

# Method and system for serving advertisements based on their content

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## ABSTRACT

This paper describes a method and system for serving advertisements based on their content. A system that is designed to allow advertisements to be appointed as relevant to a user and presented to the user without the advertiser ever having to associate the advertisement with specific keywords.

*Note: The content of this document has been used as the foundation for a provisional patent filled on February 1, 2005.*

## BACKGROUND OF THE INVENTION

### Field of the Invention

This invention relates generally to the field of systems for use in the Internet industry created to improve the quality of the advertisements that are presented to the Internet users. Moreover, it pertains specifically to such systems for the content matching industry where it has become required to understand what is relevant to users in order to identify what advertisement sites are more likely to retain their attention.

### Description of the Related Art

Currently, advertising programs display ads that are closely relate to how much advertisers are willing to pay for certain keywords. These programs take in consideration keywords either found on the content pages or in the search query created by the user.

Companies like Google and Overture employ bid-for-ranking methods for its advertising services. Overture claims it has a patent covering the method -- and that Google willfully infringed on it.

Overture pioneered the "paid listings" advertising business model, in which companies buy certain search terms to assure their name will appear when a consumer enters that term in its search engine. Overture, then known as GoTo.com, filed its patent in May 1999 for a "system and method for influencing a position on a search result list." The 43-page patent application details a system in which advertisers would be able to bid for better placement of ads in search-engine results and manage their accounts through a Web browser. GoTo.com was awarded U.S. Patent No. 6,269,361

AdWords is an advertising program created by Google that provides self-service search marketing in which advertisers can buy key words -- including other companies' trademarks.

Overture, formerly called GoTo.com, claims the rights to a system and method for Web sites to influence their rankings within search results. The company auctions keywords, giving the top bidders the highest placement in searches that use those terms. Overture's system also uses a pay-for-performance model, under which advertisers pay the bid price only when someone actually clicks on a displayed link.

When serving ads for content sites, both Overture and Google employ technology that infers the topic of a page by scanning for words and phrases, searching through a database of tens of thousands of advertisers, then delivering a relevant text ad. In some cases that is not difficult. For instance, on Weather.com's golf forecast page for Pittsburgh, PA, Google's service — which it calls AdSense — can deliver ads for marketers who had bid to have their ads appear above Google search results whenever users type "Pittsburgh Pennsylvania golf courses" or some similar phrase.

One of the biggest challenges in this market today is to relate content with user relevancy and identify the best approach to take this combination to the marketplace. Sometimes, a user might be looking for information on the city of Pittsburgh due to some travel plans and use the keyword Pittsburgh to do a search, but just because a "newspaper subscription service" placed a bid on that same keyword, it does not mean that the user wants to subscribe to a newspaper just because the ad keyword and the search keyword are the same. In that case, a hotel ad whose page content is related to Pittsburgh would likely be more efficient.

### **BRIEF SUMMARY OF THE INVENTION**

In view of the limitations now present in the prior art, the present invention provides a new and useful method and system for serving advertisements based on their content which is simpler in construction, more universally usable, unique and more versatile in operation than known systems of this kind.

The purpose of the present invention is to provide a new method and system for serving advertisements based on their content that has many novel features not offered by the prior art systems that result in a new method and system for serving advertisements based on their content which is not apparent, obvious, or suggested, either directly or indirectly by any of the prior art systems.

The present invention generally comprises of a system that is designed to allow advertisements to be appointed as relevant to a user and presented to the user without the advertiser ever having to associate the advertisement with specific keywords. The idea of knowing what is relevant to user is used by the system to identify what advertisement has better chances of catching the eyes of the user. Drawing the target user into a trusted environment, then deciding what ad to pitch based on what is relevant to the user and only then actually presenting the ad usually delivers the highest sales conversion rate because it delivers the highest relevance to the target user. Considering the fact that ads are being pushed to the user based on information that is found to be relevant to its profile, the chances of finding that user clicking on the ads generated by the system is extremely high.

On its most basic format, only two attributes need to be provided by the advertiser: the text to be displayed to the user and the link carrying the Internet location (the URI) the user will visit when clicking the text.

The foregoing has outlined, in general, the physical aspects of the invention and is to serve as an aid to better understanding the more complete detailed description which is to follow. In reference to such, there is to be a clear understanding that the present invention is not limited to the method or detail of construction, fabrication, material, or application of use described and illustrated herein. Any other variation of fabrication, use, or application should be considered apparent as an alternative embodiment of the present invention.

A principal object of the present invention is to provide a method and system for serving advertisements based on their contents that will overcome the deficiencies of the prior art devices.

An object of the present invention is to provide a method and system for serving advertisements based on their content where the advertisements are displayed without requiring advertisers to explicitly associate the ads with specific keywords.

An object of the present invention is to provide a method and system for serving advertisements based on their content where advertisers inform the advertisement description to be displayed to the end-user.

An object of the present invention is to provide a method and system for serving advertisements based on their content where URI stands for Uniform Resource Identifier and is defined as a codification of the name and address syntax of present and future objects on the Internet.

An object of the present invention is to provide a method and system for serving advertisements based on their content where advertisers inform a URI that when visited, allows the end-user to see the actual advertisement.

An object of the present invention is to provide a method and system for serving advertisements based on their content where a learning mechanism (a learning engine) decides what advertisements better suit a particular user based on what is observed to be mostly relevant to that user at that moment.

An object of the present invention is to provide a method and system for serving advertisements based on their content where a learning engine ranks advertisements based on how relevant their content is to a specific user.

An object of the present invention is to provide a method and system for serving advertisements based on their content where advertisements are ranked based on user relevant information.

An object of the present invention is to provide a method and system for serving advertisements based on their content where user relevant information is obtained from statistically observing user data and behavior.

An object of the present invention is to provide a method and system for serving advertisements based on their content where the user data has been either stored or published by the user, or found to be relevant to the user.

An object of the present invention is to provide a method and system for serving advertisements based on their content where user relevant information may be affected by the content of the web page resource responsible for presenting the ad to the user.

An object of the present invention is to provide a method and system for serving advertisements based on their content where advertisements are presented to the user by means of displaying the text originally provided by the advertiser.

An object of the present invention is to provide a method and system for serving advertisements based on their content where the end-user is redirected to the advertisement page (the URI) whenever the advertisement description is clicked.

Another object of the present invention is to provide a method and system for serving advertisements based on their content that is more universally functional in today's market than the prior art devices.

It is intended that any other advantages and objects of the present invention that become apparent or obvious from the detailed description or illustrations contained herein are within the scope of the present invention.

### DETAILED DESCRIPTION OF THE INVENTION

The present invention comprises of a remote server system capable of identifying what advertisement within a collection of advertisements can better serve an end-user.

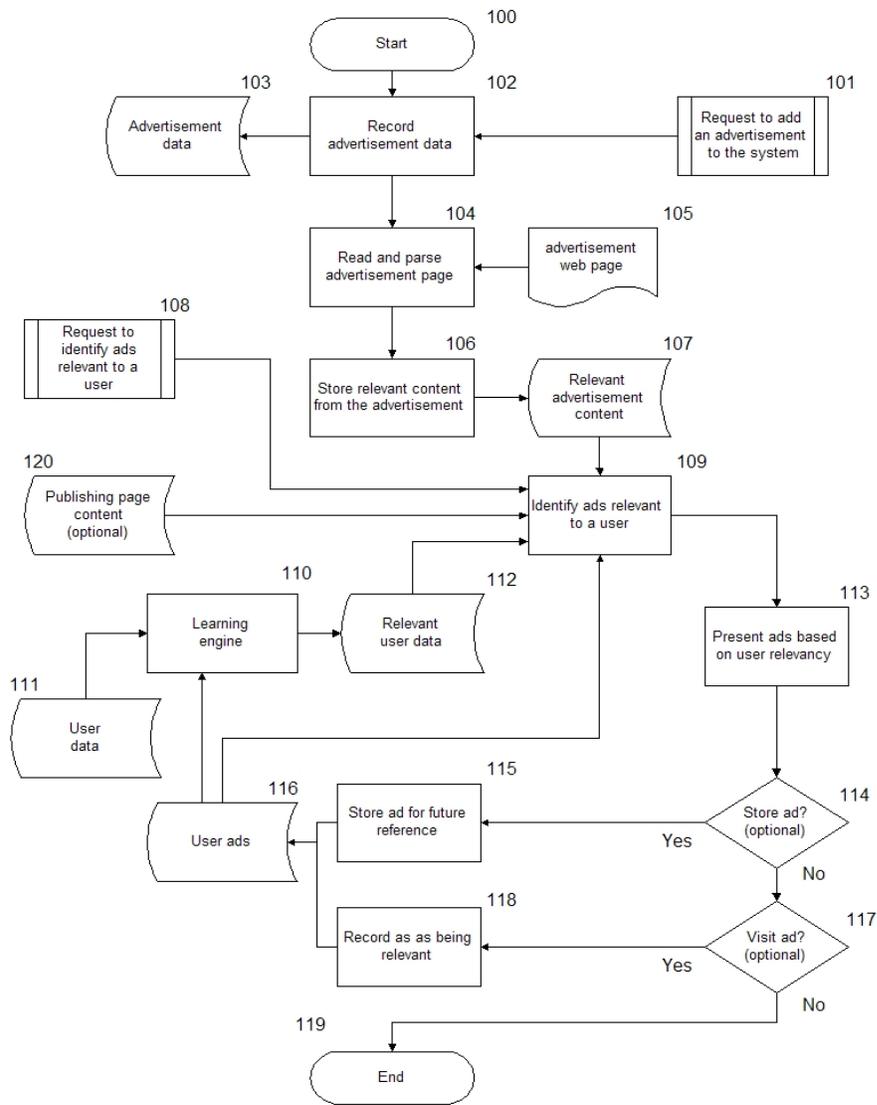


Fig. 01

Fig. 1. Illustration of the overall process flow of the invention

In one embodiment, the process starts **100** when an advertiser responsible for an advertisement initiates a request to add an advertisement **101** to a collection of advertisements. Once the request is received by the system, the system records **102** the advertisement data into a advertisement data repository **103**. The advertisement data will contain at least two attributes: the text to be presented to the end-user and the location the user will be redirected to whenever the ad is clicked. Next, the system reads the location information, which will be provided by the advertiser in the format of an URL, and visit such location **104** to read and analyze the content of the advertisement page **105** before considering presenting it to the user. By means of opening and reading the web page content **104**, the system extracts and parses any relevant terms and phrases found there and save them **106** into a data repository of relevant advertisement content **107** extracted from the advertisement page. All the relevant advertisement data will remain there until there is a request to present advertisements to users.

The process of identifying **109** what advertisements within a certain collection of advertisements are relevant to a user starts when there is a real-time request for presenting advertisements to a user **108**.

The basic advertisement identification process comprises of 4 steps:

- (a) Knowing about the content that lies behind the actual advertisement web pages
- (b) Knowing what is most relevant to the user at that particular moment
- (c) If applicable, know what ads were selected by the user for later review
- (d) Rank advertisements and present them based on content relevancy to the user

The process of understanding what is most relevant to the user at any particular moment is responsibility of a learning engine **110** that takes information from several data sources and extract what is most relevant to the user. The process of identifying what data is most relevant to the user (also known as, the relevant user data **112**) uses user data originated from one or more data sources **111** and if applicable it uses advertisement content **116** obtained from advertisement web sites that were either visited or selected for later review by the user.

Once all the proper elements are put together and the weights of any relevant terms and/or phrases are compared, the system is capable of matching what ads have a better chance of being visited by a specific user. After identifying what ads to show, the system presents those ads to the user based on what is relevant to the user **113**.

In an alternate embodiment of operation of the present invention, in addition to the description of the core embodiment, the advertiser also informs the system that the advertisement page has a static content and the system does not need to revisit it with frequency.

In an alternate embodiment of operation of the present invention, in addition to the description of the core embodiment, the advertiser also informs the system that the advertisement page has a dynamic content and the system needs to revisit it constantly.

In an alternate embodiment of operation of the present invention, in addition to the description of the core embodiment, the system also provides a user interface element to allow the user to select an advertisement **114** for later review. If the user decides to store the advertisement **115**, the ad is saved into a data repository of user ads **116**.

In an alternate embodiment of operation of the present invention, in addition to the description of the core embodiment, the system is also capable of tracking what advertisement sites are more relevant to the users. If the user visits an advertisement site **117**, the reference to and the content of the visited page is recorded as being relevant **118** to the user and stored into a data repository of relevant user ads **116**.

In an alternate embodiment of operation of the present invention, in addition to the description of the core embodiment, the system also reads the content **120** of the page where the ad is expected to be published in and considers this additional feed of information when identifying **109** what ads are more relevant to the user at that moment based on the available advertisement content **107**, the content of the page publishing the ad **120**, and the relevant user data **112**.

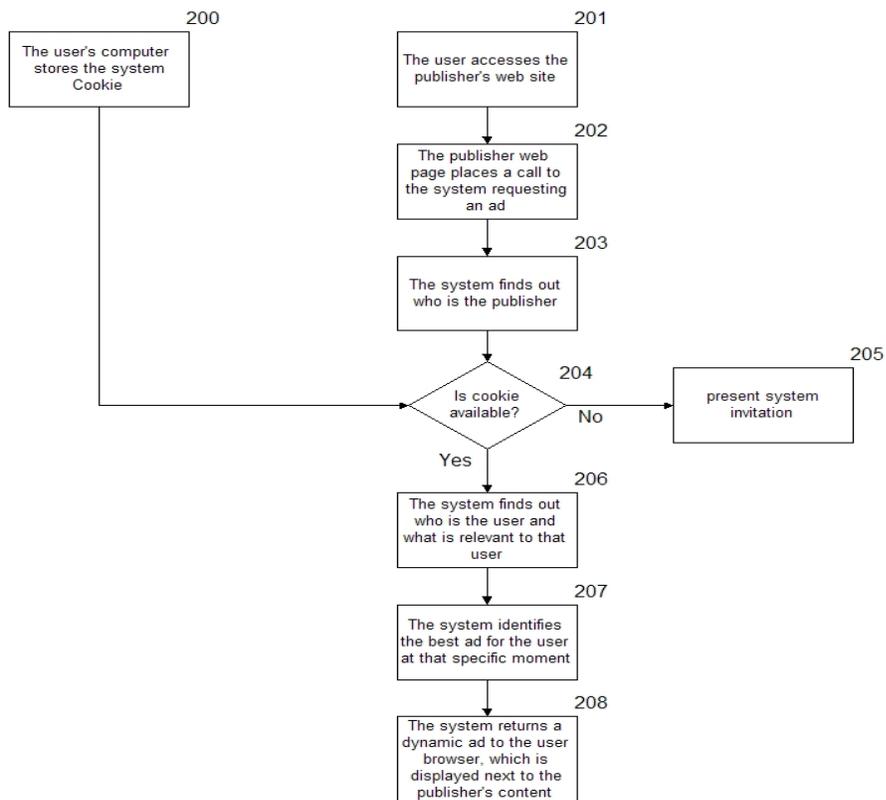


Fig. 02

FIG.2. Illustration of a publisher site influencing the ad selection process

In an alternate embodiment of operation of the present invention (See Figure 2), in addition to the description of the core embodiment, the system stores a cookie in the user's computer **200** in order to uniquely identify that user in the system. By means of such cookie, whenever the user accesses a content publishing web site (the publishing site) **201** affiliated with the system, the publishing site might opt to request an advertisement to be selected by the system **202**. Such request is embedded in the site's page and triggered by the user browser. When the request is received by the system, the system automatically finds out who is the site referring the user by means of examining the HTTP header of the request **203**. The next step for the system is to try reading the user cookie **204** in order to obtain the user identification. If the cookie is not located the system might return an ad advertising the system to the visitor of the publishing site **205**. If the cookie is located and the user identified, the system tries to identify what type of information is relevant to that particular user **206**. By matching the relevant content of the page referring the user, the information previously identified to be relevant to the user, and the relevant information found across the advertisement pages managed by the system, the system identifies advertisement more likely to be visited by the user at that moment **207**. Once the advertisement is identified, the system returns the ad content directly to the user browser **208**. The content is dynamically displayed next to the original content from the publishing site.

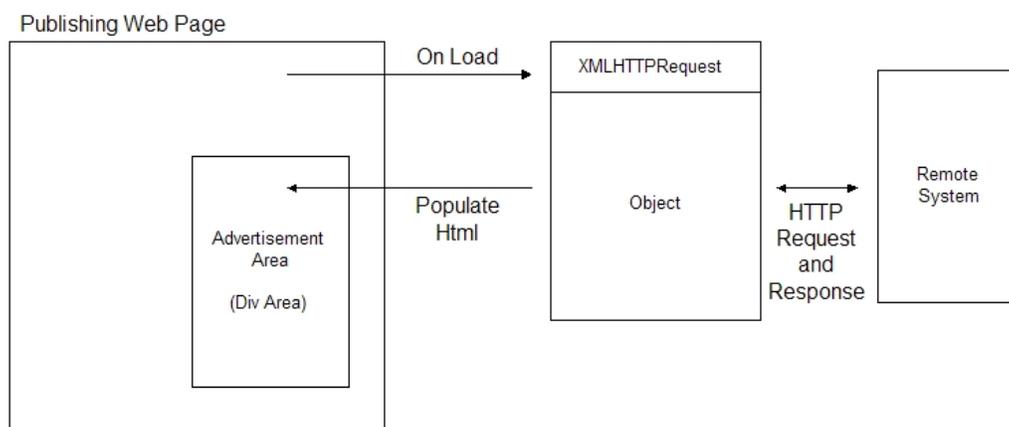


Fig. 03

FIG.3. Technical embodiment behind the advertisement selection process

Figure 3 illustrates a technical description for the embodiment presented in Figure 2. The publishing web page contains an advertisement area defined by a HTML DIV tag associated with a page Object. Whenever the page loads on the user browser, it initializes an XMLHTTPRequest that communicates with the remote server. By means of such communication process, the remote server is able to identify the location of the site referring the user and the user itself by looking for any existing user cookies. Next, the remote server is able to identify and transmit the advertisement back to the user browser. Once the browser receives the data back, it transfers the data to the previously created object, which is in charge of updating the value of the HTML DIV tag on the user interface.

It will also be understood that, in addition to serve ads to end-users, the system can be used to act as an advertisement validation tool for the end-users by making sure that users will not be exposed to advertisements they do not feel relate to.

It is further intended that any other embodiments of the present invention that result from any changes in application or method of use or operation which are not specified within the detailed written description or illustrations contained herein yet are considered apparent or obvious to one skilled in the art are within the scope of the present invention.