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INVENTORY BASED AD CREATION AND KEYWORD TARGETED SEARCH ADVERTISING SYSTEM

As internet searching has evolved, search results have grown from a limited number of results provided as links listed on a page to search results that attempt to provide answers to a user’s question. For example, a search for a product no longer returns just a link to a webpage about the product, but the search can return information about which retailers are selling the product, how much each retailer is selling the product for, and other specific information that may be useful to the user. With the limited screen real estate afforded to mobile devices, providing answers to user queries, rather than just returning links, can be even more useful to the user.

A first class of present systems, can make it difficult to present users with answers to their queries because advertisers (e.g., the merchants) control where to show ads, how much to pay for ads, (e.g., how to target the ads) and the content of the ads. For example, merchants select the keywords and the bid prices the merchant is willing to pay for each of the selected keywords. Selecting keywords and the associated bid prices provides the merchant a high level of targeting specificity because the merchant controls how valuable each keyword is to their business. The merchants also have complete control over the content to be shown in the ad. Such systems enable the merchant to present the content they wish the user to see rather than information that may be the most helpful in answering the user’s query. In these systems, the advertiser can select who (or what type of user) the ad is displayed to, where the ad is displayed, and how much advertiser is willing to pay for the display of the ad.

In a second class of present systems, the ad platform has control over where and how to show ads. These systems may provide the user with answers to their queries; however, these systems restrict the ability of merchants to control where ads are displayed and how much the merchant is willing to pay for the display of the ads. In these systems the merchants are not able to bid on specific keywords. Rather, the merchant indicates how much they are willing to pay at an inventory level. In such systems, the merchant pays the same price for the display of their ads.
irrespective of the keyword used to trigger the display of the ads. For example, in the first class of systems a cell phone service provider may specify different bid values for each of the keywords: “cell phone plans,” “AT&T plans,” and “T mobile plans.” In this example, AT&T may be willing to pay more money for the specific keyword “AT&T plans” than compared to the generic “cell phone plans.” In comparison, in the second class of systems, AT&T would pay the same amount for the display of any ad in its inventory - irrespective of the keyword entered by the use.

This paper discusses a hybrid system that enables merchants to have a high level of control over the targeting (e.g., where an ad is displayed and how much the advertiser is willing to bid on each keyword) of their advertisements (similar to the first class of systems described above), while presenting structured data to the users (similar to the second class of systems described above). Such a system provides control and flexibility to the merchants, while providing the user with answers to their queries.

In one example of the hybrid system, the system can be used to provide users with ads or content that answer their queries. In this example, described in relation to FIG. 1, the user may present a query relating to requesting the price of cell phone plans. The system includes an ad platform 1, one or more merchants 2, a mobile device 3, and a search platform 8. Each of the components of the system communicate with one another through a network 4, such as the internet.

As an overview of the components of the system illustrated in FIG. 1. The merchants 2 are merchants typically wishing to show content or ads to a user. In some implementations, each of the merchants 2 are selling similar or comparable products. For example, each of the merchants may be a cell phone service provider. The search platform 8 can be one or more servers that present a search website to a user via the mobile device 3. The website presented to the user includes a search box that accepts the user’s query. In some implementations, the search box is an input box of an application executing on the mobile device 3. The ad platform 1 stores, selects, and presents ads or other content to the user via the mobile device 3. In some
implementations, the ads are returned directly to the mobile device 3, and in other implementations, the ads are returned to the search platform 8, which then provides the ads to the mobile device 3.

The merchant 2 provides the ad platform 1 with structured data about its products (e.g., cell phone plans), which is stored in the ad platform’s database. For a specific product, such as a cell phone plan, the structured data can include details about the plan such as, but not limited to, price, data and minute allowances, contract type, and plan type. The ad platform 1 may request the same structured data from each of the merchants 1 wishing to present advertisements to the users. For example, the ad platform 1 may accept databases from the merchants that include the requested information in a particular format or structure. In another example, the ad platform 1 may present the merchants 2 with a webpage where the merchants can enter the information about their plans. The ad platform 1 can store the data in the database and associate the data with specific merchants, queries, user intents, or other information. The structured data can also be provided to the ad platform 1 with keywords and bid values for each of the respective keywords. Enabling the merchants 2 to provide keywords and bid values allows the merchants 2 to target the display of their ads. For example, a merchant 2 may submit a keyword associated with a competitor’s name and a high bid value for the keyword such that the system may show the merchant’s information when a user searches for the competitor’s products.
FIGS. 2–4 illustrate example user queries and returned results using the system illustrated in FIG. 1. FIGS. 2 and 3 illustrate searches that were conducted on a mobile phone. As illustrated in FIG. 2, the search query 5 is “cheap phone plans.” The system returned the results 6. In some implementations, the method of providing the answer to the user query may include the user navigating, on the mobile device 3, to a search page provided by the search platform 8. The user can enter the query 5 into a search box on the search page. The query 5 is returned to the search platform 8, which requests an ad from the ad platform 1 that is relevant to, and may provide an answer to, the user’s query. The ad platform 1 can return the ad to the search platform 8 or return the ad directly back to the mobile device 3.

Still referring to FIG. 2, when the ad platform 1 receives the query 5 “cheap phone plans,” the ad platform 1 attempts to determine the user’s intent. For example, the ad platform 1 may determine the user’s intent is to compare multiple phone plans. The ad platform may then conduct an auction to determine, which ads are included in the results 6. For example, T-Mobile, Sprint, and Net10 were the merchants 2 that provided the ad platform 1 with the keywords that matched the query 5 and were, for example, the three merchants with the highest bid values.
FIG. 3 illustrates another example where the query 5 is “T-Mobile plans.” In this example, the ad platform 1 determines the user’s intent is to view different cell phone plans offered by T-Mobile. As illustrated, the results 6 provide three different plans offered by T-Mobile (an individual plan, a family plan, and a prepaid plan) and the respective price of each plan to the user. In this example, the selection of which ads to return to the user could also be determined using an ad auction. For example, a T-Mobile competitor may provide its structured data and include the keyword “T-Mobile.” If the competitor’s bid price for the keyword is higher than that of T-Mobile, the system may present ads relating to the competitor’s cell phone plans rather than those of T-Mobile.

FIG. 4 illustrates an “immersive” response to a query. As above, the user may enter a query 5. When the search platform 8 determines the user’s intent is to compare or review cell phone plans, the search platform 8 may enter the user into the immersive response display. The immersive response display includes a selection area 7, where the user can enter and refine specifics about the cell phone plan they wish to purchase. For example, the selection area 7 may enable the user to set a desired data package size, a desired minutes/month allowance, a desired messages/month allowance, a desired contract type, and a desired cost. The system refines the search and displays the results based on the criteria provided by the user in the selection area 7.
ABSTRACT

The present paper discusses a system for providing advertisements or content to users that answers the user’s search queries. The present system is a hybrid system that enables a merchant to submit keywords and bid prices for each of the submitted keywords. The merchant’s ability to select keywords and specify how much the merchant is willing to bid on each of the keywords enables the merchant to target the display of their content and ads. Rather than providing the merchant complete control over the text and appearance of the ad or content to be displayed to the user, the merchant provides the system with structured data, which the system presents to the user in a uniform and controlled manner.