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Title: ONLINE PROFILING OF USERS

Abstract: Apparatus for managing secondary data on websites, comprises: a profiler for obtaining profile data of a current user requesting a page from a website, the page including primary data and allocated space for secondary data, and a secondary data manager, associated with the profile, for selecting secondary data to appear with primary data of the requested page according to the profile, thereby to send to the user the page comprising the primary data and the selected secondary data.
ONLINE PROFILING OF USERS

FIELD AND BACKGROUND OF THE INVENTION

The present invention relates to a method and apparatus for online profiling of users and, more particularly, but not exclusively to a method and apparatus for providing content to users based on personal profile information.

Websites habitually provide large amounts of information to users, both through primary and secondary webpage content. Primary webpage content is the content provided by the website owner himself and which the user is directly looking for. Secondary content includes commercial advertisements and the like.

Today, the primary content of the webpage can be personalized according to user preferences. However the secondary content rarely is. One of the reasons for this is that the users may trust the primary provider with their profile information but they have no direct connection with the secondary providers and no user is likely to provide profile information to unknown destinations.

Nevertheless the provision of secondary information is a very valuable and costly commercial tool. Proper targeting of the secondary information would increase the effectiveness of the commercial message.

There is thus a widely recognized need for, and it would be highly advantageous to have, a system that allows improved targeting of secondary information.

SUMMARY OF THE INVENTION

According to one aspect of the present invention there is provided apparatus for managing secondary data on websites, comprising:

- a profiler for obtaining profile data of a current user requesting a page from a website, said page including primary data and allocated space for secondary data, and
- a secondary data manager, associated with said profile, for selecting secondary data to appear with primary data of said requested page according to said profile, thereby to send to said user said page comprising said primary data and said selected secondary data.
According to a second aspect of the present invention there is provided a server comprising:

- a profiler, for obtaining profile data of users, and
- a secondary data manager, associated with said profiler, for managing predefined space for secondary data on websites, to fill said predefined space with items of secondary data selected using said profile data, thereby to provide secondary data targeted for individual users.

According to a third aspect of the present invention there is provided a method of doing business comprising:

- buying space on web pages from web page providers,
- obtaining profile information of web users,
- selling advertising space according to target profile information, and
- following a request by a profiled user for a web page, filling said bought space with advertisement items whose target profile matches a profile of said target user.

According to a fourth aspect of the present invention there is provided a method of doing business comprising:

- obtaining profile information of web users,
- selling the profile information to a website provider, thereby to allow said website provider to target information to said web user.

According to a fifth aspect of the present invention there is provided a network-based search engine, comprising:

- a profiler for obtaining profile data of a current user requesting a search from said search engine, and
- a search manager unit, for inserting said profile data as parameters to said requested search, thereby to narrow said search according to said profile data.

According to a sixth aspect of the present invention there is provided a network-based search engine, comprising:

- a profiler for obtaining profile data of a current user requesting a search from said search engine,
- a ranking unit for ranking search results prior to returning to said user, and
- a search manager unit, for inserting said profile data as parameters to said ranking unit, thereby to rank respective search results according to said profile data.
According to a seventh aspect of the present invention there is provided a computer readable medium configured with a protocol management functionality for storing secondary data together with a target profile of intended recipients of said data and targeting functionality for targeting the data to users presenting profiles corresponding to said target profile.

Unless otherwise defined, all technical and scientific terms used herein have the same meaning as commonly understood by one of ordinary skill in the art to which this invention belongs. The materials, methods, and examples provided herein are illustrative only and not intended to be limiting.

Implementation of the method and system of the present invention involves performing or completing certain selected tasks or steps manually, automatically, or a combination thereof. Moreover, according to actual instrumentation and equipment of preferred embodiments of the method and system of the present invention, several selected steps could be implemented by hardware or by software on any operating system of any firmware or a combination thereof. For example, as hardware, selected steps of the invention could be implemented as a chip or a circuit. As software, selected steps of the invention could be implemented as a plurality of software instructions being executed by a computer using any suitable operating system. In any case, selected steps of the method and system of the invention could be described as being performed by a data processor, such as a computing platform for executing a plurality of instructions.

**BRIEF DESCRIPTION OF THE DRAWINGS**

The invention is herein described, by way of example only, with reference to the accompanying drawings. With specific reference now to the drawings in detail, it is stressed that the particulars shown are by way of example and for purposes of illustrative discussion of the preferred embodiments of the present invention only, and are presented in order to provide what is believed to be the most useful and readily understood description of the principles and conceptual aspects of the invention. In this regard, no attempt is made to show structural details of the invention in more detail than is necessary for a fundamental understanding of the invention, the description taken with the drawings making apparent to those skilled in the art how the several forms of the invention may be embodied in practice.
In the drawings:

Fig. 1 illustrates an apparatus according to a first preferred embodiment of the present invention;

Fig. 2 illustrates a method according to a preferred embodiment of the present invention; and

Fig. 3 illustrates a method according to an alternative version of the embodiment of Fig. 2.

DESCRIPTION OF THE PREFERRED EMBODIMENTS

The present embodiments comprise an apparatus and a method for managing of secondary data over web pages based on personal profiles.

The principles and operation of an apparatus and method according to the present invention may be better understood with reference to the drawings and accompanying description.

Before explaining at least one embodiment of the invention in detail, it is to be understood that the invention is not limited in its application to the details of construction and the arrangement of the components set forth in the following description or illustrated in the drawings. The invention is capable of other embodiments or of being practiced or carried out in various ways. Also, it is to be understood that the phraseology and terminology employed herein is for the purpose of description and should not be regarded as limiting.

Reference is now made to Fig. 1, which illustrates apparatus for managing secondary data on websites. The apparatus comprises:

a profiler 10 for obtaining profile data of a current user requesting a page from a website. The page typically includes primary data and allocated space for secondary data. The apparatus further comprises a secondary data manager, associated with the profile, for selecting secondary data to appear with the primary data of the requested page according to the profile. The apparatus sends to the user a page that includes both primary data and the selected secondary data.

Preferably, the profiler comprises an extractor for extracting a cookie from the user.

Preferably, the profiler comprises a web form manager for providing a web form to obtain profile data from a user and storing the profile data as a cookie.
Preferably, the profiler comprises a web form manager for providing a web form to obtain profile data from a user and storing the profile data in a database.

In an embodiment the system can make use of profile data provided to portals or to messenger programs or the like.

Preferably, the secondary data is configured with a header containing profile matching information to indicate suitability with user profiles, thereby to allow the secondary data manager to carry out the selecting of the secondary data for the user.

Using such profile data, adverts for tampons can be targeted at women between the ages of 11 and 50. Diet versions of drinks can be targeted at persons whose profiles indicate that they are likely to be dieting.

Now, to take the example of diet versions of drinks a little further, the target profile for such an advertisement may be a little fuzzy. Certain users may be considered as central to the target and others more peripheral. The present embodiments provide a means for differentially charging the advertiser according to the centrality of the user to the target profile.

The profiles for which the advertisement targets may be stored in database form as header fields for the advertisement as explained herein elsewhere.

Preferably, the secondary data manager further comprises a reporting unit for reporting on provision of the secondary data.

Preferably, the profile comprises data fields comprising any one of the group consisting of age, sex, geographical location, postcode, zipcode, hobbies, business interests, educational interests, musical interests, a listing of interests. It will be appreciated that additional fields can be added, and derivative fields can be built based on statistical derivations from the information provided.

Education can be a field that describes a level of education reached, say school only, first degree, second degree etc, but could also include field of education, years of education, school or university, or indirect indicators such as number of years in full time education.

Preferably, the secondary data manager is located at the requesting user, and is configured to filter out secondary data not consistent with the profile.

Alternatively, the secondary data manager is located at a server configured to manage data for a plurality of websites located remotely therefrom.
Preferably the secondary data manager is configured to send different versions of a single item of the secondary data according to different profile information.

Preferably the secondary data manager is configured to operate with a banner engine or tickers or the like to feed banners of the selected secondary data into predefined spaces on the requested web pages.

According to a further embodiment there is provided a method of doing business comprising:

- buying space on web pages from web page providers,
- obtaining profile information of web users,
- selling advertising space according to target profile information, and
- following a request by a profiled user for a web page, filling the bought space with advertisement items whose target profile matches a profile of the target user.

As an alternative, shown in Fig. 3, a service provider obtains profile data from users, whether from forms, cookies or any other means, and sells the information to the websites, so that the websites can target information to them. The websites can be charged a flat rate, or they can be charged different rates depending on the profile. Thus a particular website may have a target profile of users of a particular age group and may be charged for profiles that conform to the target.

The term "cookie" refers to a minimal data pack for example stored at the user, allowing the website to retrieve data of the individual user. The cookie could be stored at any other suitable location. The cookie may include direct data or could be a pointer to data located elsewhere.

If the profile includes location data then it is possible to receive local advertising. At the present time it is not feasible for localized businesses to advertise on the Internet.

It is noted that secondary data could be commercial data or it could be articles of information, hi one embodiment the same profile cookies could be shared between multiple web sites.

In another embodiment the filtering is carried out at the user and data never leaves the user. The user fills in his own form and filters out advertising that is not in accordance with his profile.

Users may connect up from locations other than their home. The secondary data manager could compare the IP address with the stated location to determine that
the user is currently touring etc and provide the user with information of interest to a traveler.

The profile is filled out by the end user and thus initiation is from the customer. Furthermore the advertiser has information as to where his data is being sent to.

Users can receive points, or other benefits for filling in the form and then for looking at adverts.

In a further aspect of the present invention there is provided a search engine that uses profile information of a user in order to assist in its searches. The user enters profile information and the search engine uses the profile information to narrow the search. Thus for example if a user indicates an age of eight, then search hits from academic sources can safely be ignored. Furthermore search hits having an adult theme could and should be ignored.

As well as, or instead of narrowing the search the profile information could be used for ranking search results. The order in which results of a search are presented to a user is often quite arbitrary, or based on popularity as measured on links to the site or preferences shown by other users. Using the present embodiments ranking may be carried out using profile information of the current searcher.

It is expected that during the life of this patent many relevant devices and systems will be developed and the scope of the terms herein is intended to include all such new technologies apriori.

It is appreciated that certain features of the invention, which are, for clarity, described in the context of separate embodiments, may also be provided in combination in a single embodiment. Conversely, various features of the invention, which are, for brevity, described in the context of a single embodiment, may also be provided separately or in any suitable subcombination.

Although the invention has been described in conjunction with specific embodiments thereof, it is evident that many alternatives, modifications and variations will be apparent to those skilled in the art. Accordingly, it is intended to embrace all such alternatives, modifications and variations that fall within the spirit and broad scope of the appended claims. All publications, patents, and patent applications mentioned in this specification are herein incorporated in their entirety by reference into the specification, to the same extent as if each individual publication, patent or patent application was specifically and individually indicated to be incorporated
herein by reference. In addition, citation or identification of any reference in this application shall not be construed as an admission that such reference is available as prior art to the present invention.
What is claimed is:

1. Apparatus for managing secondary data on websites, comprising:
   a profiler for obtaining profile data of a current user requesting a page from a website, said page including primary data and allocated space for secondary data, and
   a secondary data manager, associated with said profile, for selecting secondary data to appear with primary data of said requested page according to said profile, thereby to send to said user said page comprising said primary data and said selected secondary data.

2. The apparatus of claim 1, wherein said profiler comprises an extractor for extracting a cookie from said user.

3. The apparatus of claim 1, wherein said profiler comprises a web form manager for providing a web form to obtain profile data from a user and storing said profile data as a cookie.

4. The apparatus of claim 1, wherein said profiler comprises a web form manager for providing a web form to obtain profile data from a user and storing said profile data in a database.

5. The apparatus of claim 1, wherein said secondary data is configured with a header containing profile matching information to indicate suitability with user profiles, thereby to allow said secondary data manager to carry out said selecting of said secondary data for said user.

6. The apparatus of claim 1, wherein said secondary data manager further comprises a reporting unit for reporting on provision of said secondary data.

7. The apparatus of claim 1, wherein said profile comprises data fields comprising any one of the group consisting of age, sex, sexual orientation, geographical location, postcode, zipcode, hobbies, business interests, education, educational interests, musical interests, a listing of interests, mobile provider.
8. The apparatus of claim 5, wherein said secondary data manager is located at said requesting user, and is configured to filter out secondary data not consistent with said profile.

9. The apparatus of claim 1, wherein said secondary data manager is located at a server configured to manage data for a plurality of websites located remotely therefrom.

10. The apparatus of claim 1, wherein said secondary data manager is configured to send different versions of a single item of said secondary data according to different profile information.

11. The apparatus of claim 10, wherein said different versions are different language versions.

12. The apparatus of claim 10, wherein said different versions are versions targeted at different population sub-groups.

13. The apparatus of claim 10, wherein said different versions are versions suitable for different hardware or software.

14. The apparatus of claim 10, wherein said secondary data manager is configured to operate with a banner engine or a ticker or a flash engine or a rich media engine to feed content of said selected secondary data into predefined spaces on said requested web pages.

15. The apparatus of claim 1, wherein said website is a search engine.

16. The apparatus of claim 15, wherein said search engine is configured to use said profile data as secondary input parameters for a search.
17. The apparatus of claim 15, wherein said search engine is configured to use said profile data for ranking results following a search.

18. A server comprising:
a profiler, for obtaining profile data of users, and
a secondary data manager, associated with said profiler, for managing predefined space for secondary data on websites, to fill said predefined space with items of secondary data selected using said profile data, thereby to provide secondary data targeted for individual users.

19. A method of doing business comprising:
buying space on web pages from web page providers,
obtaining profile information of web users,
selling advertising space according to target profile information, and
following a request by a profiled user for a web page, filling said bought space with advertisement items whose target profile matches a profile of said target user.

20. The method of claim 19, further comprising selling advertising space at different prices depending on the closeness of a match between a web user profile and a target profile.

21. A method of doing business comprising:
obtaining profile information of web users,
selling the profile information to a website provider, thereby to allow said website provider to target information to said web user.

22. The method of claim 21, further comprising selling said profiles according to targeting information at different prices depending on the closeness of a match between a web user profile and a target profile.

23. A network-based search engine, comprising:
a profiler for obtaining profile data of a current user requesting a search from said search engine, and
a search manager unit, for inserting said profile data as parameters to said requested search, thereby to narrow said search according to said profile data.

24. A network-based search engine, comprising:
   a profiler for obtaining profile data of a current user requesting a search from said search engine,
   a ranking unit for ranking search results prior to returning to said user, and
   a search manager unit, for inserting said profile data as parameters to said ranking unit, thereby to rank respective search results according to said profile data.

25. A computer readable medium configured with a protocol management functionality for storing secondary data together with a target profile of intended recipients of said data and targeting functionality for targeting the data to users presenting profiles corresponding to said target profile.
Obtain Space on web page

Obtain user profiles

Sell Advertising space according to target profiles

Receive request from profiled user

Send advertising where target profile = user profile

Fig. 2
Obtain profile from user

Obtain target profile from site

Sell profiles to website so that website can target its information distribution

Fig. 3