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PRE-AUCTION FILTERING PREDICTION TO PREVENT CREATIVE FILTERING

Stanislav Belov

Don Greenberg

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PRE-AUCTION FILTERING PREDICTION TO PREVENT CREATIVE FILTERING

ABSTRACT

Methods and systems, including computer programs, for a real-time bidding system that includes “don’t submit” information in a real-time bid request that is sent to bidders. The “don’t submit” information tells the bidders to not submit bids for specified creative identifiers (IDs) based on an analysis by the system as to the likelihood that the creatives having those IDs will be filtered out. The system supplies real-time, or near real-time, information identifying certain creatives that are highly likely to be rejected to the bidders if provided as a response to a bid request. The system prevents submission of bids for creatives that will ultimately be filtered out. This prevention preserves computing bandwidth and limits the number of submissions that the system has to process for any given auction. The system reduces bid filtering in real-time for an ad exchange accessed by third-party bidders and exchange bidders. As a result, the described system and techniques can be used to increase auction pressure, increase publisher revenue, and increase revenue share for proprietors of ad exchanges.

PUBLICATION DESCRIPTION

This document describes techniques for an improved and more streamlined approach to mitigating filtration of data that is provided as a response to an electronic request for certain types of content. The electronic request can represent a computer-based transaction, such as an online auction or bid request, where an exchange server manages and transmits electronic requests for creatives and other specialized content. A transaction request is received and processed at an information system to obtain data for creatives used to render ads or media items that are provided as a response to the electronic request (e.g., a bid request). The request is generally directed to multiple distinct content providers that have access to an information system. The exchange server and the information system interact to provision digital ads to a variety of devices, such as

smartphones or tablet computers. The digital ads can include certain types of text, images, active media content, or graphical data (e.g., digital components) that are linked to a particular creative.

Using the described techniques, the transmitted request includes a listing of respective identifiers for each creative in an example set of creatives that are likely to be rejected as a response to the request. A creative can represent a resource path, a scripted command(s), or program code for obtaining and rendering a digital advertisements at a webpage. For example, a creative can be a URL/uniform resource locator (www.example.com) or a string of text for an HTML command (<title>render_content</title>) that links to digital media stored at an information system. The exchange server analyzes prior transaction behavior involving creatives that were previously rejected for integration at a webpage when presented as a response to a prior bid request. The exchange server also identifies criteria (e.g., exclusion criteria) for excluding certain types of creatives from being selected as a response to the request based on details about a serving context of a webpage related to the request.

The exchange server determines filtering data that specifies a listing of creatives that should be excluded from selection at an information system of a content provider. For example, the exchange server determines the filtering data based on the exclusion criteria and details of the serving context that causes candidate creatives selected at the information system to be rejected from integration at a webpage. The exchange server provides the filtering data to an information system accessed by a content provider such as an online advertiser. The information system uses the filtering data to analyze the listing of identifiers for each creative in the set of creatives that are likely to be rejected as a response to the transaction request. A creative is then selected that is not identified in the listing. The exchange server receives the selected creative and determines that it is acceptable for integration at the webpage. The creative is integrated at a webpage (e.g., as a

scripted command) and then executed to obtain a digital ads from an online inventory of ads content using the information system.

FIG. 1 (on the following page) is a flow diagram that illustrates an example process for excluding or filtering creatives relating to certain bid requests.

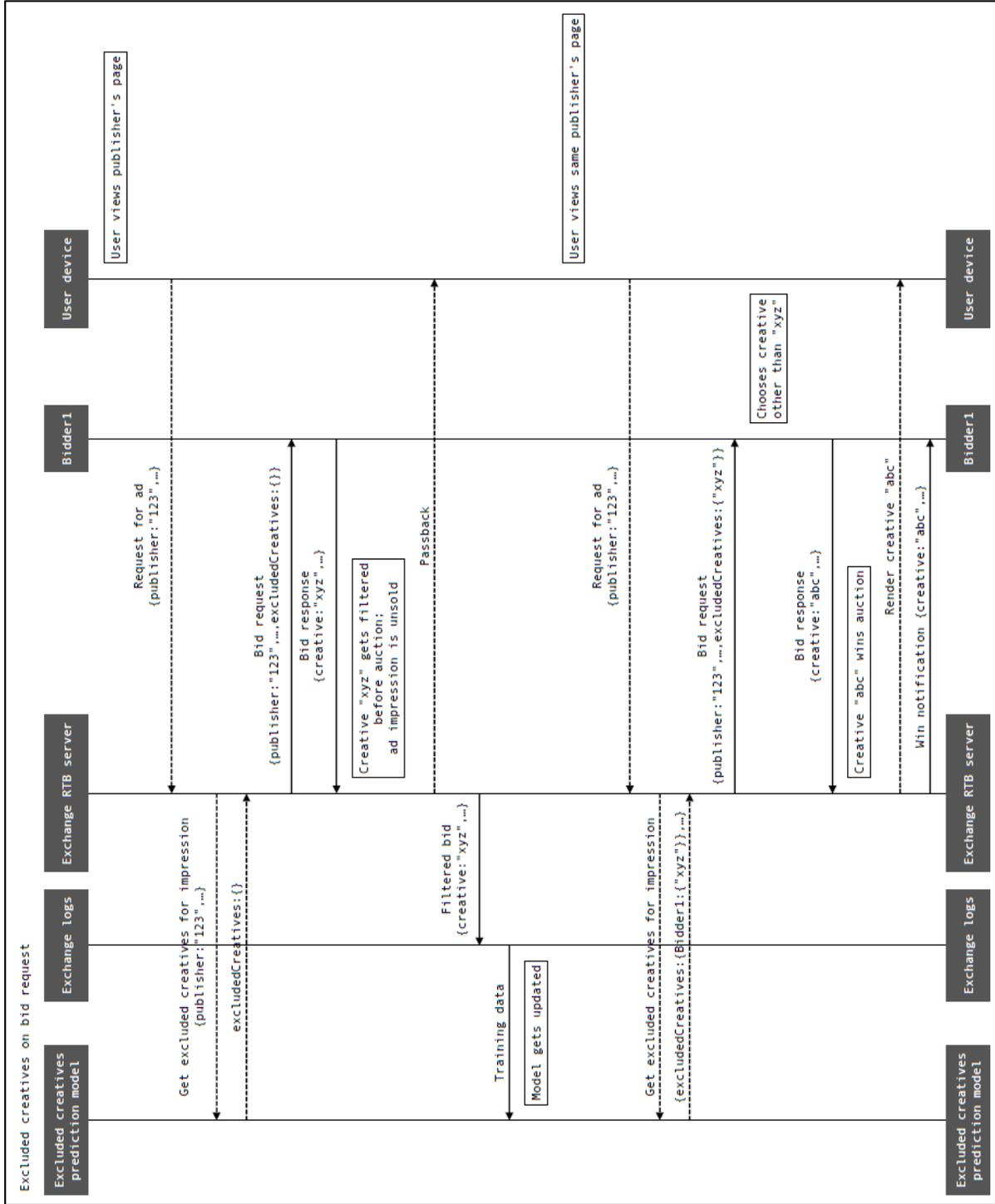


FIG. 1 – Flow diagram

In the context of FIG. 1, an example exchange server of the system obtains context data. The context data indicates types of creatives or advertising content that can be integrated or embedded at a webpage. The context data defines a serving context of the webpage and specifies criteria for excluding particular types of creatives from integration at the webpage based on the serving context. In some cases, the webpage is a publisher webpage and the serving context can include one or more of: data describing a format of the webpage; an identifier for the publisher; information about a computing platform or server that hosts the publisher webpage; information about items and products included at the publisher webpage; or a geographic location of the publisher.

The exchange server can be an advertising exchange server included in a technology platform to facilitate the buying and selling of advertising media. The advertising media is obtained from an inventory of media accessed by multiple ad networks. In general, the creatives can be a uniform resource identifier (URI) or uniform resource locator (URL) that links to an advertiser system or related snippets of program code for obtaining ad content from the advertiser system.

The exchange server determines filtering data that specifies creatives and related advertising components that are excluded from selection at an information system. The information system can be (or include) an application program interface (API) or other related systems used by advertisers to provide ads content to a webpage. The information system is configured to provide creatives and advertisements for integration at the webpage when the webpage is rendered at a client device. As indicated above, a creative can be a uniform resource locator that provides a resource path for obtaining digital or electronic items of media content that are configured for rendering at the webpage. A creative can also be program code configured for

execution at the webpage to obtain digital or electronic items of media content (e.g., digital advertisements) when the candidate creative is integrated at the webpage.

The filtering data is determined based on attributes of the context data that causes certain candidate creatives selected at the information system to be rejected from integration at the webpage when the webpage is rendered at the client device. Attributes of the context data can include formation specific to a publisher webpage, such as format of the webpage, product categories displayed at the webpage, a country where systems for the webpage are based or location, etc.

The exchange server provides the filtering data to the information system. The filtering data identifies candidate creatives that will be rejected when selected for integration at the webpage when the webpage is rendered at the client device. The information system uses the filtering data to select and provide a creative to the exchange server. In some cases, the creative is selected from among multiple different types of creatives that are not identified in the filtering data provided to the information system. The exchange server receives the selected creative from the information system. Because the received creative selected at the information system is not identified in the filtering data provided to the information system, the selected creative will not be rejected for integration at the webpage. The system triggers integration of the selected creative into the webpage being rendered at the client device, including initiating transmission of the creative to the client device.

Determining the filtering data includes analyzing prior transaction requests that are used by the system to obtain a particular creative and analyzing types of creatives that were rejected for integration at the webpage when these creatives were selected as a response to each of the prior transaction requests. To determine the filtering data, the system generates prediction data in

response to analyzing the types of creatives. The prediction data identifies candidate creatives that are likely to be rejected for integration at the webpage if they are selected as a response to a future transaction request. Determining the filtering data can also include identifying multiple candidate creatives that are each configured for rendering advertising content at the webpage. The filtering data can then be determined in response to analyzing each of the multiple candidate creatives against the context data that indicates types of creatives for integration at the webpage.

Each candidate creative includes an identifier, attributes that indicate a type of the creative, and digital media content for rendering a digital advertisement at a webpage in response to the candidate creative being selected as the creative integrated at the webpage. Providing the filtering data can involve providing a transaction request that includes the filtering data. The transaction request invites a response and is provided for analysis at the information system to identify particular types of creatives that should be excluded from the response to the transaction request.

The described techniques also include computing an exclusion value for each candidate creative by analyzing the attributes of the candidate creative against the context data. The exclusion values are used to determine candidate creatives that are excluded from selection at an advertiser API. The system determines a subset of candidate creatives that each have a corresponding exclusion value that exceeds a threshold exclusion value and generates a listing of creatives based on the determined subset of candidate creatives. The listing of creatives represent candidate creatives that are excluded from selection because they will be rejected when selected for integration at the webpage rendered at the client device. In some cases, the filtering data can be also determined using the generated listing of creatives. For example, the filtering data can be

represented by the listing of creatives and the identifier for each candidate creative in the subset of candidate creatives used to generate the listing.

Providing the filtering data can also include providing the generated listing of identifiers. For example, when the filtering data is provided with the transaction request, the listing of identifiers can be included in the transaction request for obtaining the creative from the information system. Each identifier in the listing of identifiers corresponds to a particular creative in the subset of creatives that each have the corresponding exclusion value which exceeds the threshold exclusion value.

The described techniques also apply to other implementations which may include corresponding systems and computer programs configured to perform the actions and methods described in this document. A computing system that includes multiple computers and hardware circuits can be configured using software, firmware, physical components, or a combination of each of these installed on the system. In operation, these items cause the system to perform the techniques, actions, and methods described in this document.