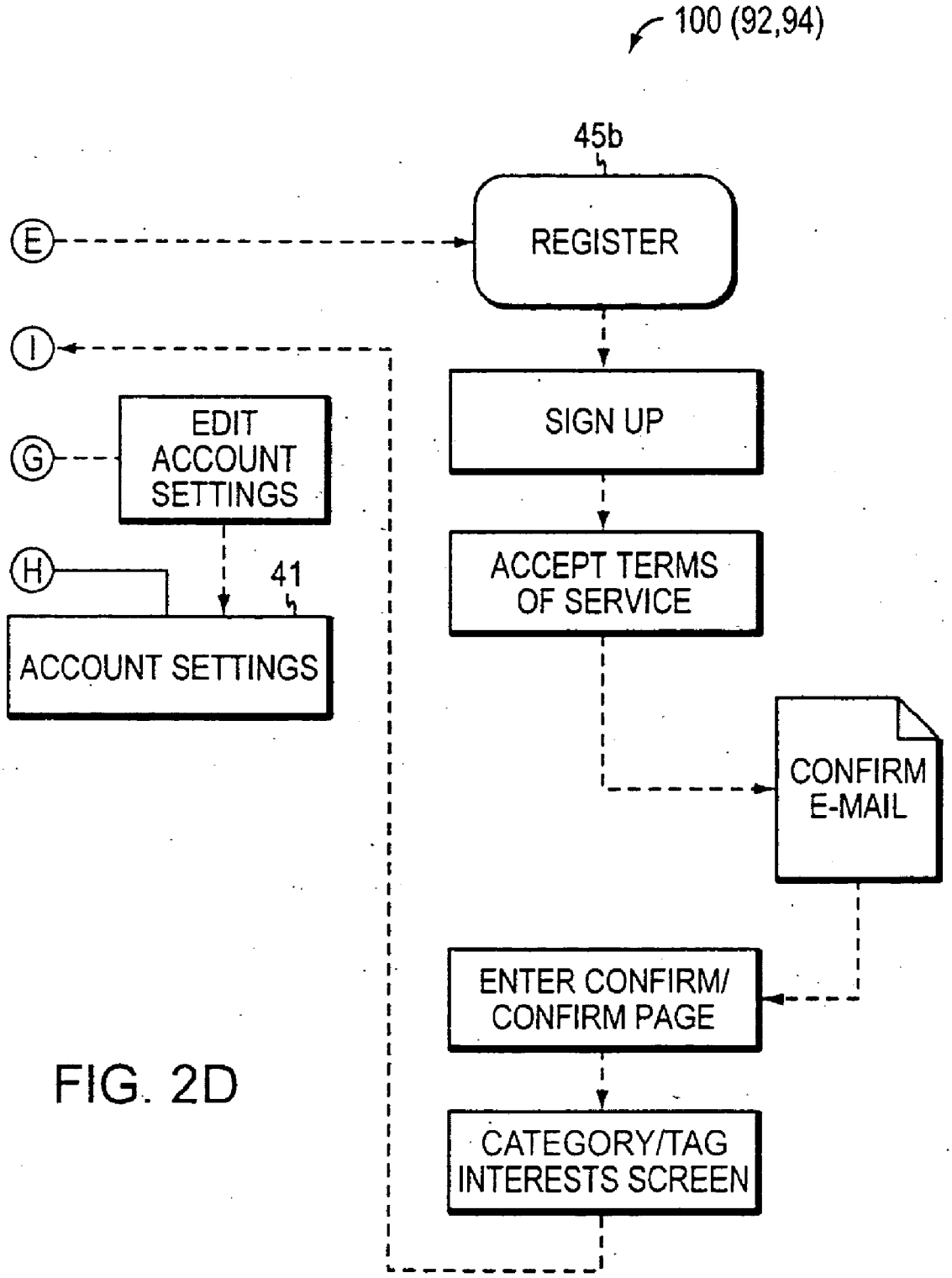

100 (92,94)
45b
REGISTER
E
I
SIGN UP
EDIT ACCOUNT SETTINGS
G
H
41
ACCOUNT SETTINGS
ACCEPT TERMS OF SERVICE
CONFIRM E-MAIL
ENTER CONFIRM/ CONFIRM PAGE
CATEGORY/TAG INTERESTS SCREEN

FIG. 2D

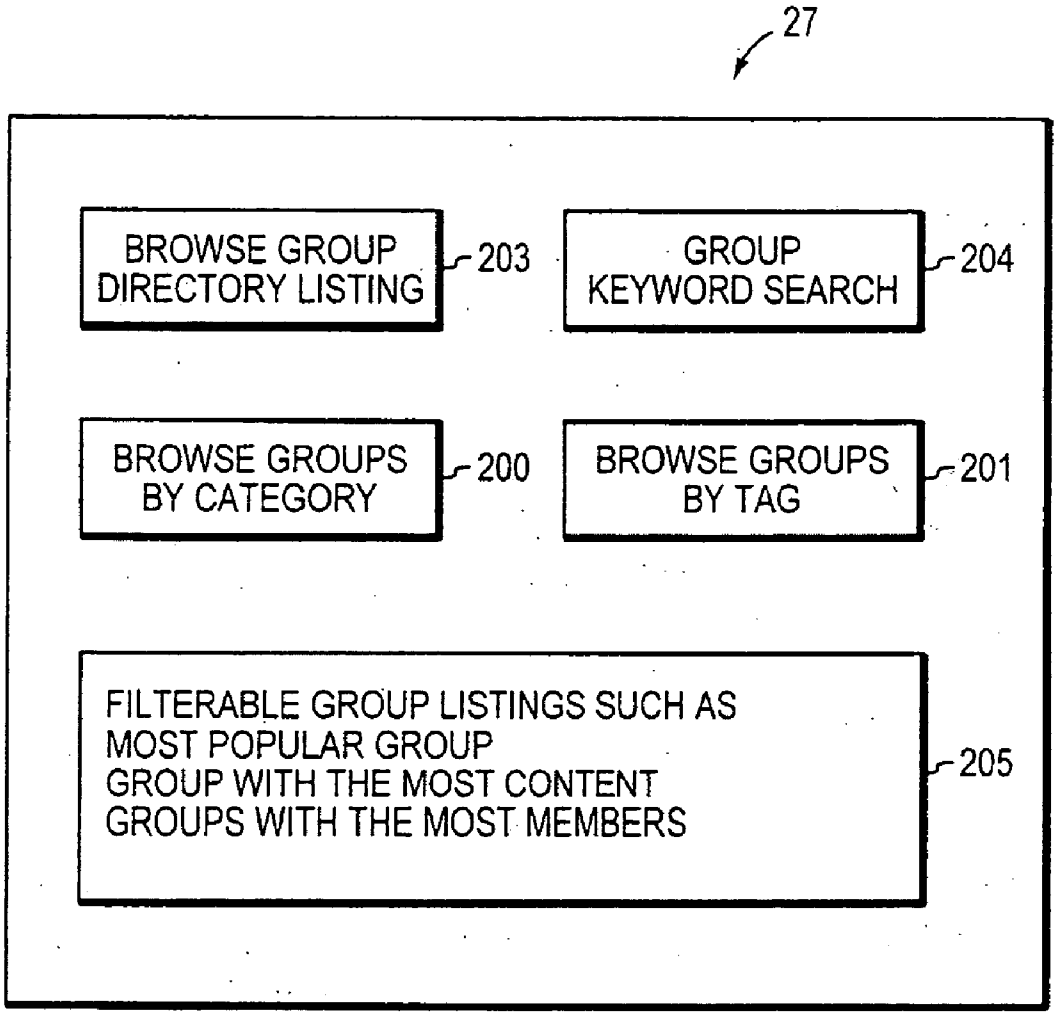

27
BROWSE GROUP DIRECTORY LISTING
203
GROUP KEYWORD SEARCH
204
BROWSE GROUPS BY CATEGORY
200
BROWSE GROUPS BY TAG
201
FILTERABLE GROUP LISTINGS SUCH AS
MOST POPULAR GROUP
GROUP WITH THE MOST CONTENT
GROUPS WITH THE MOST MEMBERS
205

FIG. 2E

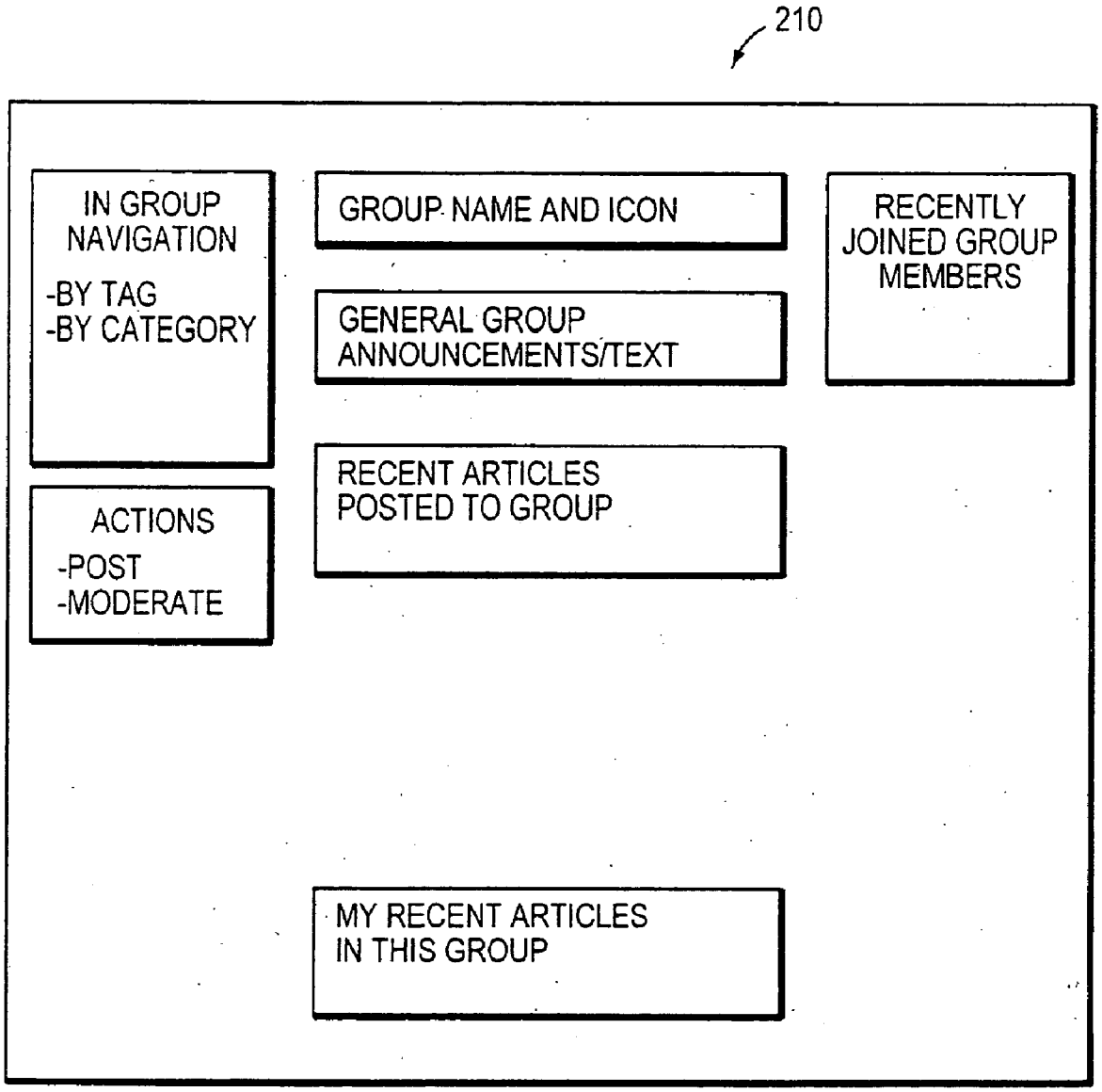

210
IN GROUP NAVIGATION
-BY TAG
-BY CATEGORY
GROUP NAME AND ICON
RECENTLY JOINED GROUP MEMBERS
GENERAL GROUP ANNOUNCEMENTS/TEXT
RECENT ARTICLES POSTED TO GROUP
ACTIONS
-POST
-MODERATE
MY RECENT ARTICLES IN THIS GROUP

FIG. 2F

Home Feedback Help Sign Out | Browse | Publish | Connect | My Content | My Network | My Info

Tags ⊙ Suggested ○ Most Viewed ○ Most Discussed ○ Most Published

gather. com/...arts, books, business, education, environment , family, food

Search Articles → About search

Edit Your Group Settings

Manage and edit your group details, settings, and permission any time you wish. Update the necessary information below. The only information that cannot be updated is group username.

Group Setting, Part I ← 112

Group Name: Car Guys

* Group Username carguys.gather.com. Group username cannot be changed.

City: Detroit State: MI

Tags: speed, suv, cars, porsche, truck, wheels, automobile

* Synopsis: Where car guys go to talk about cars.

Description: A forum to share your knowledge and expertise of cars with others. Share stories about trips and what your dreams are and why.

Group icon: Choose File no file selected

No Capitals, Spaces, symbols, or underscore. Up to 16 numbers or lowercase letters. The name you choose for your group will become your group homepage URL: namepace. gather.com.

Separate words and phrases with commas. Tags function as keywords that allow your group to be found by someone performing a search.

255 character maximum. This short description will display when someone searches for your group.

6000 character maximum. This longer description will appear on your group's About page.

JPG only. Browse your computer to upload an icon that represents your group.

Group Setting, Part II ← 114

This group can be seen by ⊙ Everyone ○ Group Members Only

This group's content can be viewed by ⊙ Everyone ○ Group Members Only

This group's content is moderated ○ Yes ⊙ No

People who want to join this group will ⊙ Be automatically added as members

○ Be reviewed by a moderator before acceptance

○ Need to be invited by a member

← 116

Default Member Permissions (by detail the group owner can do all of these things)

- ☑ Can post to the group
- ☑ Can publish using the group name
- ☐ Can moderate content
- ☐ Can moderate members
- ☑ Can invite others
- ☐ Can message the entire group

Set permissions for viewing and joining.

Set permissions for publishing, content, invitations, member moderation, and messaging.

Adult Group Setting

If your group involves subject matter that can be described as adult content, on their Gather pages.

☐ Nudity

☐ Other

* = required field SUBMIT

FIG. 2G

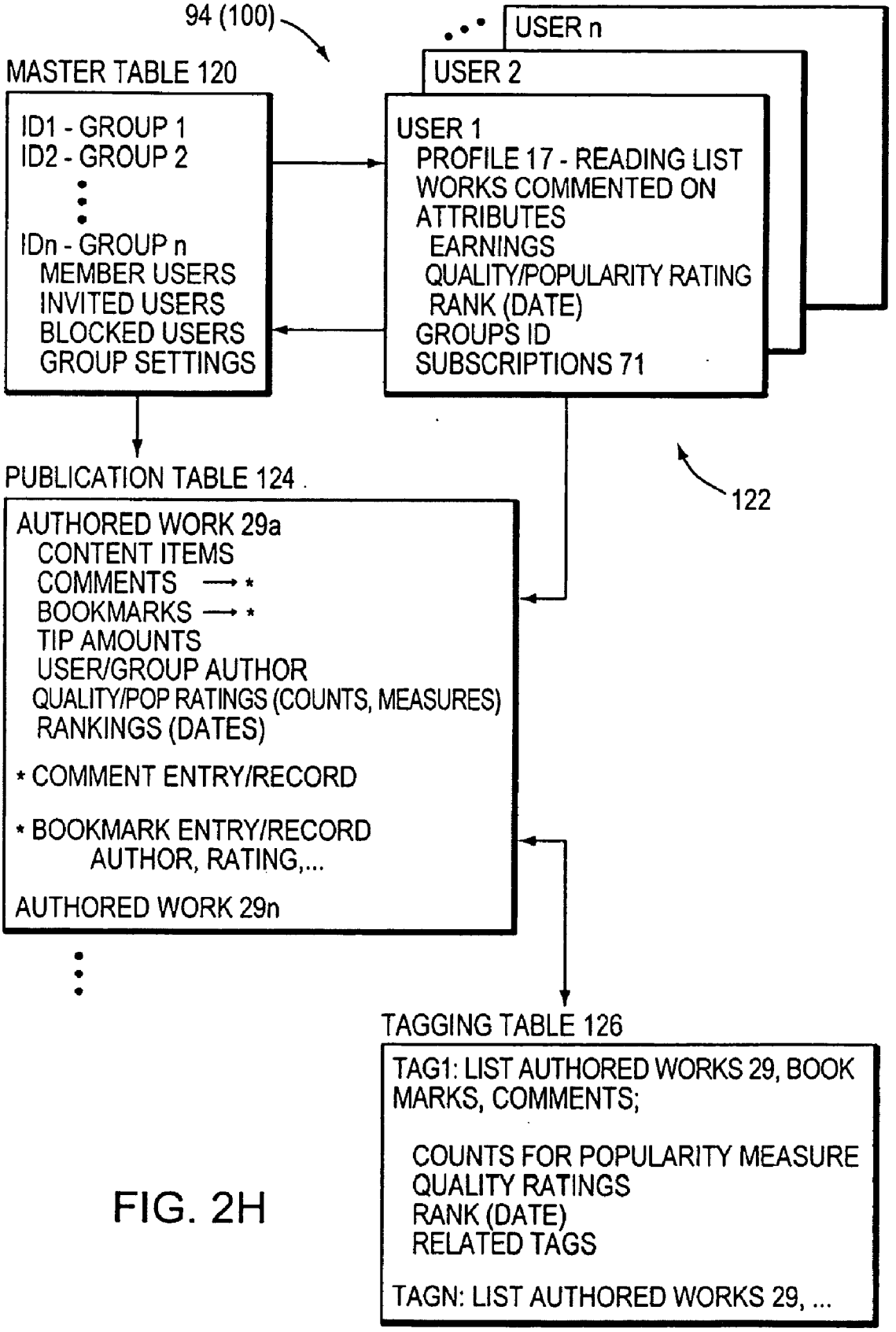

94 (100)
MASTER TABLE 120
ID1 - GROUP 1
ID2 - GROUP 2
IDn - GROUP n
MEMBER USERS
INVITED USERS
BLOCKED USERS
GROUP SETTINGS
USER n
USER 2
USER 1
PROFILE 17 - READING LIST
WORKS COMMENTED ON
ATTRIBUTES
EARNINGS
QUALITY/POPULARITY RATING
RANK (DATE)
GROUPS ID
SUBSCRIPTIONS 71
122
PUBLICATION TABLE 124
AUTHORED WORK 29a
CONTENT ITEMS
COMMENTS → *
BOOKMARKS → *
TIP AMOUNTS
USER/GROUP AUTHOR
QUALITY/POP RATINGS (COUNTS, MEASURES)
RANKINGS (DATES)
* COMMENT ENTRY/RECORD
* BOOKMARK ENTRY/RECORD
AUTHOR, RATING,...
AUTHORED WORK 29n
TAGGING TABLE 126
TAG1: LIST AUTHORED WORKS 29, BOOK MARKS, COMMENTS;
COUNTS FOR POPULARITY MEASURE
QUALITY RATINGS
RANK (DATE)
RELATED TAGS
TAGN: LIST AUTHORED WORKS 29, ...

FIG. 2H

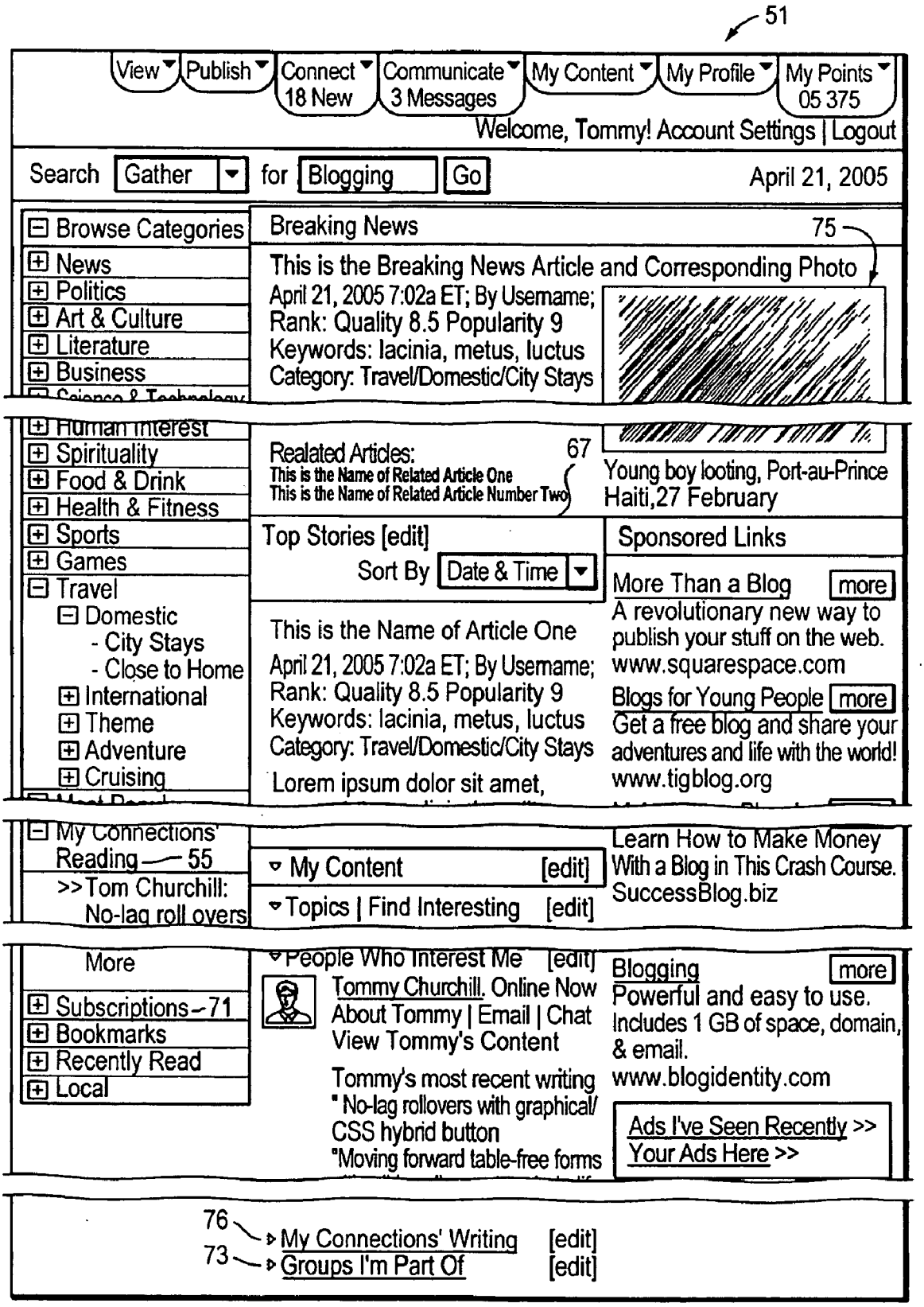

51
View
Publish
Connect 18 New
Communicate 3 Messages
My Content
My Profile
My Points 05 375
Welcome, Tommy! Account Settings | Logout
Search
Gather
for
Blogging
Go
April 21, 2005
Browse Categories
News
Politics
Art & Culture
Literature
Business
Breaking News
75
This is the Breaking News Article and Corresponding Photo
April 21, 2005 7:02a ET; By Usemame;
Rank: Quality 8.5 Popularity 9
Keywords: lacinia, metus, luctus
Category: Travel/Domestic/City Stays
Human Interest
Spirituality
Food & Drink
Health & Fitness
Sports
Games
Travel
Domestic
- City Stays
- Close to Home
International
Theme
Adventure
Cruising
Realated Articles:
67
This is the Name of Related Article One
This is the Name of Related Article Number Two
Young boy looting, Port-au-Prince Haiti,27 February
Top Stories [edit]
Sort By
Date & Time
This is the Name of Article One
April 21, 2005 7:02a ET; By Usemame;
Rank: Quality 8.5 Popularity 9
Keywords: lacinia, metus, luctus
Category: Travel/Domestic/City Stays
Lorem ipsum dolor sit amet,
Sponsored Links
More Than a Blog
more
A revolutionary new way to publish your stuff on the web.
www.squarespace.com
Blogs for Young People
more
Get a free blog and share your adventures and life with the world!
www.tigblog.org
My Connections' Reading
55
>>Tom Churchill: No-lag roll overs
My Content
[edit]
Topics | Find Interesting
[edit]
Learn How to Make Money With a Blog in This Crash Course.
SuccessBlog.biz
More
Subscriptions
71
Bookmarks
Recently Read
Local
People Who Interest Me
[edit]
Tommy Churchill. Online Now
About Tommy | Email | Chat
View Tommy's Content
Tommy's most recent writing
" No-lag rollovers with graphical/ CSS hybrid button
"Moving forward table-free forms
Blogging
more
Powerful and easy to use.
Includes 1 GB of space, domain, & email.
www.blogidentity.com
Ads I've Seen Recently >>
Your Ads Here >>
76
My Connections' Writing
[edit]
73
Groups I'm Part Of
[edit]

FIG. 3

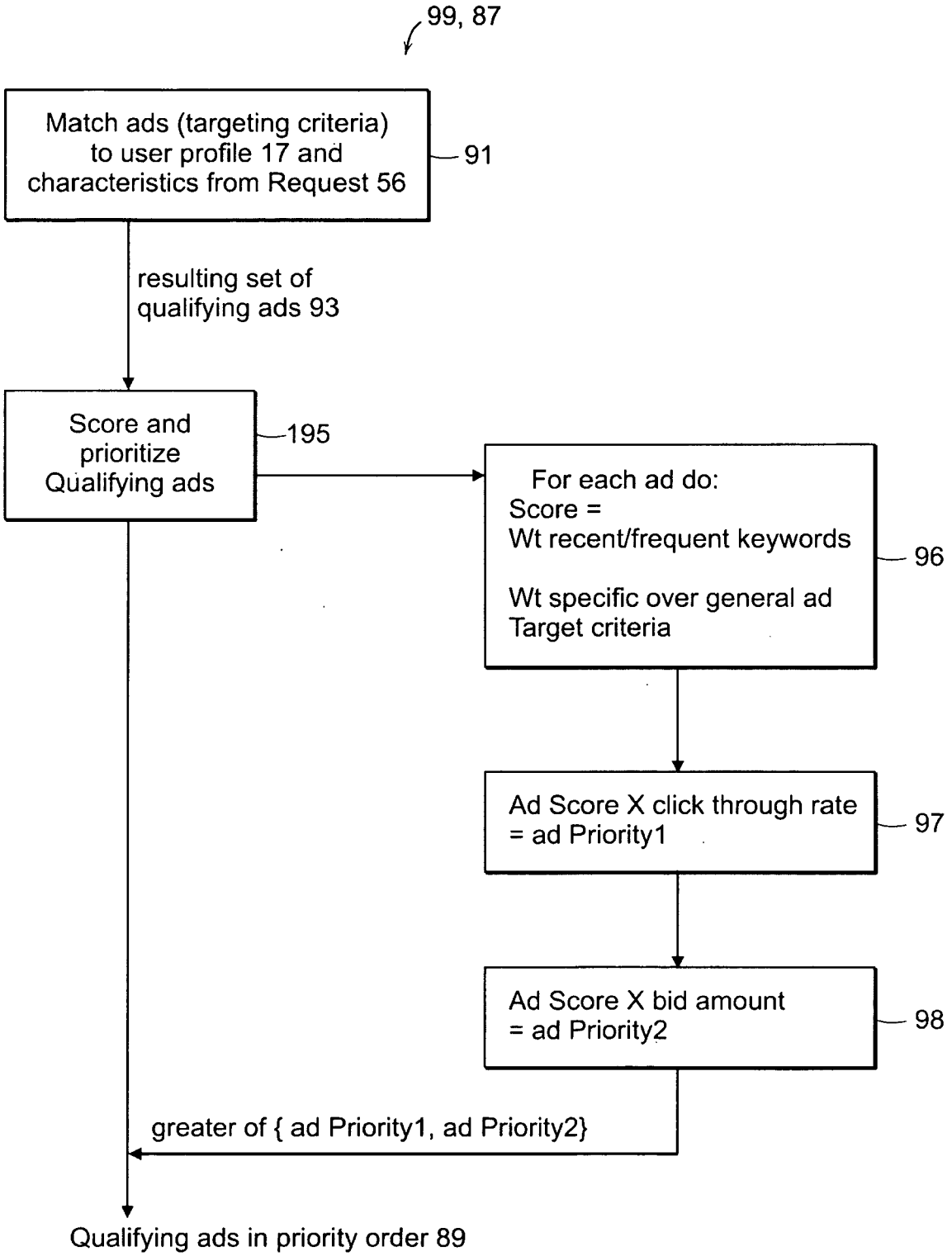

99, 87
Match ads (targeting criteria) to user profile 17 and characteristics from Request 56
91
resulting set of qualifying ads 93
Score and prioritize Qualifying ads
195
For each ad do:
Score =
Wt recent/frequent keywords
Wt specific over general ad Target criteria
96
Ad Score X click through rate = ad Priority1
97
Ad Score X bid amount = ad Priority2
98
greater of { ad Priority1, ad Priority2}
Qualifying ads in priority order 89

FIG. 4

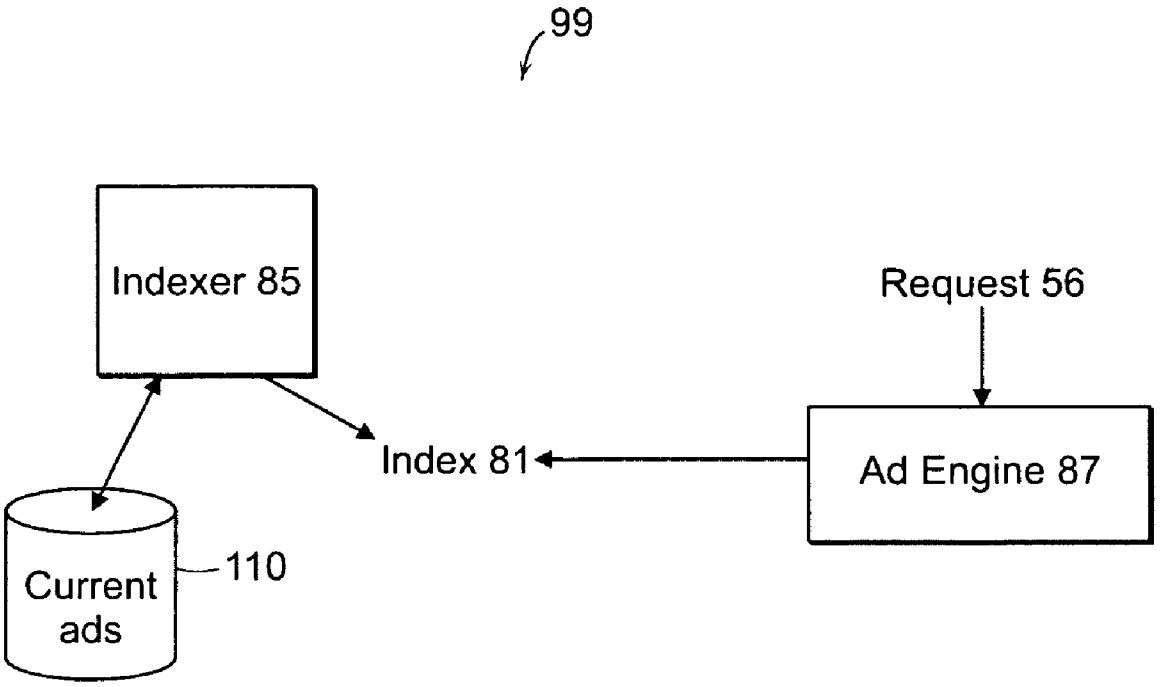

99
Indexer 85
Request 56
Index 81
Ad Engine 87
Current ads
110

FIG. 5

Home Feedback Help Sign In

Browse | Publish | Connect | My Content | My Network

gather.com/... arts, books, business, education, environment, family, food, health, money, movies music, news, people, politics, public radio, reviews, spirituality, sports, technology, travel

Search Articles | about search

Enter Your Registration Information 132

1. Register | 2. Create Ad | 3. Target Audience | 4. Customer Profile | 5. Establish Budget | 6. Billing

Reasons to Advertise on G

+ Company Name: B10 Used Bike Parts

+ First Name: Jeremy

+ Last Name: Potter

Email: **jeremy@gatherinc.com**

+ Advertising Email: jeremy@gatherinc.com

+ Confirm Email: jeremy@gatherinc.com

+ Phone Number: 6177204000 ext: 1009

Alternate Phone Number: ext:

Fax Number:

+ Address Line 1: 85 Devonshire St, FL3

Address Line 2:

+ City: Boston

+ State: MA

+ ZIP: 02109

+ = required field

Advertiser Agreement view printable version

FIG. 6A

Home Feedback Help Sign In

Browse | Publish | Connect | My Content | My Network

gather.com/... arts, books, business, education, environment, family, food, health, money, movies music, news, people, politics, public radio, reviews, spirituality, sports, technology, travel

Search Articles | about search

Create Your Advertisement 134

1. Register | 2. Create Ad | 3. Target Audience | 4. Customer Profile | 5. Establish Budget | 6. Billing

+ Campaign Name: Campaign 1

+ Advertisement Name: Ad 1

Ad Preview

b
g
r
www.b10bikes.com

Your words will replace the example ad as you type.

+ Headline	Bike Parts in Boston	34/35
+ Description Line 1	Great selection of parts for both	34/35
+ Description Line 2	road and mountain! Save Money!	34/35
+ Display URL	www.b10bikes.com	19/35
+ Destination URL	http://www.b10bikes.com/home	996/1024

+ = required field BACK NEXT

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FIG. 6B

Home Feedback Help Sign In

Browse | Publish | Connect | My Content | My Network

gather.com/... arts, books, business, education, environment, family, food, health, money, movies music, news, people, politics, public radio, reviews, spirituality, sports, technology, travel

Search Articles | about search

Target Your Audience 136

1. Register | 2. Create Ad | 3. Target Audience | 4. Customer Profile | 5. Establish Budget | 6. Billing

Target Your Ads Using Keywords

Campaign Name edit **Campaign 1**

Advrtisement Name edit **Ad 1**

Ad Preview edit
Bike Parts in Boston
Great selection of parts for both road and mountain! Save Money!
www.b10bikes.com

Add Target Keywords Type each keyword or key phrase separated by commas.

bike, bikes, biking, cycling, spinning, mountain bike, road bike,

☑ **Allow on Gather partner sites**

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FIG. 6C

Home Feedback Help Sign In

Browse | Publish | Connect | My Content | My Network

gather.com/... arts, books, business, education, environment, family, food, health, money, movies music, news, people, politics, public radio, reviews, spirituality, sports, technology, travel

Search Articles | about search

Create a Customer Profile (optional) 138

1. Register | 2. Create Ad | 3. Target Audience | 4. Customer Profile | 5. Establish Budget | 6. Billing

Campaign Name edit **Campaign 1**

Advrtisement Name edit **Ad 1**

Ad Preview edit
Bike Parts in Boston
Great selection of parts for both road and mountain! Save Money!
www.b10bikes.com

How Do Customer Profiles Work?

As you create a Customer Profile, you can allow the advertisement to be displayed only to those who have relevant information in their member profiles. Associating a Customer Profile to your ads also means that other registered members will see your advertisement. While this limits the reach of your ad, it will also give you higher click-through rate (CTR) and a better return on your investment.

Your Keywords edit **bikebikes, biking, cycling, spinning, mountain bike, road bike.**

+ Customer Profile Name Profile 1

Gender
- (●) Everyone on Gather
- ( ) Only registered Gather members who are:
- ☐ Male ☐ Female

Age Group
- ( ) Everyone on Gather
- (●) Only registered Gather members who are:
- ☑ 18-24 ☑ 25-34 ☑ 35-44 ☐ 45-54 ☐ 55-64 ☐ 65+

Household Income
- ( ) Everyone on Gather
- (●) Only registered Gather members whose incom is:
- ☑ $0-$15,000 ☑ $15,001-$25,000 ☑ $25,001-$35,000 ☑ $35,001-$50,000
- ☐ $50,001-$75,000 ☐ $75,001-$100,000 ☐ $100,000+

Relationship Status
- (●) Everyone on Gather
- ( ) Only registered Gather members who are:
- ☐ Single ☐ In a relationship ☐ Domestic parthner
- ☐ Married ☐ Divorced

Sexual Orientation
- (●) Everyone on Gather
- ( ) Only registered Gather members who are:
- ☐ Straight ☐ Bisexual ☐ Gay/Lesbian ☐ Not sure

Public Radio Listener
- (●) Everyone on Gather
- ( ) Only registered Gather members who :

FIG. 6D-1

138

☐ Listen to Public Radio ☐ Do not listen to Public Radio

U.S. State Residency

○ Everyone on Gather

◉ Only registered Gather members who live in:

☐ Alabama	☐ Illinois	☐ Montana	☐ Rhode Island
☐ Alaska	☐ Indiana	☐ Nebraska	☐ South Carolina
☐ Arizona	☐ Iowa	☐ Nevada	☐ South Dakota
☐ Arkansas	☐ Kansas	☐ New Hampshire	☐ Tennessee
☐ California	☐ Kentucky	☐ New Jersey	☐ Texas
☐ Colorado	☐ Louisiana	☐ New Mexico	☐ Utah
☐ Connecticut	☐ Maine	☐ New York	☐ Virginia
☐ Delaware	☐ Maryland	☐ North Carolina	☐ Vermont
☐ District of Columbia	☑ Massachusetts	☐ North Dakota	☐ Washington
☐ Florida	☐ Michigan	☐ Ohio	☐ West Virginia
☐ Georgia	☐ Minnesota	☐ Oklahoma	☐ Wisconsin
☐ Hawaii	☐ Mississippi	☐ Oregon	☐ Wyoming
☐ Idaho	☐ Missouri	☐ Pennsylvania	

+ = required field

NOTE: This profile will be asosiated with this ad. You can change the assosiation later in your ad tools.

BACK NEXT

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FIG. 6D-2

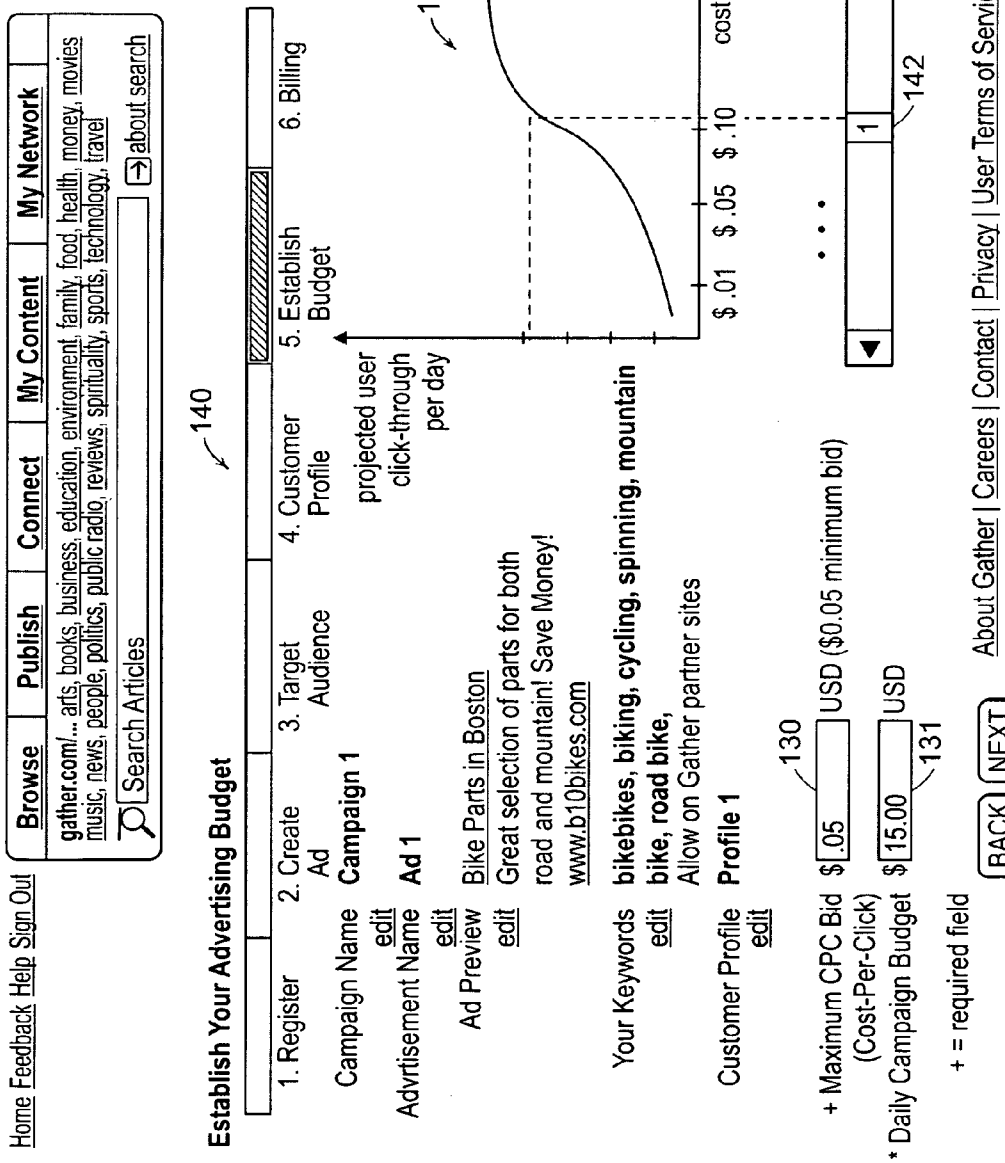
Home Feedback Help Sign Out
Browse
Publish
Connect
My Content
My Network
gather.com/... arts, books, business, education, environment, family, food, health, money, movies music, news, people, politics, public radio, reviews, spirituality, sports, technology, travel
Search Articles
about search
140
Establish Your Advertising Budget
1. Register
2. Create Ad
3. Target Audience
4. Customer Profile
5. Establish Budget
6. Billing
Campaign Name edit
Campaign 1
Advrtisement Name edit
Ad 1
Ad Preview edit
Bike Parts in Boston
Great selection of parts for both road and mountain! Save Money!
www.b10bikes.com
Your Keywords edit
bikebikes, biking, cycling, spinning, mountain bike, road bike,
Allow on Gather partner sites
Customer Profile edit
Profile 1
+ Maximum CPC Bid (Cost-Per-Click)
$ .05
USD ($0.05 minimum bid)
130
* Daily Campaign Budget
$ 15.00
USD
131
+ = required field
BACK
NEXT
144
projected user click-through per day
cost per click
$ .01
$ .05
$ .10
142
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FIG. 6E

Home Feedback Help Sign In

Browse | Publish | Connect | My Content | My Network

gather.com/... arts, books, business, education, environment, family, food, health, money, movies music, news, people, politics, public radio, reviews, spirituality, sports, technology, travel

Search Articles about search

Enter Your Billing Information 146

1. Register | 2. Create Ad | 3. Target Audience | 4. Customer Profile | 5. Establish Budget | 6. Billing

☐ My name and billing info is the same as my registration info.

Credit Card Information

+ Card First Name
+ Card Last Name
+ Card Type VISA
+ Card Number
+ Verification Number What's this?
+ Expiration Date January

Billing Address

Info must match Credit Card Account

+ Address Line 1
Address Line 2
+ City
+ State
+ Zip Code
Promotion Code

+ = required field

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FIG. 6F

Home Feedback Help Sign Out

Browse | Publish | Connect | My Content | My Network

gather.com/... arts, books, business, education, environment, family, food, health, money, movies music, news, people, politics, public radio, reviews, spirituality, sports, technology, travel

Search Articles

about search

View Reports Campaign Manager Create Ads Customer Profiles My Advertisements Account Info

View Reports

Select type of report you wish to view via the pull-down menu. By default, data is displayed from the end of the last billing period to today, but you may modify the time period.

Select Report	Start Date	End Date
Campaign Activity Summary	05/01/2006	05/23/2006

SUBMIT

One item

Campaign name	Impressions	Total clicks	Ctr	Total cost	Avg cpc
Campaign 1	0.0	0.0	0.0	0.0	0.0

Export options: CSV | Excel | XML

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FIG. 6G

Home Feedback Help Sign Out

Browse | Publish | Connect | My Content | My Network

gather.com/... arts, books, business, education, environment, family, food, health, money, movies music, news, people, politics, public radio, reviews, spirituality, sports, technology, travel

Search Articles about search

View Reports Campaign Manager Create Ads Customer Profiles My Advertisements Account Info

Campaign Manager Tools

Click on a campaign name to manage an individual campaign, or select several campaigns by clicking the box to the right of any campaign Selecting Pause suspends that campaign until you choose to resume it. Gather management reserves the right to pause any campaign, if the ads do not meet the Gather Advertiser Editiorial Guidelines

All campaign information is calculated from the first day of the current month to today.

Create new Campaign

Click a campaign name to view the ads and details of that campaign.

One item

☐	Campaign Name	Status	Daily Budget	Clicks	Impressions	CTR (%)	Avg. Cost ($)	Total Cost ($)
☐	Campaign 1	Active	$15.00	0	0	0.00	$0.00	$0.00
	START CAMPAIGN	STOP CAMPAIGN						

Customer Profiles learn more

Selecting Customer Profiles here at the account level will associate the demographic and geographic targeting criteria tp ALL campaign and advertisements across your entire account and will make these ads viewable only by registered Gather members.

Click on a Customer Profile name to edit the targeting criteria or create a new Customer Profile for this account.

☐ Profile 1

SAVE

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FIG. 6H

Home Feedback Help Sign Out

Browse | Publish | Connect | My Content | My Network

gather.com/... arts, books, business, education, environment, family, food, health, money, movies music, news, people, politics, public radio, reviews, spirituality, sports, technology, travel

Search Articles about search

View Reports Campaign Manager Create Ads Customer Profiles My Advertisements Account Info

Create Your Advertisement

Step 1: Create Ad | Step 2: Target Audience | Step 3: Establish Budget

Choose Campaign: Campaign 1
Create a New Campaign

+ Advertisement Name

Preview Your Ad
Your Headline
description line 1
description line 2
yourwebsite.com

+ Headline 35/35

+ Description Line 1 35/35

+ Description Line 2 35/35

+ Display URL www. 35/35

+ Description URL http:// 1024/1024

The character counters next to each line tell you haw many characters remain available (counting down as you type) and how many are allowed in total per line.

All ads will be reviewed to ensure their compatability with the Advertiser Editorial Guidelines. reserves the right to refuse to display or to remove ads it deems in violation of those standards.

+ = required field NEXT

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FIG. 6I

Home Feedback Help Sign Out

Browse | Publish | Connect | My Content | My Network

gather.com/... arts, books, business, education, environment, family, food, health, money, movies music, news, people, politics, public radio, reviews, spirituality, sports, technology, travel

Search Articles | about search

View Reports Campaign Manager Create Ads Customer Profiles My Advertisements Account Info

Customer Profiles

lets you select geographic and demographic criteria to finely tune your advertisements to your key customers. You may create many or as few Customer Profiles as you feel you need in order to balance your ads across our diverse community.

Customer Profiles can be assosiated with individual advertisements, a group of advertisements in a campaign, or across your entire account. When Customer Profiles are combined in differen ways you have very poweful ad targeting control at your fingertips. You create Customer Profiles and create new ones whenever you like.

Click on a Customer Profile name to edit the criteria or Create a New Customer Profile.

Learn More about Customer Profiles

One item

Customer Profile Name	Customer Profile Summary	
Profile 1	18-24, 35-44, 25-34, MA, $35,001-$50.000, $0-$15,000, $15,001-$25,000, $25,001-$35,000	Delete

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FIG. 6J

Home Feedback Help Sign Out

Browse | Publish | Connect | My Content | My Network

gather.com/... arts, books, business, education, environment, family, food, health, money, movies music, news, people, politics, public radio, reviews, spirituality, sports, technology, travel

Search Articles

about search

View Reports Campaign Manager Create Ads Customer Profiles My Advertisements Account Info

My Advertisements

One item

Advertisement	AD & Compaign Names	Status	Modified Date	CPC bid	Actual CPC
Bike Parts in Boston Great selection of parts for both road and mountain! Save Money! www.b10bikes.com	Ad 1 Campaign 1	In Review	05/23/06 4:49 PM	0.05	0.10

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FIG. 6K

COMPUTER METHOD AND APPARATUS FOR TARGETING ADVERTISING

RELATED APPLICATIONS

[0001] This application claims the benefit of U.S. Provisional Application No. 60/690,005, filed Jun. 13, 2005 and U.S. Provisional Application No. 60/734,690, filed Nov. 8, 2005. This application is also a Continuation-in-Part of U.S. application Ser. No. 11/371,462, entitled "User-Driven Media System in a Computer Network" filed on Mar. 9, 2006. The entire teachings of the foregoing applications are incorporated herein by reference.

BACKGROUND OF THE INVENTION

[0002] A global computer network (e.g., the Internet) provides a marketplace for advertisers based on keywords. More specifically, an end user commonly uses a search engine to browse for content on the global computer network or browses content including articles and emails that contain keywords or keyword sets. Typically the search engine operates on keywords entered by the end user as search terms or encountered in content viewed by the user. In cooperation, an ad engine provides, from a depository of advertisements, ads targeted for the same keywords as those used by the search engine on the content in response to the end user's search query. The provided corresponding targeted ads of the ad engine are displayed to the end user along with the search results (content) of the search engine. Ads are displayed in many forms including lists of textual ads, banners, pop up windows and sponsor or other columns.

[0003] Thus ad delivery services, ad engines and depositories typically charge per search term or keyword that a subject ad is targeted for. For example, the advertisement rate may be

[0004] 83¢ for a given ad to be selected and displayed in a top (first) grouping based on the search term "Vegas";

[0005] $2.00 for the given ad to be similarly selected and displayed based on the search term "hotels"' and

[0006] $4.50 for the given ad to be selected and displayed based on the search term "Vegas hotels".

These rates are often set by a persistent auction, allowing advertisers to bid for placement adjacent a keyword or keyword set against other advertisers seeking similar placement. This keyword bidding creates a marketplace around the keyword or keyword set, setting the price for this advertising dynamically for each keyword or keyword set. Further, the ad owner pays these rates (or the accumulation thereof) for an end user clicking on (selecting) the ad as displayed. Thus a "cost per click" accounting is common in the industry.

[0007] There are other cost structures for advertising on the Internet, for example cost per acquisition or cost per 1000 impressions ("views"). Generally the greater visability (e.g. pop up ads, top of page banners, first item on a sponsor list displayed next to search results, etc.) the higher the price for the ad.

SUMMARY OF THE INVENTION

[0008] The present invention is not focused on keywords appearing on a Web page as in the prior art. Instead embodiments of the present invention create a respective user profile for each end-user. The respective profile includes key words and key phrases encountered by that user. The invention differentiates between key words/phrases read by the end-user and key words/phrases written by the end-user. The system records the recency and/or frequency of a key word/phrase being read or written by the end-user. In one embodiment, the system removes certain terms from an end-user's profile if the recency or frequency of a key word/phrase being read or written by the end-user falls below a certain threshold.

[0009] In some embodiments, the system creates a profile of an end-user looking at the content of Web pages being browsed by the end-user and the content that the end-user publishes. The system records the categories and/or classification tags of the browsed/published content differentiating between content that is read by the end-user, written/published by the end-user and recency/frequency thereof. The system expires some categories based on recency and/or frequency of end-user reading or writing content in the category/class. The system also differentiates between classification tags created by this user versus tags created by the community.

[0010] In a preferred embodiment, the system adds to the end-user's respective profile the user-provided demographic information. When not provided by the user, the system may forecast demographic information for a user based on relationships with other users and/or group membership (e.g. Zipcode is forecast as the average or most common Zipcode of friends, average age of friends is assumed to be the end-user's age, dominant gender of friends is assumed to be gender of the end-user, and so on). The system further forecasts demographic information based on system usage (e.g., end-user checking of weather or reading of content for Boston indicates end-user's region, or consuming content for parents indicates the end-user has children). Preferably the system differentiates between user expressed demographic characteristics and forecasted characteristics in the profile.

[0011] In another feature of the present invention, the system creates a behavioral profile of a subject end-user. The behavioral profile includes indications of frequency of different activities (checking weather, checking stock quotes, sending email, using instant messenger, moving from location to location or PC to PC) through observed behavior. The behavioral profile of the end-user may further include indications of the advertisements that the end-user has seen. The system may record indications of (i) whether the end-user has responded to those advertisements (clicked on or otherwise selected), whether the end-user made a purchase as a result of those advertisements (bought/subscribed), and (iii) the categories of products that the end-user responds to. The system records recency of these end-user activities/interactions with advertisements and frequency and/or recently of end-user response with regard to product, advertiser and/or category of advertisement.

[0012] Preferably the system combines keywords, key phrases, categories, tags, demographics, and the above behavioral characteristics into a single targeting profile of the end-user. In turn, advertisers target end-users based on their respective profiles defined above. In some embodiments, an advertiser selects one method/focus of targeting

(e.g., content interest, category interest, and so on). In other embodiments, the advertiser selects multiple methods/focuses of targeting, e.g. the intersection of certain demographics (say males between 25 and 44) AND content interests (for example, city of Boston and real estate).

[0013] In turn, each time the advertiser selects targeting criteria, the system calculates or forecasts the number of end-users that fall within the prescribed target area. Further, based on advertiser selected targeting criteria, the system forecasts the advertising response (clicks/selections by end-users) and the purchasing (revenue or products) that will result from the campaign.

[0014] In some embodiments, the system displays an advertisement to an end-user no more than a set number of times each day.

[0015] The system enables advertisers to bid to reach a certain size audience indicated as an estimated number of click throughs and/or estimated sales. The advertiser enters a bid per end-user reached with their advertisements. This is a fee charged based on the number of times an end-user views the advertisement. The advertiser may enter a bid per view (or thousand views) and the system returns a likely number of impressions resulting and their average placement in the ad results. In one embodiment, the system-user interface employs a "slider" for the advertiser to enter his bid. The system may display a graph showing users viewing per day on one axis and cost per view on another axis.

[0016] In a preferred embodiment, advertisers bid to achieve a certain number of click-throughs within a specified time period based on their targeting criteria. The advertiser enters a bid per click (or thousand clicks) and the system returns indications of:

[0017] (i) a likely number of clicks resulting,

[0018] (ii) the estimated average placement in the ad results, and

[0019] (iii) the total the advertiser could spend at that bid.

In one embodiment, this is accomplished by the advertisers user using a "slider" in the graphical user interface. A graph illustrates number of users viewing/day on one axis and cost/view on another axis.

[0020] In another embodiment, advertisers can bid per view or bid per click. In turn, the system forecasts advertisement views or clicks based on the combined targeting, and prioritizes ads singular selection based on financial reward to the host (system) site.

[0021] Another embodiment provides advertisements targeting a user organized in a list for that user, regardless of how they are targeted to that user (by demographic, content interest, category being viewed, etc). The system selects which advertisements to show to a user based on the bid amount showing the advertisements with the highest bids first. The system projects the likelihood of the user clicking on the advertisement and then ranks the advertisements in order of said likelihood and displays them in ranked order. The system may rank each advertisement based on the bid amount for the ad multiplied by the likelihood of user selecting (clicking on) it and then displays the ads in ranked order.

[0022] In some embodiments, ad preference degrades as selection potential decreases.

[0023] In embodiments of the invention an ad selection engine disables further display of an advertisement for a specific user after it has been seen a set number of times or clicked on a set number of times by that user.

[0024] In another feature, the invention system provides reports to the advertisers reporting on the advertisements shown and clicked on (selected by viewer users). The system may report sales, subscriptions, registrations and the like to the advertiser. Advertisers may filter these reports by any of the advertising targeting characteristics to see varied responses. The advertisers may break-down reports by demographic category, keyword/phrase, category, or similar user or content categories and see totals across these categories.

[0025] The system may identify the most successful user categories. The system may identify the most successful keyword/phrase or content categories and may recommend them to the advertiser user. The advertiser may select these recommendations or a combination of them and automatically target a campaign with them or retarget a campaign with them.

[0026] In some embodiments the system enables users that see advertisements to rate the advertiser by selecting a numeric performance rating. This feature may be limited to only those users clicking on an advertisement, or to only users purchasing from the advertiser. In one embodiment, the system enables users to provide multiple performance ratings on different advertiser characteristics (e.g. price, shipping costs, customer service, etc). The system displays, advertiser ranking adjacent to advertisements to assist consumers in selecting the best advertiser for their purposes

[0027] The system may add advertiser ranking to consumer user profiles, determining which characteristics of an advertiser matter to consumers (good price or good service). This information is then used to target future advertisements to a user.

[0028] Accordingly in some embodiments, advertisers receive reports on their different rankings as part of the advertising system. The reports may be broken-down by the demographic and content categories described above.

[0029] In accordance with another aspect of the present invention, the system enables advertisers to give points to users for purchasing, either in the form of points or cash-back. The system allows fixed reward amounts (e.g. 5000 points for a subscription to cell phone service) or scaled reward amounts (e.g. 1 point for every $1 spent) or combinations of these. The points are a common currency across all advertisers (like an online version of S&H Greenstamps). The points may be combined with points earned for other purposes such as described in U.S. patent application Ser. No. 11/371,462 herein incorporated by reference. In the system, advertisements from advertisers offering customers rewards for purchasing are called-out to viewer-users by any combination of visual cues and audio cues. The cues may differentiate the reward type (e.g. 1 point/$1 or fixed fee or similar).

[0030] The invention system may prioritize advertisement based on the likelihood of user response (as above) and the

estimated response of a given user is increased because of the call-out. In turn, the selection engine moves an advertisement higher in the display priority or shows it more frequently. The system may prioritize advertisements based on the combination of estimated user response time, ad value to the company (also as above) and increase in particular user response due to the call-out. In turn, the effective cost of the advertisement is decreased. Where the user response goes higher, the advertiser does not need to bid as much to achieve the same advertising results.

[0031] In some embodiments, the system calculates the value of the points (total retail value or margin earned) to the company displaying the advertisement and includes that total in the calculation of the value of the ad when determining ad placement. For example: PlacementRank=(bid+PointsValue) for advertisements ranked and displayed just on bid value or PlacementRank=(bid+PointsValue)×ResponseLikelihoodProjection for ads ranked and displayed on economic value to the company. The preferred embodiment is the latter of these two.

[0032] In embodiment of the present invention, the advertisements are categorized by advertiser type, product type, region of availability, currency, language, keywords and other factors. The advertisements are displayed offering the consumer (viewer-user) the option (a link, e.g., "More Ads Like These" link) to other similar advertisements based on the categorizations deemed important for this advertisement. The link generates for the user a page or pages displaying similar advertisements. The initial advertisement may remain visible (simultaneously displayed). The user may directly respond to competitive advertisements, by clicking on or otherwise selecting them, for example. Likewise, the competitive advertisements each also offer the opportunity to see similar advertisements. In some embodiments, the system allows advertisers to bid additional money, or pay a flat fee to remove the "more" link to competitive ads.

[0033] In some embodiments, the system maintains an indication of the advertisements a viewer user has seen. The system identifies and records the advertisements that a user has responded to. The system provides to the viewer-user the option to see advertisements that he has previously viewed or previously responded to. The system displays to the user a list of advertisements that he has previously viewed with those he has previously responded to highlighted or otherwise called-out.

[0034] In some embodiments, the system not only enables a subject user to view advertisements that he has previously responded to but enables others to view those advertisements (or lists thereof) of the subject user. The system thus enables an advertiser to see, aggregated in a single place, all of the advertisements (or lists thereof) viewed recently by those viewers-users who have linked to the advertiser website. In some embodiments, the system displays the subject advertisement lists, but not the names of the people who have responded to the advertisements, especially when there is less than a threshold minimum number of such people. Then ensures protection of privacy. The system enables the advertiser-user to sort or filter the list of advertisements seen by a viewer-user or by a group of people by advertiser type, product type, recency or frequency of viewing, or advertiser ranking/rating (mentioned above). Embodiments enable a default sorting or filtering to be applied for an advertiser-user prior to his viewing the list.

[0035] In some embodiments, the system enables the individual viewer-user to determine whether others (advertisers) can see indications of the advertisements that he has viewed.

[0036] Further, in some embodiments, advertisements of a certain type (adult matter, alcohol, etc) are not shown in a user's viewed advertisements list.

[0037] In accordance with one aspect of the present invention, presented is an online advertising system with an integrated direct marketing system to attract new advertisers. The invention system allows a company to offer an advertising credit to a prospect advertiser-user. The credit may be recorded in the advertiser-user's account prior to the advertiser being contacted. The system allows a list of advertiser-users to be added to the system, including contact information and advertising credit. The system generates emails that allow the advertiser-user to link directly back to the advertising system and create an account. The account may have the credit balance in it when created. The system may require the prospect to set-up billing for future advertisements (once the credit is used) prior to the credit becoming available.

[0038] Alternatively or additionally traditional direct mail with a unique code on it for the advertiser may be employed instead of or similar to the email system described above. The email and direct mail pieces contain respective codes that link to a single account allowing the sending of different types of marketing materials to the same person, but preventing the creation of duplicate accounts with duplicate credits. The system searches for existing advertisers based on contact information, email address and company name and alerts the user to the fact that a prospect may already be a registered system user or prevents the sending of those messages.

[0039] The system may report on the total credits issued, the total credits used and percentage of credits used where the credits expire on some schedule. Further the system may report on the success of each mailing. For example the system shows what percentage of advertisers that use their credits then proceed to spend more advertising revenue with the company. The system may report the total advertising revenue received in a period as well as the total credits issued or spent in that period. The reporting system further filters the reports based on the primary targeting used for the credits or based on the category of advertisers using the credits.

[0040] In other embodiments, the invention system splits or otherwise shares advertising revenue with the advertiser-users for their content (authored works). The share in revenue is in the form of a credit used to buy advertising space. Where an advertiser uses this credit to buy advertising space adjacent his authored works, the system compensates him for these ads ("credit-ads") as authored works (content contributions in a user driven media system). In some embodiments, compensation for credit ads is at a different rate than if cash had been used to place the ad.

[0041] More generally, in some embodiments the individual or company placing an advertisement receives compensation for the ad placement in the form of points or cash-back. To that end, the system records advertising placed with a media company or across several sites with a

placement service. The system records the total amount spent on that advertisement. The system contains a ratio of points or cash back given for every advertiser dollar spent, and the system calculates the amount earned by the person placing an advertisement periodically. The system stores indications of the calculated amount (such as in a database) and enables reporting of the same to the advertiser user. Further the system may record a total spent from multiple advertising campaigns for an advertiser-user, and the system may allow the aggregate balance to be used to purchase items or to be converted to cash and transferred from the system to a different financial account.

[0042] The advertiser-user may decline points if his company does not allow him to receive incentives or gifts for work-related activities. In other embodiments, the invention system is connected to a central points/compensation system that allows rewards for other activities.

BRIEF DESCRIPTION OF THE DRAWINGS

[0043] The foregoing and other objects, features and advantages of the invention will be apparent from the following more particular description of preferred embodiments of the invention, as illustrated in the accompanying drawings in which like reference characters refer to the same parts throughout the different views. The drawings are not necessarily to scale, emphasis instead being placed upon illustrating the principles of the invention.

[0044] **FIG. 1***a* is a schematic diagram of a global computer network environment in which embodiments of the present invention operate.

[0045] **FIG. 1***b* is a block diagram of the different components of a computer node in the network of **FIG. 1***a* embodying the present invention.

[0046] **FIGS. 2***a*-**2***d* are system diagrams of a website hosted by a server computer in a preferred embodiment of the present invention.

[0047] **FIGS. 2***e*-**2***g* are block and schematic diagrams of group interface pages in the system of **FIGS. 2***a*-**2***d*.

[0048] **FIG. 2***h* is a block diagram of database tables supporting the system of **FIGS. 2***a*-**2***g*.

[0049] **FIG. 3** is an illustration of the reader-user interface, including a list of content prioritized based on the reader's expressed interests, the relationships that reader has with various writers and the recency and quality of the materials being presented.

[0050] **FIGS. 4 and 5** are block diagrams of an ad subsystem (member) in the system of **FIGS. 2***a*-**2***h* and embodying the present invention.

[0051] **FIGS. 6***a*-**6***k* are schematic views of the advertiser-user interface in one embodiment of the present invention.

DETAILED DESCRIPTION OF THE INVENTION

[0052] A description of preferred embodiments of the invention follows.

[0053] The present invention starts from a user-driven media system **100** such as that described and disclosed in related U.S. patent application Ser. No. 11/371,462 (incorporated herein by reference). That system is summarized below in **FIGS. 1-3**.

[0054] Briefly, a web site or host server **60** provides the user-driven media system **100** to reader-users, writer-users and members of a group. An end-user can be any combination of a reader-user, writer-user and member of one or more groups. The system **100** enables writer-users who frequently produce authored works **29** to be compensated (i.e., a frequent writer compensation program). Authored works **29** include any combination of text, photos/images, audio, multimedia and the like. The system **100** enables reader-users to rate authors and/or authored works **29**, to comment on the same, to create a list of works **29** and/or comments to visit again or suggest to others (i.e. "bookmarks"), to tip (pay gratuity to) authors and categorize or tag (or recategorize/retag) authored works **29**. End-users communicate to each other and among groups in system **100** using user-defined relations or connections (e.g., friends, colleagues, private group, etc.). Communications center around the various content (authored works **29**, comments, bookmarks, tags) made available and maintained on the system **100**. In system **100**, bookmarks may have properties of user-defined ratings, comments, tags, title/body, author, publication status, URL, Date/time of creation and date/time of use.

[0055] Given the foregoing, the present invention adds a targeted advertising component/dimension to system **100**. The present invention forms and maintains user profiles **17** (**FIG. 2***h*) based on information received from end-users and information deduced by end-user activity as users of system **100**. The present invention employs the user profiles **17** in targeting ad campaigns. Advertisers bid on the invention suggested ad targets and invention predicted/projected end-user effect (selection or click through or purchase). This and further features will be made clear by the following description of embodiments of the present invention system **100** with targeted advertising component **99** (**FIG. 4**).

[0056] Illustrated in **FIG. 1***a* is a global computer network environment in which embodiments **100** of the present invention are implemented. Client computer(s) **50** and server computer(s) **60** provide processing, storage, and input/output devices executing application programs and the like. Client computer(s) **50** can also be linked through communications network **70** to other computing devices, including other client computer(s) **50** and server computer(s) **60**. Communications network **70** can be part of the Internet, a worldwide collection of computers, networks, and gateways that currently use the TCP/IP suite of protocols to communicate with one another. The Internet provides a backbone of high-speed data communication lines between major nodes or host computers, consisting of thousands of commercial, government, educational, and other computer networks, that route data and messages. Other global computer networks **70** are suitable.

[0057] **FIG. 1***b* is a diagram of the internal structure of a computer **50**, **60** in the network of **FIG. 1***a* that implements the present invention system **100**. The computer **50**, **60** contains system bus **79**, where a bus is a set of hardware lines used for data transfer among the components of a computer. Bus **79** is essentially a shared conduit that connects different elements of a computer system (e.g., processor, disk storage, memory, input/output ports, network ports, etc.) that enables the transfer of information between the elements. Attached to system bus **79** is I/O device interface **82** for connecting various input and output devices (e.g., displays, printers, speakers, etc.) to the computer. Network interface **86** allows the computer to connect to various other devices attached to a network (e.g., network **70** of **FIG. 1***a*). Memory **90** provides volatile storage for computer software

instructions used to implement an embodiment of the present invention (e.g., Program Routines **92** and Data **94**). Disk storage **95** provides non-volatile storage for computer software instructions and data used to implement an embodiment of the present invention. Central processor unit **84** is also attached to system bus **79** and provides for the execution of computer instructions.

[**0058**] In one embodiment, computer program product **80**, including a computer readable medium (e.g., a removable storage medium such as one or more DVD-ROM's, CD-ROM's, diskettes, tapes, etc.) provides at least a portion of the present invention software instructions. Computer program product **80** can be installed by any suitable software installation procedure, as is well known in the art. In another embodiment, at least a portion of the software instructions may also be downloaded over a wireless connection. Computer program propagated signal product **102** embodied on a propagated signal on a propagation medium (e.g., a radio wave, an infrared wave, a laser wave, a sound wave, or an electrical wave propagated over a global network such as the Internet, or other networks) provides at least a portion of the present invention software instructions.

[**0059**] In alternate embodiments, the propagated signal **102** is an analog carrier wave or digital signal carried on the propagated medium. For example, the propagated signal may be a digitized signal propagated over a global network (e.g., the Internet), a telecommunications network, or other network. In one embodiment, the propagated signal is a signal that is transmitted over the propagation medium over a period of time, such as the instructions for a software application sent in packets over a network. In another embodiment, the computer readable medium of computer program product **80** is a propagation medium that the computer system **100** may receive and read, such as by receiving the propagation medium and identifying a propagated signal embodied in the propagation medium, as described above for computer program propagated signal product **102**.

[**0060**] In one embodiment, software instructions **92** executed on server computer **60** (the Web host machine) includes code for (1) supporting a contributor (frequent writer) compensation Web site in which content is accessed through searching, sorting and classifying content/authored works **29** (comments, bookmarks, etc.) by author and/or keyword tags, (2) forming user groups and connections and using relationships to organize content and browse the system **100** for content, and (3) targeting advertisements based on end-user profiles formed by end-user activity on the Web site **60** (system **100**). In the embodiment of **FIGS. 4 and 5** (detailed later), software instructions **92** include ad system **99**, ad engine **87** and corresponding bid management instructions as will be made clear later.

[**0061**] **FIGS. 2***a*-**2***h* provide an illustration of the computer software code **92** executed on a server computer **60**. Server **60** code provides a Home Page **21** of the invention system **100**. At the Home Page **21**, the operations of General Information/Help **23**, Search **25**, View **27**, Publish **11**, Connect **31**, Communicate **33**, My Content **35**, My Profile **37** and various accounting **39**, **41** are provided.

[**0062**] Through registration process **45***a, b* (**FIGS. 2***b* and **2***d*), a user (an individual, a company or other entity) becomes a member to the invention Website/company (or registered user of the invention system **100**). In one embodiment, during registration **45**, users enter profile and other information, including a user name, email address and login confirmation. My Profile **37** is a set of aspects and settings that results from such user input in registration process **45**. In one embodiment, My Profile **37** includes (i) general information, (ii) demographic information, (iii) school/college information, (iv) indications of hobbies, entertainment and TV/media likes/interests, (v) personal biographical data, (vi) political affiliation, (vii) other affiliations, (viii) companies and (ix) photos, for example. Other categories of information are suitable. Each category of information is stored in one or more profile entry tables or the like as illustrated at **38** in **FIG. 2***c*. Advertiser users (business affiliates) use a different process **47** (**FIG. 2***b*) to register with the invention system **100** as further detailed later in **FIGS. 6***a*-**6***k*.

[**0063**] Example data sets supporting the user registration process **45** and My Profile **37** in a preferred embodiment are as follows. Database tables for storing and relating user data (e.g., My Profile **37**, etc.) and other system data are illustrated in **FIG. 2***h* and discussed later.

About Me

[**0064**] The system **100** provides members the ability to publish information about themselves. There are two types of profile information: basic and extended. The basic profile is preferably always public to every one where the extended one can be customized. The member can however specify if his basic profile should be shown to non-members (default is to show in one embodiment).

[**0065**] The extended profile of a member-user is divided into blocks of information. The user may set the audience who can see each or respective blocks of information.

[**0066**] The user is able to enter extra or additional information that is not already an offered standard area of information of system **100**.

Connection Management **31**

[**0067**] Members are able to build a social network of friends, family members and coworker. In one embodiment, connection management **31** follows the operations and parameters outlined in Table 1.

TABLE 1

Connection Management

Feature	Description
Three connection classes	One embodiment of the system 100 provides three connection classes: Friend connection Family connection Work (colleague) connection

TABLE 1-continued

Connection Management	
Feature	Description
Connection classes distinct	Friends can only see other friend connections (similarly for work/colleague and family connections).
Connections are reflexive	If person B is person A's connection then person A is person B's connection too. If person B is NOT person A's connection, then person A is not person B's connection either.
Connection invitation	Establishment of a connection between two members is made by one user sending a connection invitation to another member (or non member).
Connection acknowledgement	New connection must be acknowledged by both parties tied in the connection. When acknowledging, the member has the option to "also subscribe to this member . . . ".
Invite non members	A member is able to send an invitation to a non member without implying a connection between the two. If the invitation was sent to a non-system member (invitee), the invitee is able to join system 100 or a group that the inviting member has invitation priviledges to (invitor). Note that requirement "connection acknowledgement" must be satisfied.
View "who's online"	The member is able to know who among his connections is currently online. User can control his presence knowledge per friend class.
Show prior invitations after registration	Let's say that a person has 2 email addresses, one which he rarely checks. Let's also assume that 5 different members sent him registration invitations to his "less watched" address and 1 to the one he monitors more. After the registration process 45 (where he input his 2 email addresses), the system 100 automatically creates 6 connections with other members.
Deleted connections	A user can delete a connection at any time

External Contact

[0068] The system **100** provides the user the ability to enter contact information of people that are not system members. In one embodiment, operations and parameters supporting this ability (functionality) are outlined in Table 2.

TABLE 2

External Contact	
Feature	Description
External contact are private	A member's external contact information is held private. No one but the member can see this information
Easily send invitation to external contact	A member must be able to easily send an invitation to an external contact.
Ability to import/ export/sync	A member is able to import/export/sync his contact list. This feature mimics PLAXO ™ or similar.
Support mailing lists	The member can create mailing lists. The number of email addresses in the mailing list has a limit which is customizable in system 100 (set by the system administrator).

[0069] When a member sees another member's profile information, the system **100** (connect module **31**) shows him if he is connected to that member and how he is connected to this member by showing the shortest connection path from him to the other member optionally and for each connection class. The system **100** preferably shows multiple paths of network relation, up to three levels or degrees of separation. Me>User 1>User 2>You. A subject user sees his closest connection. Beyond three levels, the system **100** indicates that the subject user is not closely connected in one embodiment. The number of people connected between a given user and a subject target person (including the target person) is termed the 'degrees of separation' with respect to the user.

System to Confirm Email Addresses (**FIG. 2***d*)

[0070] In some embodiments, the system **100** makes a distinction between confirmed email addresses and unconfirmed ones. Operations supporting this are outlined in Table 3.

TABLE 3

Confirm Email Addresses	
Feature	Description
Login with any confirmed email.	Any confirmed email addresses can be used to login to the system site 60
Lookup unconfirmed email	Confirmed email addresses can only be used to lookup a member. The system 100 warns a user when attempting to use it (such as trying to send an email to an unconfirmed email address)
Steal unconfirmed emails	If user A has an unconfirmed email address of a@a.com and users B confirms the email a@a.com, then the system 100 removes this email from A's list of unconfirmed email addresses.
Unconfirmed emails flagged	Any email that is unconfirmed is flagged as such.

Groups

[0071] There are two types of groups: "personal groups" and "shared groups". A Personal group is a private list of other members and contacts. Techniques similar to address book groups in email systems are employed to support this feature.

[0072] A shared group is a place holder where articles (authored works) **29** can be published and group members notified when a new publication occurs or when someone posts a comment on an article that is part of the group. Shared groups allow their members to have a common location where they can communicate (e.g., via messaging component **33**) and membership of the group is generally viewable by all group members.

[0073] Turning briefly to **FIG. 2***g*, to create a group, a user provides to system **100** (connect module **31**, group function): his name, a description, group profile information **112**, such as group URL name, group name, group icon and location of the group (city/state/country), group type **114** (auto-join of new group members, moderation of group members manually, invite only), default member permissions **116** (post, invite, moderate content, moderate members, send broadcast private message, post on behalf of group, feature content), common group "signature" for articles posted by group contributor and various viewable metadata such as create date, number of members, etc. Further, system **100** has the group creator indicate **114** who may view the group's content (e.g., group members only or the public).

[0074] Groups may be categorized or tagged within the group profile page by the owner. In addition, system **100** uses the tags of the top percentage of viewed articles (for example top 25%) for tagging the group.

[0075] User specific permissions (permission settings **114**) may be set as a default for new group users when the group is created. Invites issued for the group inherit these permissions, but the member issuing the invite (if they themselves are authorized) may add additional privileges, such as inviting a new user to have moderation privileges. Those members with user administration privileges may modify user permissions at any given time.

[0076] Below is a table of what permissions may be assigned in one embodiment.

TABLE 4

Group Privileges		
Privilege	Who can be granted it (by group owner)	Default
Read Group articles	Public, Individual group members	Public
Post Group Articles	Individual group members	All Group Members
Delete Group Articles	Individual group members	Owner only
Invite Members to Group	Individual group members	Owner only
See Group's Name/Profile	Public, all group members	Public
See Group members	Public, All group members	Public, All Group Members
Moderate submitted articles	Individual group members	Owner only
Remove member	Individual group members	Owner Only
Send Broadcast private messages to the group	Individual group members	Owner
Post on behalf of group	Owner, Individual group members	Owner

TABLE 4-continued

Group Privileges		
Privilege	Who can be granted it (by group owner)	Default
Feature Content	Owner, Individual group members	Owner
Join group (w/o moderation/auto-join)	Public	Public

Viewing of Group Content

[0077] Seeing content within groups is dependent on several factors. Essentially, it is the culmination of the viewing permissions set on the group, the content, and the author. **FIGS. 2***e*-**2***f* are illustrative.

[0078] Group content can be found in a group in a variety of ways. In one way, if the group is not visible, the group name does not show up in a global site search on any of its content, categories, or tags, or browsing by any of those criteria. The group name also does not appear on any user pages unless one is a user in that same hidden group.

[0079] Otherwise, groups are integrated with the search system **25** (both a search within a group as well as a global site search) and accessible through the user interface under the View **27** menu or something as appropriate. As shown in **FIG. 2***e*, groups can be found by browsing for category **200**, tag (keyword) **201**, or a general group directory **203** by group name. Other embodiments of system **100** include a group keyword search **204** and various filtering group listings **205** for presenting to a user for selection of a group of interest. Groups may be searched by authored works **29** of the group, number of members, publishing rate and/or commenting rate on authored works **29** as well as other parameters/factors as supported by master table **120**, publication table **124** and tagging table **126** (**FIG. 2***h*).

[0080] **FIG. 2***f* illustrates an example group homepage **210**. Based on group creator input (at connect module **31** as previously described), group homepage **210** displays the creator given group name and icon, and other group information. The illustrated group homepage **210** displays group announcements, a listing of recent authored works **29** posted to the group, a listing of recently joined group members and a listing of the user's recent works **29** in this group. Navigation indicators (e.g., "By Tag,""By Category") are also displayed. This enables a user to have the system **100** display indications of (i) group members writing the most on a user-selected tag (keyword), (ii) other groups related to the subject tag (keyword) and (iii) authored works **29** of the group on that keyword. With the latter, system **100** can further display the group's top authored works **29** per keyword, top other media types (e.g., images, photos . . .) per keyword and recently tagged works **29** of the subject keyword. System **100** also displays a list (preferably an ordered list) of related tags for further user selection (e.g., drill down manner) and navigation at the group home page **210**. Other information may similarly be displayed on group home page **210** as supported by publication table **124**, user tables **122** and tagging table **126**.

[0081] Thus, authored works **29** in a group are searchable and viewable by group members according to: tag or key-

word, rank in quality, rank in popularity or rank in number of subscriptions, rank in author quality, rank in author popularity and/or rank in number of subscriptions to author.

[0082] The content with groups may have a certain version for content syndication out onto other sites. Also, groups may have content syndicated into them via a pertinent feed such as an RSS feed, wire service or other automated technology that allows publishing content. Thus, authored works **29** for groups as well as individual users include works originated in system **100** or elsewhere.

[0083] Continuing with **FIGS. 2***a*-**2***d*, the system **100** further profiles the known/registered user based on material he writes and reads, what he clicks on (group, article, etc.), the query he enters and the ads he clicks, etc. This profile information is used to better target the known user with advertisement. The system **100** deduces demographic information (city, state, etc.) from a user's IP address, the type of article the user reads, search query he enters, shared behavior with other users (behavior or activities in common with) or shared relationships to other users. In one embodiment, the system **100** (a) assumes a zip code for a given user based on zip codes detected in the user's activities, (b) assumes age of the given user based on ages of others detected in the user's activities, and (c) assumes gender of the given user based on gender of others detected in the user's activities. In addition, known/registered users can browse all other members' profiles **37**. They can browse only the members' public profile information and the members' articles/connections/groups/categories or tags that are flagged as public. In some embodiments, demographic data of a user is solicited from other users.

[0084] Information about unregistered users is preferably kept in the system **100** for a given amount of time (in days). If the unregistered user does not visit the invention website **60** within this period of time, any profiling information kept about this user may be discarded and the next time this user accesses the website he will be seen as an unknown user.

[0085] Referring to **FIG. 2***a*, General Information **23** includes website company general information, website company contact information, site help, privacy and other policies and terms of service.

[0086] Search operation **25** is the interface to a search engine for processing user queries and generating search results **43** thereto. A relational database search engine or other data search engine may be employed. In a preferred embodiment, search facets **63** are used to filter candidate search data/results. This has the effect of narrowing available content. In one embodiment, search facets include quality rating (of authors, authored works **29**, tags, comments and/or bookmarks), date, topic, time, recency of publication, length of publication, author rating (in popularity and/or quality), authored work rating (in popularity and/or quality), media type, authors per media type, reader rating, amount of tips received by the authored work **29**, association with an organization or membership in a group and degrees of separation between author and user. In other embodiments, different facet options or sets are made available after use of an individual facet, and/or facets change with each drill down by the user. In some embodiments, these facets **63** are used to order contents (authored works **29**) for search results but not filter the contents. System **100** displays to a user a list of authored works **29** or summaries of authored works **29** organized by any combination of user's interests, relationships, expressed or inferred interest in certain authors and expressed or inferred interest in certain topic areas or keywords.

[0087] Initial areas **65** (**FIG. 2***a*) of search include the global network **70**, the invention website **100**, users of (registered with) the invention system **100**, articles (authored works **29**), reviews (other authored works **29**), groups and schools.

[0088] View operation **27** generates screen views for display by client computer **50** to end users. An end user (individual or company/organization) may be a reader-user at times and a writer-user (or author-user) at other times. **FIG. 3** illustrates the initial screen view **51** generated by view operation **27** in response to log in by a subject user.

[0089] The particular user's home page **51** in system **100** indicates articles (authored works **29**) and reviews **67**, **69** (**FIG. 2***a*) respectively. The articles may be featured articles of system **100**, the user's own articles, friends' articles, family articles, connections articles **76** (**FIG. 3**), neighborhood articles and recently read ones. Reviews **69** may be of subcategories such as products, entertainment, travel, arts and culture and happenings.

[0090] The user's home page **51** (or initial screen view by view operation **27**) may also include indications of subscriptions **71** (**FIGS. 2***a*, **3**) by the user as supported by user tables **122** of **FIG. 2***h* (discussed later). The system **100** preferably allows a user to subscribe to other people, other users of system **100**, topics, groups, authored works **29** and tags or taxonomy categories and the like. Based on user input, system **100** records subscriptions **71** in respective user tables **122**.

[0091] The user's home page **51** includes an indication of groups **73** (**FIG. 3**) the user belongs to, displays photos **75** of interest to the user, provides podcasts **77** (**FIG. 2***a*) and user file uploads **72** (**FIG. 2***a*). User tables **122** support display of this data.

[0092] The system **100** automatically refreshes home page **51** of users on a preset frequency (after a preset period of time has elapsed). Refreshing the screen view **51** brings in new content and advertisements.

[0093] Table 5a is the supporting data organization and structure of home page **51** in a preferred embodiment.

TABLE 5a

Representative Member home page 51 Members have a home page 51. This home page displays all member information to the member himself and all public information to other members determined by their privileges.	
Feature	Description
Display information based on privileges.	The home page shows the member's information to the respective member while other members can only see of this member what fit their privileges.

TABLE 5a-continued

Representative Member home page 51 Members have a home page 51. This home page displays all member information to the member himself and all public information to other members determined by their privileges.	
Feature	Description
Customizable content and layout	The member is able to customize his home page 51. He is able to set what information he want to display and where on the page. However, he cannot prevent certain items from being displayed (e.g, navigational elements and advertising). The middle (content) pane display order and display location can be customized.
Home viewed by owner	The following information can be shown on the member's home page: Top 4 latest articles published by the member with the newest at the top Report summary on article viewing User's connections that are currently online Users connections Articles recommended to the member by the system. People subscribed to by the member with the ones that have the most recent articles (not red by the member) at the top Groups the member belongs to with the ones that have the most recent articles (not red by the member) at the top The members' contacts. The members' bookmarks. Member's recently read articles Categories subscribed to with ones that have the most recent articles (not red by the member) at the top. Account balance
Home viewed by other member	The following information can be shown on the member's home page when viewed by someone else. Clearly, this information depends on who views the page and the information view properties: The members' connections Latest articles published by the member and not red by the viewer. Shared groups the member belongs to. Public bookmarks. Public subscriptions. Recently read articles
Category published under	Member should be able to specify the "categories under which I publish" and the viewers can click on them which shows the articles written by the member in that category.
Tags published under	Member should be able to specify the "tags under which I publish" and the viewers can click on them which shows the articles written by member in that keyword/tag.
URL for home page	Members home page can be accessed via simplified URL's containing both member name and system name.

[0094] Continuing with **FIGS. 2***a*-**2***d*, publish operation/module **11** enables a writer-user to create a piece (authored work) **29** formed of any one or combination of text, images, audio, video, files to download, XML descriptions of any of these items, comments and/or bookmarks. Further details are given below in **FIGS. 3***a*-**3***d*.

[0095] Connect operation **31** (**FIG. 2***b*) is an address book of sorts which enables a user to specify categories and relations of people. Preferably each entry indicates one of the categories of 'family', 'friend', and 'work', and may thereby define subsets or groupings of people similarly related to the subject user. Connect operation **31** also enables users to organize groups, make a school grouping, find people and add contacts. Table 1 and the groups configuration discussed above support connect operation **31**. Preferably communicate operation **33** (**FIG. 2***b*) is an email service. Any of the known email software applications is suitable here.

[0096] Continuing with **FIG. 2***c*, My Content **35** stores a given user's published content **29** (e.g., labeled 'My Articles' and 'My Reviews') or elements for use in composing authored works **29**. Included are images, audio files, multimedia clips, video clips, bookmarks, comments, download files and the like. Also My Content **35** includes comments the user has made on other's articles (works).

[0097] Accounting settings **41** (**FIG. 2***d*) also result from the user profiling (registration) process **45**. The present invention system **100** is preferably a point based system. Known users can earn points. However, the points can not be debited from a user's account until the user becomes a member of system **100**. Known users cannot redeem points unless they have subscribed to the system **100**. If they subscribe using the same browser used when browsing, their accumulated points are transferred in their newly created account (because the points will be in the cookie for example).

[0098] A user's points and other related accounting is provided by points operation **39** (**FIG. 2***c*). Withdrawal of points, points accrual and points transactions are recorded or otherwise provided at **53** in **FIG. 2***c*. A report generator may provide various displays and output of data from points operation **39**.

[0099] Turning to **FIG. 2***h*, a master database table **120**, user tables **122**, publication table **124** and tagging table **126** support the foregoing and other features of the invention system **100**. Briefly, system **100** assigns a unique identifier to each group. Master database table **120** lists groups by unique identifier. For a given group, the corresponding entity in master database table **120** lists the members (user names) of the group, lists invitations (names of invitees) to the group, lists blocked users names from the group and group settings (as described above in **FIG. 2***g*).

[0100] Each user has attributes and a profile **17** stored in a respective user table **122**. This profile **17** is the combination of (a) user specified information stored in profile entry tables **38** and (b) inferred or observed user characteristics discussed above in **FIGS. 2***a*-**2***d*. System **100** records or indicates in user profile **17**, the ads viewed and/or selected (or otherwise responded to) by the user. Other outcome of these ads (sale completed, subscription made, etc.) and the user's activity therewith may also be recorded here. For a given user, the respective user table **122** includes the groups (e.g., by respective group identifier) to which the user belongs and subscriptions **71** to other users (author users). Certain user attributes and activity are also recorded in and/or tracked by respective user tables **122**. For example, in one embodiment, the user profile **17** includes an indication of authored works **29** read by the subject user and comments he has made on respective authored works **29**. A pointer, link or reference or the like to a comment entry in publication table **124** provides the comment contents (text). This enables system **100** to determine and display most commenting user, most commented on user or authored work **29**, commenting rates of groups and other statistics/standings or similar information. This may be done dynamically or for static stored data **94**.

[0101] The publication table **124** relates who (user or group) created what authored works **29**. For each authored work **29**, publication table **124** indicates authored works' **29** composition or content including any one or combination of text, images, video, audio, graphics and/or multimedia, as well as users' comments on the work and/or bookmarks to the work **29**. An indication of user responsible for a comment is by pointer or similar reference to the respective user table **122**. Publication table **124** supports display of comments during display of corresponding authored work **29**. The comments are visible to the author and/or other users. The publication table **124** entry also stores or indicates the amount of tips given to the author user for this authored work **29**.

[0102] Publication table **124** also enables reports to an author showing names of reader-users who have read authored works **29** by the author and allows the author to browse profiles of the reader users. In some embodiments, the reports aggregate the profiles **17** of reader users showing aggregated data for those users. The author is then able to substantially automatically target advertising based on profiles of reader users. In a similar manner using tagging tables **126** (discussed below) with publication table **124** data, authors can see keywords most often used by reader users of their authored works **29**. Indications of authored works **29** or comments are shown on a reader user's profile **17** in user tables **122** such that others can see what that user has read. System **100** further enables users to subscribe to the comments of other users to see what people they like or have an interest in are reading most frequently.

[0103] Each bookmark and each comment has a respective entry (or record) in publication table **124**. In one embodiment, each bookmark entry has a URL or pointer like reference, a title, a synopsis and/or indication of author. The bookmark entry may also provide a snapshot (summary) of the respective bookmark or be reproduced in its entirety (full text/graphics data). The bookmark entry also stores any additional annotations or comments by the creator of the respective bookmark. The bookmark record includes popularity and/or quality ratings similar to those employed for authored works **29** described above. A counter or similar mechanism keeps track of number of bookmarks a given work **29** has. The bookmark records and entries in publication table **124** enable system **100** to determine and display to a user his bookmarks, other user's bookmarks and/or all system bookmarks, as well as display an indication of popularly bookmarked authored works **29** and the like.

[0104] In one embodiment, the bookmarking means enables the user to selectably make visible to other users and authors each bookmark. System **100** then enables users to comment on and rate quality of bookmarks. As such, system **100** further displays (i) lists of bookmarks based on popularity and/or quality rating, (ii) an indication of bookmarks having greatest increase in popularity and/or quality rank, and (iii) an indication of bookmarks having greatest decline in popularity and/or quality rank.

[0105] Each comment entry (record) in publication table **124** indicates author of the respective comment, authored work **29** (or bookmark) and/or author of work/bookmark to which the comment is aimed, and text of the respective comment. Common relational database techniques are employed to organize the comment records by and display lists of most prolific author of comments (most commenting author user), by author user or authored work **29** most commented on and/or by best comments on a given work **29** or bookmark.

[0106] The publication table **124** entry for a given authored work **29** also links to or otherwise references through tagging table **126** keywords or tags that users (author user as well as reader users) have assigned to the authored work **29**. Similarly, tags may be associated with bookmark or comment entries/records in publication table **124**. In some embodiments, the publication table **124** entry for a given authored work **29** also indicates categories/subcategory (topic areas) that users (author user, reader users) have assigned to the authored work **29**.

[0107] The tagging table **126** indicates particular tags or keywords applied respectively to authored works **29**, bookmarks and comments in publication table **124**. In particular, for a given keyword, tagging table **126** lists content items/authored works **29**, bookmarks and/or comments that have been assigned that keyword. Using common cross-indexing (cross-referencing) techniques between tagging table **126** and publication table **124**, system **100** provides lists (hier-

archy orderings) of related tags per authored work **29** or topic area. For example, in response to a user using a keyword in operations of system **100**, the system utilizes tagging table **126** and presents a list of additional keywords that often appear together with the keyword. The additional keywords are user selectable for further specifying operations of the system **100**. Upon user selection of one of the listed additional keywords, the system **100**, through tagging table **126**, presents further additional keywords for additional user selection.

[**0108**] In some embodiments, each tag (keyword) has a respective record in tagging table **126**. For a given tag, the respective table entry (record) indicates number of times the tag has been bookmarked, commented on, included in an email message in communication subsystem **33** or cited in other works in system **100**. This counting enables system **100** to make a popularity determination of the tag. Separate popularity measures and indications may be made for reading purposes, writing purposes and/or discussion. System **100** determines quality of the tag based on responses/feedback from users indicating alternative tags or indicating that a tag is being incorrectly used (deceptive, inaccurate, inappropriate, etc.) The foregoing allows system **100** to indicate various quality and/or popularity ratings of the tag, e.g., fastest increase in popularity rank and fastest decrease in popularity rank.

[**0109**] Based on the above ratings, system **100** also ranks the tags. The records in tagging table **126** indicate rank of a tag over a period or time or within a certain time frame (for example, the prior week or the current week). System **100**/tagging table **126** also tracks rate of change in rank of tags so that a display of fastest incline in rank and/or fastest decline in rank may be made.

[**0110**] In one embodiment, the top certain number of keywords most frequently suggested are displayed in ranked lists for navigational purposes. The ranked lists include a list of keywords most often published by, a list of keywords most often commented on, a list of keywords most often selected by readers, a list of keywords most often searched on and/or a list of keywords most often forwarded in email messages. Tagging table **126** may also record, cross reference or otherwise indicate tags most commonly used together. The system **100** further identifies multiple different spellings of a word including misspellings. The system means links each identified different spelling to a most frequently used, properly spelled term for that word and displays that term instead of the other spellings in system screen views. In response to reader users selected or suggested keywords for an authored work, the system means provides additional keywords for selectable use as tags to the subject authored work **29**. For each additional keyword, when not selected by a reader user or author, the system marks the additional keywords in tagging table **126** as negatively correlated to the authored work **29**. The negative correlation grows stronger each time the system means suggests additional keywords to an author or reader user and the additional keywords are not selected by the user.

[**0111**] Reader-users (or an end-user in general) log into the invention Web site system **100** hosted by server **60** and search for specific content or browse for various content through invention software **92**, **94** (search operation **25**, view operation **27**). As mentioned above, **FIG. 3** is illustrative of initial screen views **51** rendered by view operation **27** and displayed to the end-user. In a preferred embodiment, the reader-user subscribes **71** to content offered through the Web site/system **100** by any combination of author, topic, related people and/or groups/organizations. Users are also allowed to establish connections of different types with their family, friends and work colleagues that allow them to see (at **55**, **76**, **FIG. 3**) material written by and/or read by these connections. Connection operation **31** through user tables **122** supports this function. Additionally, end-users may choose to see content published for their local area or regions to which they might travel.

Ad Targeting

[**0112**] An ad service subsystem (member) **99** (a) filters and selects ads based on end-user browsing history and profile **17** characteristics, and (b) scores candidate ads in combination with expected click through rate and an advertiser's bid in a manner that maximizes host site **60**'s expected revenue from ad clicks (user selections of ads). As illustrated in **FIG. 4**, the ad member's **99** main task is to match advertiser-specified targeting criteria with characteristics of users being served ads (step **91**). In general, a request **56** from a Web page server or other requester (i.e., in response to user interaction, searches and the like) is considered to match an ad if the request contains all properties that the ad is targeted to. For instance, if the ad is targeted to end-users who are males looking at political pages, it will match a male aged **40** living in Arizona viewing a political page. In other words, the extra characteristics of the end-user do not count against the ad as a match. However, an ad that matches more of these characteristics will be considered a better ad than one that only matches one or two characteristics and will tend to be scored higher by member **99**.

[**0113**] If any targeting characteristic of the ad does not match the current end-user, the ad is ineligible to be shown. So an ad targeted to males aged 35-45 will under no circumstances be served to a male aged **50**. Also, being gender specific, it will not be shown to an end-user of an unspecified gender, even if that end-user is in the proper age range. Only if the request contains all the characteristics the ad is targeted to will the ad be shown to the subject end-user. However, the user's keyword history may allow an ad to be shown even if the ad does not match the current page.

[**0114**] Even when the ad system matching routine **91** has selected a set of ads that are eligible **93** to be shown to a given end-user, some ads may be more pertinent than others. For instance, an ad targeted to a keyword recently seen by the end-user should be and is given preference over one targeted to a much more distant keyword. Also, ads that have high click through rates are preferred to ones that have low rates, and ads that the advertiser has bid a higher amount are preferred to ones that have a minimal bid.

[**0115**] At steps **195** and **96**, the ad system **99** attempts to balance these possibly competing factors by using them as multiplicative factors in an ad's overall score. The following are the types of factors that are applied. More details about the scoring are given below.

[**0116**] Keywords are scored higher if they have been encountered recently, or if they are encountered frequently. These scoring criteria are given relatively high weight, as these are likely to be the best way to keep the ads being shown a user "fresh".

[0117] Continuing with step **96**, an ad that is more specifically targeted to an end-user is given higher priority than a less specifically targeted general ad. So an ad that is targeted toward gay males, ages 25-34, income over $75,000 will be given higher priority over an ad simply targeted toward males, if both match the same user. Of course, the less specifically targeted ad is eligible for display to a wider audience.

[0118] To maximize expected revenue to host **60**, ad system **99** displays ads that are proving themselves successful by showing high click through rates. Therefore, at step **97** the ad's score is multiplied by the click through rate. In order to give a new ad a "fair chance", its actual click through rate is calculated as a weighted average against a configurable number of impressions at the advertiser's overall click through rate. A similar balancing mechanism is used to infer an assumed click through rate for a new advertiser.

[0119] An advertiser is allowed to place a bid on his ad, for example the maximum he would be willing to pay for a click through (though for any click, i.e. user selection, he may pay a smaller actual amount). An ad with a higher bid is ranked higher by simply multiplying the ad's score due to other factors by its bid (step **98**). Next ad system **99** determines the greater of the calculated amounts of steps **97** and **98**. On output, ad system **99** provides an ordered set (by priority) **89** of qualifying ads in response to host system **100** request.

[0120] In one embodiment, the following types of ad targeting criteria are used.

Keywords

[0121] A set of keywords or key phrases may be provided with every ad request, representing keywords associated with the current page the user is on. The ad system **99** is provided these keywords as input. In other embodiments, ad system **99** may attempt to extract keywords from the current page context.

Keyword History

[0122] Every keyword is stored as part of a user profile **17**. The profile **17** contains the user's history of keywords viewed, though it may be pruned if the history grows too large. The keywords are organized by recency and frequency. The keywords that are viewed more recently or more frequently are given preference or weighted in various calculations and determinations of ad system **99**. Ads may be targeted to keywords. Ad system **99** enables display of a keyword targeted ad for end-users who have those keywords in their history. End-users that have not viewed those keywords will not see such ads.

[0123] In one embodiment, system **100** stores in the user profile **17** keywords read by the user, keywords written by the user, keywords searched (in search queries) by the user, keywords browsed by the user, keywords forwarded, received or sent in email messages by the user, and keywords in bookmarks or comments by the user. Also included in various combinations are keywords of tags and categories of content read or written by the user, recency of these keywords and frequency of these keywords. In some embodiments, tag keywords and/or category keywords are expired in the user profile **17** based on recency or frequency. Thus profile **17** records or otherwise tracks date and time of keywords of the user.

Static User Properties

[0124] Unlike behavioral properties such as keywords visited, end-users also have many relatively static properties, such as age, income range, and so on. Some of these properties may change over time and others once noted never change, but in general they are thought to be static properties of the end-user. System **100** and ad member **99** expect these properties to be explicitly supplied by the end-user as part of entering their registration profile **37**. Both demographic and geographic properties fall into this general category and in one embodiment include the following criteria: Age, gender, income level, state of residence, NPR listener, relationship status, sexual orientation. The system **100**, **99** is designed so that this list is flexible, and can be added to or modified with relative ease. In one embodiment, the properties of gender, age and residence exist directly in the user table **122** and the remaining properties are in the profile entry table(s) **38**, **FIG. 2***c*. Also, some information must be passed through a filter before it is usable. For instance, in some embodiments host system **100** infers age from date of birth and residence from IP address. Other properties may be inferred.

Architecture

[0125] Turning to **FIG. 5**, the ad system **99** is preferably formed of three main components, namely a user interface (described below in **FIGS. 6***a*-**6***k*), an indexer **85** and an ad engine **87**. The user interface allows advertisers to enter ads into the system **99** and assigns targeting criteria to the ads. In particular, the ad system **99** prompts the advertiser-user for targeting criteria and in turn assigns raw targeting criteria to ads.

[0126] The indexer **85** component periodically scans the database **110** of current ads and creates an index **81** that permits easy searching and retrieval of relevant ads when a request **56** is made in real time. Preferably, Lucene (by the Apache Software Foundation) is used as the indexing and searching engine/subsystem. Other indexing and searching techniques may be employed.

[0127] In the indexing phase, all ads that are currently eligible to be displayed are selected and placed into the index **81**. Filters are applied by campaign start and stop dates, and a series of statuses on the ad, campaign, and advertiser. Additionally, campaigns that have expended their budgets for the day are shut off.

[0128] For each ad, its targeting criteria are indexed to it, so an ad that is targeted to keyword "software" will be assigned a value "keyword:software" in the index. The same is done for all such properties, such as "gender:male". Multiple values for a property may be used, such as "state: IL IN OH MI". If a target is not specified for a given criterion type, a field value such as "income:null" is created.

[0129] Additionally, a boost is added to the ad based on the effective click through rate (as described above, a formula to assume a click through rate for an ad that is new to the system is used) and its bid. These factors are multiplied together and assigned as a "boost" to the ad in the index. Lucene has limitations in the precision with which a boost is stored, so indexer **85** also assigns an adjustment factor to the ad in the index. Because ad system **99** relies on the score of the ad to determine the actual cost of a click, ad engine **87** multiplies by this adjustment factor when computing the ad's score.

[0130] The ad engine **87** receives requests **56** to display ads. Each request **56** includes criteria (such as keywords, user keyword history characteristics and static user properties/profile characteristics) as working parameters. For a given request **56**, the ad engine **87** considers the criteria/characteristics of the request **56**, such as the keyword history and profile **17** characteristics of the desired end-user, and searches the index **81** for relevant ads, scoring them by relevance. Preferably ad engine **87** employs the routine of **FIG. 4** for searching and selecting an ad to serve in response to the request **56**. In turn, host system **100** displays to the end-user the ad chosen by ad engine **87**/ad system **99**. If the end-user selects (clicks on) the displayed ad, ad system **99** compares the ad's score with the score of the next lower ad in the display order **89** to determine how much the click should be billed/charged out to the advertiser, as described below.

[0131] Since the index **81** is a resource shared between the indexer **85** and the ad engine **87**, a synchronization mechanism exists to prevent contention. The indexer **85** works on a separate instance of the index **81** from the ad engine **87**. When the indexer **85** is finished, it sets a flag to indicate the newly created index **81** is ready to use. The ad engine **87** begins to use it **81**, freeing the previous index to be refreshed when the indexer **85** starts up again.

[0132] When the ad system **99** receives an ad request **56**, it creates a query that retrieves appropriate ads from the index **81** (through ad engine **87**). The query is constructed based on the current page keywords, past keywords seen by the user, and static user properties.

[0133] The current page keywords are supplied in the URL of the ad request **56**. They are entered into the user's keyword history for future retrieval. They are date stamped so that recency can be tracked, and if they are encountered in the user's history already, a counter is incremented so that frequency can be tracked. Based on the recency and frequency score, a boost factor is assigned to the keyword. At the end of this process, a query of the following form is created: "keyword:word1ˆboost1 word2ˆboost2 word3 ˆboost3 . . . null". The final factor of null is required to retrieve ads that are not targeted to any keywords at all.

[0134] Additionally, a viewer-user profile **17** is created from all the static properties determined (inferred) of the viewer-user. For any property type in which one or more values is found, ad member **99** constructs a query clause of the form "property:(value1 value2 value3 . . . nullˆ0.5)". The final null insures that ads not specifically targeted to this property are also retrieved, but not scored as well as any that match one of the values. For any property that the viewer-user has not specified, ad system **99** adds a criterion of the form "property:null".

[0135] The foregoing clauses are appended together in a conjunctive manner so that the final query looks something like this: "+(keyword:mathematicsˆ10 gamesˆ5 null)+(state:ny pa va nj nullˆ0.5)+(gender:male null ˆ0.5)+(income:null) . . . ".

[0136] Ad engine **87** retrieves ads from the index **81** by means of this query. The retrieved ads are then ordered by decreasing score (preferably after an adjustment is applied to work around precision limitations in Lucene's scoring system) and displayed to the end-user (viewer-user). If an ad is clicked on (selected by the end-user), an adjusted bid is computed based on the ad's relative score to the next ad beneath it in the display priority **89**. The adjusted bid is such that it is just enough for the ad to maintain its position against the next lower ad, assuming that ad were at its full bid, i.e. such that $(\text{Adjusted bid})_1 * \text{score}_1 > (\text{Actual bid})_2 * \text{score}_2$. In one embodiment, a minimum of $0.05 per 1000 impressions is charged per ad regardless of this score.

[0137] In some embodiments, ad system **99** provides a "more ads like these" option or link to the viewer-user. This is accomplished by ad system **99** searching ad database **110** to find similar ads based on targeting type, product type, geographic region, product cost range, language and keywords. The system **100** may display to the viewer-user an option to view other similar ads based on categorization of a currently displayed set of ads. Upon viewer-user selection of this option, system **100** displays one or more similar ads while maintaining display of at least one of the originally displayed ads. Further system **100** enables the viewer-user to respond to the other similar ads and/or for each similar ad, provides a respective option to display more ads similarly categorized.

[0138] In one embodiment, system **100** enables the advertiser user to (i) bid additional money to prevent display of the above-described option, or (ii) pay a fee to remove display of the option. In this case, during the ad creation and set up (budgeting and bidding part), upon the advertiser-user indicating such additional amounts/fee, system **100** is responsive and sets a flag or attribute value/parameter of the ad accordingly. The ad with its display and other attributes including a "do not display more like these option" is stored in database **110**.

[0139] In other embodiments, ad system **99** displays ads from index **81** including ads that the given viewer-user has previously seen. Using user profile **17** of the given viewer-user, system **100** identifies the ads that this user has responded to in the past. System **100** provides the viewer-user an option to see ads (or lists thereof) that he has previously viewed or responded to. In one embodiment, system **100** displays ads (or lists thereof) that the given viewer-user has previously viewed and highlights or otherwise indicates which of these he has previously responded to. Certain ads may be omitted.

[0140] In addition, using user profiles **17**, system **100** enables other users (such as advertiser-users) to see the ads that a given end user has responded to in the past. This enables a given end-user to see ads that his friends, colleagues or other connections **31** have responded to in the past. This also enables a user (company) to see, aggregated in a single place, ads that have been viewed by those who have linked to that user's home page **51** or effective website. In some embodiments, system **100** enables the given end-user to determine whether other users can see what ads he has viewed. The system **100** sets an appropriate variable or attribute in user profile **17** to accomplish this.

[0141] Using user profile **17**, system **100** sorts ads by popularity. Similarly using user profiles **17** and ad database **110**, system **100** enables a user to sort ads previously viewed by another user or group. Sorting may be by advertiser, product type, recency of viewing, frequency of viewing and/or advertiser rating or ranking. A default sorting for a user may be applied.

CPC (Cost Per Click) Bid Management

Overview

[0142] The host company **60** ad service algorithm may charge the advertiser a flat fee for every click through. For example, the fee charged is the bid that the advertiser entered for the ad. The bid is relevant to the placement of the ad, so it is reasonable to charge a higher price for having an ad placed higher, but an advertiser might vastly overbid and thus spend much more money than is necessary to guarantee his ad placement.

[0143] Other ad engines, such as Google, institute bid management functions that mitigate this problem for advertisers. Suppose that ads A-D are to be shown to a user, with the following bids:

Ad	Bid
A	$.50
B	$.25
C	$.15
D	$.10

Google would rank the ads as shown, but instead of charging the advertisers per click by the amount of the bid, they'd charge for each ad at $0.01 more than the bid of the ad beneath it, in other words, just enough to maintain its position. So ad A would be charged at $0.26, and so on. Ad D would still be assessed a cost per click (CPC) of $0.10.

Details of Invention Bid Management

[0144] Unlike Google, Applicants take other factors into account in ordering ads besides bid amount. Applicants do not use the simple bid management algorithm outlined above, because the ads might be out of order from the standpoint of the simple bid. Instead, Applicants order ads by an estimate of their expected value to host site (company) or ad network **60**. The bid factors into this, but Applicants also incorporate the likelihood that the ad will be clicked upon (selected by a viewing end-user). The product of (i) the bid amount and (ii) the likelihood of the ad being end-user selected (clicked on) defines the invention expected value, which is used as the ordering criterion in ad subsystem **99**.

[0145] Estimating the click likelihood is a complex task. A very rough estimate may be obtained by the past click through rate of the ad or similar ads. For the purposes of simplicity in description of the preferred embodiment, what is necessary is that one has some way of calculating an estimated probability of clicking (a number between 0 and 1). This number is multiplied by the bid amount to determine an expected value.

[0146] Click likelihood may be set fairly high (close to 1) when the ad is focused on a certain author or specific story (content) for example.

[0147] Consider the same situation as above, but now with the estimate of click probability included:

Ad	Bid	Click probability (%)	Expected value
A	$.50	1	.5
B	$.25	2.5	.625

-continued

Ad	Bid	Click probability (%)	Expected value
C	$.15	0.5	.075
D	$.10	1	.1

Notice now that the ads should be ordered differently. B should be ordered before A and D before C.

[0148] This also means that the bid adjustment should be different. If one used the Google mechanism, a click for ad B would cost $0.01 more than A's bid, or $0.51. Obviously this is wrong, because it's more than B's maximum bid amount. Instead, one needs to find the bid that makes the expected value just exceed the next lower ad's. If B's bid were $0.20, its expected value would be 0.5 (=$0.20×2.5) and it would be tied with A for rank. Therefore, B should be charged $0.21 (which is $0.01 more than the $0.20 bid amount that made the expected value just exceed that of ad A). Similarly, if D's bid were $0.075, it would tie with C in expected value and thus in rank. Therefore, D's bid should be $0.08 (=$0.01+$0.075).

[0149] The formula for a tie bid is y=(Expected value of next lower ad)/(Click probability of the subject ad). The adjusted bid for the subject ad is then (y+$0.01), or in the case of a fractional cent, the calculated sum rounded up.

[0150] Ordering the above table properly and filling in the adjusted bids, one gets the following:

Ad	Maximum bid	Click probability (%)	Expected value	Adjusted bid
B	$.25	2.5	.625	$.21
A	$.50	1	.5	$.11
D	$.10	1	.1	$.08
C	$.15	0.5	.075	$.15

[0151] In one embodiment, a combination of the ad's current click rate, along with keyword recency and frequency for the end-user is utilized. If an ad is just getting into rotation, the click through rate (CTR) cannot be accurately calculated immediately. In order to give the ad a "fair shake", Applicants assume some rate until there is enough data to estimate the actual rate (CTR). One way to do this is to "blend" the assumed click through rate with the real rate using a weighted average until enough impressions are received. Suppose one assumes a 1% click through rate, and wish this to be effective until about the 10,000th impression, at which point one wishes the real click through rate to be considered. Then one can use the formula [(1%*10,000)+# actual clicks]/(10,000+# actual impressions) to give an adjusted click rate. If the actual click rate were 0.5%, this function would behave as follows:

# Impressions	Adjusted CTR
0	1%
1,000	0.95%
5,000	0.83%

-continued

# Impressions	Adjusted CTR
10,000	0.75%
20,000	0.67%
50,000	0.58%
100,000	0.54%

As the number of impressions increases, the adjusted click rate approaches the actual click rate, but gives the ad a fair chance to be displayed before the ad targeting system **99** has any data about it.

[**0152**] The 1% and 10,000 used as constants in the example formula above are only used to make the mathematics look simpler. In actual application, an embodiment begins with 3,000 as the assumed number of impressions (though this may be an adjustable parameter). The click through percentage serves as the advertisers' average click through rate across all their ads. If it's a new advertiser, it will be the average overall click through rate.

[**0153**] It is understood that different embodiments may employ different units for bid amounts and may display different responses in them. For example, one embodiment receives input dollar amount per number of views (impressions) and in response indicates likely number of impressions resulting and average placement of the subject ad for the input dollar amount. In other embodiments, the input dollar amount is cost per click-through or cost per sale completed or cost per registration completed. And the response indicates likely number of click-throughs resulting, average placement of the subject ad and total cost of the subject ad.

[**0154**] The foregoing ranking **89** (based on projected likelihood of end user selection of the subject ad multiplied by respective bid amount) may include subsequently degrading the projected likelihood of the end-user selecting the subject ad every N times one of the ads is viewed by the end-user but not selected by him. N is greater than zero. Other schemes for degrading rank of an ad or effectively expiring an ad are suitable.

[**0155**] Accordingly, the present invention ad targeting system uses a bid technique that is akin to a Vickrey auction where the highest bidder wins but pays at the price of the second highest bid. **FIGS. 6***a*-**6***k* illustrate the user interface for advertiser users of invention system **100**.

[**0156**] Illustrated in **FIG. 6***a* is a first screen view or web page **132** of module (**47** (**FIG. 2***b*) for registering as an advertiser-user of a system **100**. The advertiser-user enters company name, his name and contact information in respective fields. Continuing with advertiser-user registration **47**, **FIG. 6***b* illustrates the next step **134** in this process in which the advertiser-user creates a first advertisement for placement in system **100**. The module **47** prompts the advertiser-user to name the subject advertisement and to name the campaign to associate the subject advertisement. A campaign may have many advertisements and the advertiser-user may subsequently add ads to a campaign. Working web page/screen view **134** further prompts the advertiser-user to provide a headline and description of the subject ad, as well as a display URL and destination URL (hyperlink) among other parts of the ad.

[**0157**] **FIG. 6***c* illustrates the screen view **136** in which the advertiser-user indicates keywords for the newly created subject ad. As previously described, the keywords indicated here (and hence defined for the subject ad) are used to match keywords on a web page that a system **100** user is viewing or keywords in a user profile **17** to determine applicable placement of the ad. Thus the number of keywords specified by the advertiser-user in screen view **136** impacts the reach of the subject ad. Using fewer keywords makes the ad very focused while using more keywords increases the frequency that the ad is shown/displayed in system **100**. Module **47** stores the newly created (subject) ad and corresponding keywords in ad database **110** accordingly.

[**0158**] **FIG. 6***d*-**1** and **FIG. 6***d*-**2** illustrate the screen view/web page **138** in which the advertiser-user creates the profile of an ideal customer for the item being advertised in the subject ad. Screen view/working page **138** prompts the advertiser-user to name the profile (for identification purposes) and to specify pertinent gender, age group, household income, marital status and the like for the ad targeting profile. Ad targeting profiles are stored in ad database **110** and appropriately associated with respective ads.

[**0159**] Continuing the first ad and registration process **47** with **FIG. 6***e*, the advertiser-user establishes a budget for the newly created ad. Screen view/web page **140** enables this by providing a "maximum CPC Bid" (cost per click) field **130** and a "Daily Campaign Budget" field **131** for the advertiser-user to insert respective values. The maximum cost-per-click bid is the maximum amount that the advertiser-user is willing to pay per viewer-user selection (click) of the subject ad. The higher this bid amount the more frequent the ad will be displayed in system **100**. Recall that the ad system **99** optimizes the ad billing by charging one cent more than the next highest ad bid, up to the maximum CPC bid. These field values **130**, **131** are stored with or otherwise indicated for the subject ad in ad database **110**.

[**0160**] The "Daily Campaign Budget" settings **131** allow the advertiser-user to control his budget and to set how much he is willing to spend on each campaign in a day. For this purpose, system **100** calculates cost as the number of clicks multiplied by the amount of actual CPC (cost per click) for the subject ad. When the allotment (as set by the value entered by the advertiser-user into the "Daily Campaign Budget" field **131**) is reached, system **100** pauses placement (display) activity of the subject ad and resumes such activity the following day.

[**0161**] In one embodiment, screen view **140** includes a graphical illustration of the change in projected number of users viewing (impressions) the subject ad per day with a change in bid amount. A slider or other graphical interface element **142** enables the advertiser-user to indicate a bid (CPC) amount, and in response system **100** (ad system **99**) generates graph **144** showing number of impressions per day versus cost per number of impression for the subject ad, or projected number of user click throughs per day versus cost per click (user selection). This serves as a forecast of the effectiveness of specific bids in terms of the number of clicks projected per impression. The user profiles **17** in user tables **122**, the records of ads stored in database **110** and the customer (ad targeting) profile and keywords defined for the subject ad support system **100** in making these projections and generating graphs **144**.

[0162] System **100** stores each of the aspects of the newly created ad as specified by the advertiser-user throughout screen views **132**, **134**, **136**, **138**, **140** (including bid and budget fields **130** and **131**) of **FIGS. 6***a*-**6***e* in ad database **110** or supporting tables thereof. Included are ad attributes of advertiser type, product type, geographic region, product cost range, language, do not display "more like these" option start/stop campaigns and keywords.

[0163] A last screen (web page) **146** in the advertiser registration process/module **47** is illustrated in **FIG. 6***f*. The working screen view **146** establishes information for billing the advertiser-user. Included are billing address and charge account (e.g. credit card) information or the like.

[0164] After the advertiser-user has successfully become a registered member (advertiser-user) of system **100**, he can take advantage of the various features and aspects of system **100** as a reader-user and/or writer-user (as described in related U.S. patent application Ser. No. 11/371,462) as well as being an advertiser-business affiliate of host site (company) **60**. In that respect, the advertisements he places in system **100** may be treated like authored works **29** which other users rate and rank and for which he is compensated following the writer-compensation program detailed in the related patent application. In one embodiment, the rate of compensation differs depending on whether the ad placement was paid by cash or system **100** credit. Publication Table **124** and ad database **110** records support this. In another embodiment, only users who selected the displayed ad or who made a purchase through the displayed ad rate the displayed ad as an authored work **29**.

[0165] Turning to **FIGS. 6***g*-**6***k*, the user-interface for a registered advertiser-user of system **100** is illustrated. Subsequent to registering and placing a first ad, the advertiser-user may view, edit and add campaigns, ads and customer (ad targeting) profiles. **FIG. 6***g* illustrates the screen view/web page **148** that enables the advertiser-user to obtain various reports of campaigns, advertisements and the like. In one embodiment, the reporting function enables reporting to advertiser-users indications of ads currently or actively being displayed and those selected by end-users. Reports include any combination of number of sales, number of subscriptions and number of registrations made by end-users through respective ads. Subscriptions here may be to company (advertiser) website, etc.

[0166] System **100** enables reports to be filtered by demographics, keywords, category, context and/or end-user behavior. This is supported by the user profiles **17**, customer (ad targeting) profiles, corresponding keywords and other attributes recorded for ads in database **110**. In a same light, system **100** enables reports to show a breakdown or groupings by demographics, keywords/phrase, category, context and/or end-user behavior.

[0167] **FIG. 6***h* illustrates the web page **150** enabling the advertiser-user to manage campaigns. Campaigns are listed by name, status, daily budget, number of clicks to date, click through rate (CTR %), average cost and total cost. Operational elements (e.g., "buttons") enable the advertiser-user to start and stop campaigns as desired. The starting and stopping of campaigns as instructed here by the advertiser-user is effected through ad records in database **110**. In particular, setting of variables, flags and any of various known techniques for handling ad records may be employed. Web page **150** also lists customer profiles by name. This allows the advertiser-user to view and edit a Customer Profile as well as to add (create) a new Customer (ad targeting) Profile as further illustrated in **FIG. 6***j* discussed below.

[0168] To create additional ads, system **100** displays web page **152** to the advertiser-user as illustrated in **FIG. 6***i*. Web page **152** provides campaign name, subject advertisement name and subject ad information fields similar to screen/page **134** for creating a first ad in **FIG. 6***b*. Also the steps of targeting an audience for the ad and establishing a budget follow (are similar to) those described in **FIGS. 6***c* and **6***e*.

[0169] In **FIG. 6***j*, the web page **154** enables the advertiser-user to review previously created customer (ad targeting) profiles and to create new ones. Web page **154** lists customer profiles by name and displays a summary of each as supported by corresponding recorded data in ad database **110**.

[0170] **FIG. 6***k* illustrates the web page **156** that enables an advertiser-user to review his ads. Each ad is listed by name with an indication of corresponding campaign, ad status, CPC bid and actual cost-per-click being charged for this ad as supported by corresponding stored ad data in database **110**. Advertiser-user selection of an ad listed on this screen view/page **156** enables the advertiser-user to modify the ad and its corresponding budget CPC amounts and the like. For each of the advertiser-user entered edits throughout screen views **148**, **150**, **152**, **154** and **156**, system **100** updates corresponding attributes and records in database **110**. Moreover, data used in reports and screen views of **FIGS. 6***g*-**6***k* are tracked by system **100** and/or ad system **99** and are stored (updated) in ad database **110**, supporting tables and/or user profiles **17**.

[0171] While this invention has been particularly shown and described with references to preferred embodiments thereof, it will be understood by those skilled in the art that various changes in form and details may be made therein without departing from the scope of the invention encompassed by the appended claims.

[0172] For example, the foregoing states exemplary code and algorithms for implementing an embodiment of the present invention. These are by way of illustration and not limitation. Other code language and equivalent computations are suitable.

What is claimed is:

1. In a global network of computers, a method of profiling a user for targeting advertisements, comprising the computer implemented steps of:

obtaining demographic information from end-users using on-line means;

monitoring end user activity and determining keywords therefrom; and

profiling an end user as a function of determined end-user activity keywords and obtained end-user demographic information so as to enable a matching of profiles of end-users to advertisements and thus targeting advertisements to end-users based on end user profiles.

2. A method as claimed in claim 1 wherein the step of obtaining demographic information includes providing an on-line form completed by end-users.

3. A method as claimed in claim 1 wherein the step of obtaining demographic information includes inferring demographics of an end-user.

4. A method as claimed in claim 3 wherein inferring demographics includes:

assuming a Zip Code for the end-user based on Zip Codes detected in end-user activity,

assuming age of the end-user based on ages of others detected in end-user activity,

assuming gender of end-user based on gender of others detected in end-user activity.

5. A method as claimed in claim 1 wherein the step of obtaining demographic information includes soliciting from one end-user demographic data of another end-user.

6. A method as claimed in claim 1 wherein the step of determining keywords includes any combination of:

determining keywords read by an end-user,

determining keywords written by an end-user,

determining keywords searched on by an end-user,

determining keywords browsed by an end-user,

determining keywords forwarded by an end-user,

determining keywords bookmarked by an end-user,

determining keywords in comments of an end-user,

determining keywords received or sent in email messages of the end-user,

recency of a keyword being read or written by an end user, and

frequency of a keyword being read or written by an end user.

7. A method as claimed in claim 1 wherein the step of determining keywords includes any combination of:

determining keywords of categories of content browsed by an end-user;

determining keywords of categories of content read by an end-user;

determining keywords of categories of content written by an end-user;

recency of keyword of category read or written by an end-user;

frequency of keyword of category read or written by an end-user;

determining keywords of tags of content browsed, read or written by an end-user;

frequence of keywords of tags read or written by an end-user; and

recency of keywords of tags read or written by an end-user.

8. A method as claimed in claim 7 further comprising any combination of the steps of: expiring category keywords based on respective recency or frequency; and expiring tag keywords based on respective recency or frequency.

9. In a global network of computers, a method of targeting advertisements, comprising the computer implemented steps of:

obtaining demographic information from end-users using on-line means;

monitoring end user activity and determining keywords therefrom;

receiving a subject advertisement having keywords associated therewith; and

determining end user to target the subject advertisement to based on a comparison of (i) a combination of determined end user activity keywords and obtained end-user demographic information to (ii) the subject advertisement keywords.

10. A method as claimed in claim 9 wherein the combination is advertiser defined.

11. A method as claimed in claim 9 further comprising the step of

obtaining bid amounts for projected audience reach where audience reach is estimated number of end-users the subject advertisement is determined to be targeted for.

12. A method as claimed in claim 11 wherein the step of obtaining bid amounts includes utilizing a graphical user interface having a user-controlled sliding view of estimated number of end-users viewing or selecting per day as graphed against cost per view.

13. A method as claimed in claim 11 wherein the step of obtaining bid amounts includes:

receiving input dollar amount per number of views, and

in response, indicating likely number of impressions resulting and average placement of the subject advertisement for the input dollar amount.

14. A method as claimed in claim 13 wherein the step of receiving input dollar amount is per number of sales completed or per registration completed.

15. A method as claimed in claim 11 wherein the step of obtaining bid amounts includes:

receiving input dollar amount per click-through, and

in response, indicating likely number of click-throughs resulting, average placement of the subject advertisement and total cost of the subject advertisement.

16. A method as claimed in claim 11 further comprising the step of prioritizing the subject advertisement relative to other advertisements in a manner based on financial reward to a hosting web site or ad serving network that makes determination of end-users to target advertisements to.

17. A method as claimed in claim 11 wherein the step of obtaining bid amounts employs a Vickrey style auction.

18. A method as claimed in claim 17 wherein the bid amounts are one of cost per click, cost per view or cost per acquisition made of item being advertised.

19. A method as claimed in claim 11 wherein the step of obtaining bid amounts includes focusing on a certain author or specific story for higher bid amounts.

20. In a global network of computers, a method of targeting and displaying advertisements to end-users comprising the computer implemented steps of:

obtaining demographic information from end-users;

monitoring end-user activity and determining keywords therefrom;

providing one or more advertisements having respective keywords associated therewith; and

displaying to a given end-user a subset of the advertisements as a function of advertisement keywords compared to any of the demographic information of the given end-user and/or given end-user activity keywords.

21. A method as claimed in claim 20 wherein the step of displaying includes selecting and ordering advertisements of the subset based on respective bid amounts of said advertisements.

22. A method as claimed in claim 20 further comprising the step of projecting respective likelihood of the given end-user selecting the advertisements in the subset, and

the step of displaying includes displaying said advertisements as a function of respective projected likelihood.

23. A method as claimed in claim 22 wherein the step of displaying includes ranking said advertisements as a function of respective projected likelihood multiplied by respective bid amount, and displaying to the given end user the advertisements in the subset according to said ranking.

24. A method as claimed in claim 23 wherein said ranking further includes degrading the respective projected likelihood of the given end-user selecting the advertisements in the subset every N times one of the advertisements is viewed by the given end-user and not selected by the end-user, N being greater than zero.

25. A method as claimed in claim 20 further comprising the step of reporting to advertisers indications of the advertisements displayed and selected by end-users.

26. A method as claimed in claim 25 wherein the step of reporting includes reporting to advertisers any combination of number of sales, number of subscriptions, number of registrations made by end-users through respective advertisements.

27. A method as claimed in claim 25 wherein the step of reporting includes filtering reports by demographics, keywords, category, context and/or end-user behavior.

28. A method as claimed in claim 25 wherein the step of reporting includes showing a breakdown on reports by demographics, keywords/phrase, category, context and/or end-user behavior.

29. A method as claimed in claim 20 further comprising the step of obtaining end-user ratings of the displayed advertisements.

30. A method as claimed in claim 29 wherein the step of obtaining is only from end-users who selected the displayed advertisement or end-users who made a purchase through the displayed advertisement.

31. A method as claimed in claim 20 wherein the advertisements are categorized by any of: advertiser type, product type, geographic region, product cost range, language and keywords.

32. A method as claimed in claim 31 wherein the step of displaying includes displaying to the given end-user an option to view other similar advertisements based on categorization of the advertisements in the subset.

33. A method as claimed in claim 32 wherein upon end-user selection of the option, one or more similar advertisements are displayed and at least one advertisement of the subset of advertisements remains visible.

34. A method as claimed in claim 32 wherein said displaying an option includes

(i) enabling the end-user to respond to the other similar advertisements, or

(ii) for each similar advertisement, providing a respective option to display more advertisements similarly categorized.

35. A method as claimed in claim 32 further comprising the step of enabling advertisers to (i) bid additional money to prevent display of the option or (ii) pay a fee to remove display of the option.

36. A method as claimed in claim 20 wherein the subset of advertisements include advertisements that the given end-user has previously seen, advertisements that the given end user has responded to in the past being identified and having indications thereof recorded.

37. A method as claimed in claim 36 wherein the step of displaying includes providing to the given end user an option to see advertisements previously viewed or responded to by the him.

38. A method as claimed in claim 36 wherein the step of displaying advertisements that the given end-user has previously seen includes displaying indications of those advertisements that he has previously responded to.

39. A method as claimed in claim 36 further comprising enabling other users to see the advertisements that the given end-user has responded to in the past.

40. A method as claimed in claim 36 further comprising the step of enabling the given end-user to see advertisements that his friends, colleagues or other connections have responded to in the past.

41. A method as claimed in claim 36 further comprising enabling a user to see, aggregated in a single place, advertisements recently viewed by those linking to the user.

42. A method as claimed in claim 36 further comprising the step of sorting advertisements by popularity.

43. A method as claimed in claim 36 further comprising the step of enabling a user to sort advertisements previously viewed by another user or group, said sorting being by advertiser, product type, recency or frequency of viewing, or advertiser ranking or rating.

44. A method as claimed in claim 43 wherein a default sorting for the user is applied.

45. A method as claimed in claim 36 further comprising the step of enabling the given end-user to determine whether other users can see what advertisements he has viewed.

46. A method as claimed in claim 36 wherein the identified advertisements omit advertisements of a certain type.

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