

Technical Disclosure Commons

Defensive Publications Series

December 04, 2015

Tracking Location Dependent Advertising Conversions

Senthil Kumar Hariramasamy

Lakshmi Kumar Dabbiru

Follow this and additional works at: http://www.tdcommons.org/dpubs_series

Recommended Citation

Hariramasamy, Senthil Kumar and Dabbiru, Lakshmi Kumar, "Tracking Location Dependent Advertising Conversions", Technical Disclosure Commons, (December 04, 2015)
http://www.tdcommons.org/dpubs_series/90



This work is licensed under a [Creative Commons Attribution 4.0 License](https://creativecommons.org/licenses/by/4.0/).

This Article is brought to you for free and open access by Technical Disclosure Commons. It has been accepted for inclusion in Defensive Publications Series by an authorized administrator of Technical Disclosure Commons.

TRACKING LOCATION DEPENDENT ADVERTISING CONVERSIONS

ABSTRACT

An ad conversion system proposes a new type of conversion technique. This technique tracks change conversions such as home and job changes which occurred as a result of advertisements (ads) searched. The system receives a search query from a user at a predetermined location for the user. In response to this search query, the system provides ads to the user. Thereafter, the system can receive a user interaction with one of the ads displayed to the user. After receiving this interaction, the system identifies a change in the predetermined location for the user. Subsequently, the system determines a conversion for the ad that the user interacted with.

PROBLEM STATEMENT

Advertisement conversions play a pivotal role in the online advertising ecosystem as they show the value of online advertising to advertisers. A conversion occurs when a user clicks on an advertisement and performs a subsequent action which has been defined as pivotal to an advertiser's business. These actions can include calling the advertiser's phone number, visiting the advertiser's website, making a purchase on the advertiser's website, etc. At present, conversions are difficult to track by online advertisement systems and rely on advertiser self-reporting. Advertiser conversion reporting can be inaccurate and can include errors. Moreover, advertiser conversion reporting does not provide for the advertisement system to

collate and verify all the advertiser conversion reportings. An ad conversion tracking system is disclosed which provides for conversion tracking of home and job related advertisements.

AD CONVERSION TRACKING SYSTEM

The systems and techniques described in this disclosure relate to an ad conversion tracking system. The system can be implemented for use via the Internet, an intranet, or another client and server environment. The system can be implemented as program instructions stored locally on a client device or implemented across a client device and server environment. The client device can be any electronic device such as a mobile device, a smartphone, a tablet, a handheld electronic device, a wearable device, a laptop etc.

Fig. 1 illustrates an example method 100 which can be used for tracking conversions of home and job related advertisements.

The system receives a search query from a user at a predetermined location for the user (110). The search query can be entered by the user into a search engine at a web browser or can be entered by using a dedicated application for the search engine. The search engine can be defined as a search software system which can be used to search the World Wide Web. The user can be asked to login into the web browser or the application before the user can actually enter the search query. By logging in, anonymized information pertaining to the user session can be accessed and stored. This information can include the location information of the user when the user submits the search query. In one embodiment, the user can be asked explicitly for their permission to share their location information while they are using the web browser or the application. Alternatively, or additionally, the login information can be used to determine the

location of the user. For example, if the user has logged in during the daytime, and it is a weekday, the system can learn from historical user location data that the user will be present in office during these hours. Additionally, the location of the user can also be determined by using a learning algorithm which observes the activities of the user over time in order to learn different locations associated with the user, for example, determining the user's "office location" and "home location." This determined location of the user can be designated as the predetermined location for the user. Additionally, the system can store this anonymized location information at a cloud-based database.

For example, the user enters a search query such as "Job opportunities in Texas" or "2 bedroom apartment in Texas." The system will determine the location of the user when the user submits the search query, as described above. In this example, the user's location information can be Palo Alto, San Francisco.

The system provides ads to the user in response to the search query (120). After the system receives the search query from the user, it passes the search query to the search engine. The search engine uses different mechanisms to parse the query and return ads responsive to the search query. The system can receive these ads from an ad generating system associated with the search engine and can present the ads to the user. The most relevant ad can be placed on at the top of the results page. Multiple ads may also be provided. For example, for the user search query "Job opportunities in Texas" or "12 bedroom apartment in Texas," the system provides ads to the user that are relevant to jobs opportunities available in Texas or apartment listings available in Texas. These ads can be displayed on the search results user interface on a display associated with the device from which the user entered the search query.

The system receives a user interaction with one of the ads (130). As soon as the user clicks open or interacts with any of the provided ads, the system captures this interaction. The system processes this interaction and stores metadata associated with this interaction such as location information from where the ad has been clicked, the duration of time the website was open for, if the user made any purchases through the website, if the user contacted any of the phone numbers listed on the website, etc. For example, the user may click on the ad related to available apartment listings in Texas, surf the website the ad links to, or call the number on the apartment listing website. All these interactions can be processed and stored by the system in a database with explicit permission from the user.

The system then identifies a change in the predetermined location for the user (140). Whenever the user logs into the browser, the location information of the user can be determined. The system then compares this current location of the user with the previous locations stored in the database from past user sessions and determines if the user's location has changed. For example, the system determines if the new location corresponds to a new office location or home location. The system can differentiate between the office location and the home location based on the IP address of the user's device or by cross-referencing the location information with a map database to determine the exact address and name of the location. The system uses the information from the comparison made between the current location and the previous location and the metadata information from the current location to determine that the location of the user has changed from the predetermined location.

Subsequently, the system determines a conversion for the ad the user interacted with (150). As an example of tracking conversions for job-related ads, the system can determine that

the user is now routinely logging in from office space in Texas. The system would identify that the user's office space location has changed from his historical office location of Palo Alto. Because the user also previously interacted with an advertisement related to jobs in Texas, the system determines that a conversion for the ad has occurred. As an example of tracking conversions for housing-related ads, the system can determine that the user is now routinely logging in from a location in San Francisco during off-business hours. The system would identify that the user's home location has changed from his historical home location of Oakland. Because the user also previously interacted with an advertisement related to available apartments in San Francisco, the system determines that a conversion for the advertisement related to housing in San Francisco has occurred.

FIG. 2 is a block diagram of an exemplary environment that shows components of a system for implementing the techniques described in this disclosure. The environment includes client devices 210, servers 230, and network 240. Network 240 connects client devices 210 to servers 230. Client device 210 is an electronic device. Client device 210 may be capable of requesting and receiving data/communications over network 240. Example client devices 210 are personal computers (e.g., laptops), mobile communication devices, (e.g. smartphones, tablet computing devices), set-top boxes, game-consoles, embedded systems, and other devices 210' that can send and receive data/communications over network 240. Client device 210 may execute an application, such as a web browser 212 or 214 or a native application 216. Web applications 213 and 215 may be displayed via a web browser 212 or 214. Server 230 may be a web server capable of sending, receiving and storing web pages 232. Web page(s) 232 may be stored on or accessible via server 230. Web page(s) 232 may be associated with web application 213 or 215

and accessed using a web browser, e.g., 212. When accessed, webpage(s) 232 may be transmitted and displayed on a client device, e.g., 210 or 210'. Resources 218 and 218' are resources available to the client device 210 and/or applications thereon, or server(s) 230 and/or web page(s) accessible therefrom, respectively. Resources 218' may be, for example, memory or storage resources; a text, image, video, audio, JavaScript, CSS, or other file or object; or other relevant resources. Network 240 may be any network or combination of networks that can carry data communication.

The subject matter described herein can be implemented in software and/or hardware (for example, computers, circuits, or processors). The subject matter can be implemented on a single device or across multiple devices (for example, a client device and a server device). Devices implementing the subject matter can be connected through a wired and/or wireless network. Such devices can receive inputs from a user (for example, from a mouse, keyboard, or touchscreen) and produce an output to a user (for example, through a display and/or a speaker). Specific examples disclosed are provided for illustrative purposes and do not limit the scope of the disclosure.

DRAWINGS

100

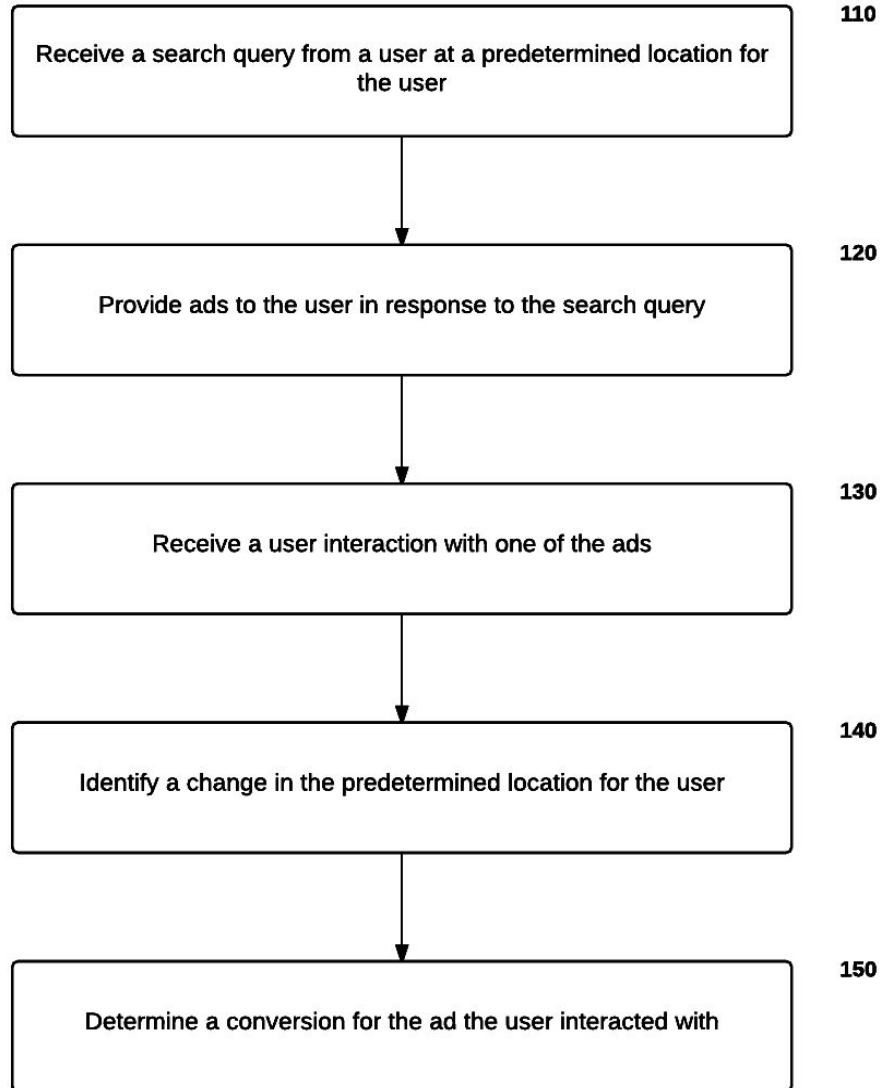


Fig. 1

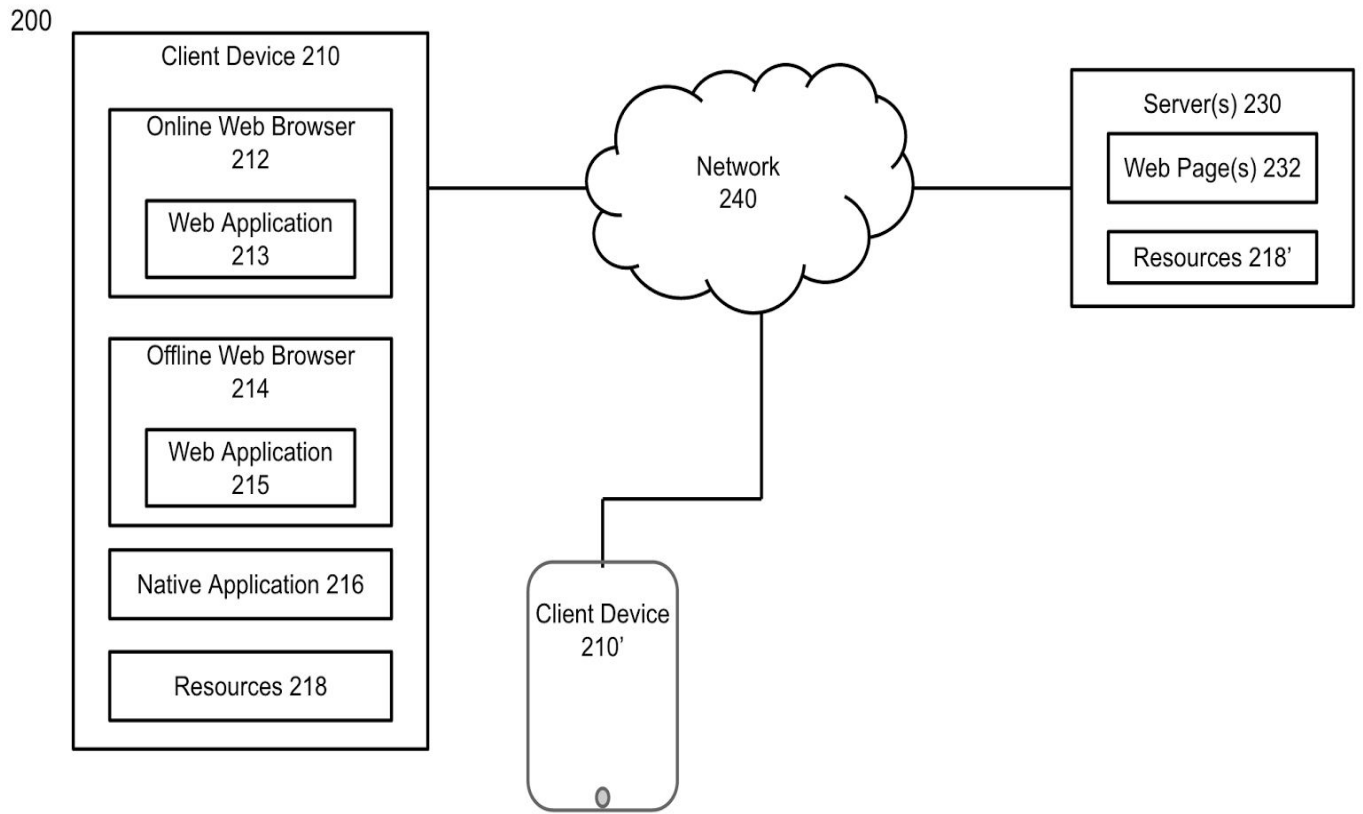


Fig. 2