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[Continued on next page]

(54) Title: INTEGRATED SYSTEM ARCHITECTURE AND METHODS FOR ADVERTISING INVENTORY ALLOCATIONS

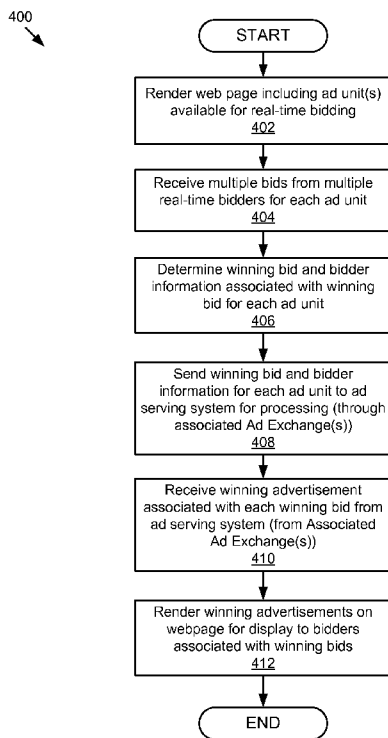


Figure 4

(57) Abstract: System architecture and methods for enabling a client-side real-time auction of advertising inventory that works in conjunction with ad serving technologies. Multiple parallel requests are sent from the end-user's browser client to multiple real-time bidders who respond with a bid & advertisement for each unit, the bids are compared within the end-user's browser and the winning bid is sent to an ad serving system to be compared with other statically priced advertisements and exchange demand to determine the winning advertisements that will be displayed to the end-user. In addition, the system architecture includes system and methods for online advertising placement that provide possibly defaulting advertisement tags the opportunity to serve an advertisement ahead of a lower value tag that is guaranteed to fill, resulting in higher CPMs (i.e., Cost Per Mille) for web publishers.

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- with international search report (*Art. 21(3)*)
- before the expiration of the time limit for amending the claims and to be republished in the event of receipt of amendments (*Rule 48.2(h)*)

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9 April 2015

INTERNATIONAL SEARCH REPORT

International application No.

PCT/US14/51376

A. CLASSIFICATION OF SUBJECT MATTER
 IPC(8) - G06F 17/30; G06Q 30/02, 30/06 (2015.01)
 CPC - G06Q 30/0241, 30/0275, 30/0277
 According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)
 IPC(8) Classifications: G06F 17/30; G06Q 30/00, 30/02, 30/06 (2015.01)
 CPC Classifications: G06Q 30/0241, 30/0275, 30/0277

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practicable, search terms used)
 PatSeer; ProQuest; IP.com; Google; auction, bid, ads, advertising, commercial, space, slot, online, Web, Internet, display, show, output, browser

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X --- Y	US 2011/0270689 A1 (KLOPF, S et al.) 03 November 2011; abstract; figures 1-4; paragraphs [0018], [0020], [0023], [0025]-[0028]	1, 5-8, 11, 15-18 ----- 2-4, 9, 10, 12-14, 19, 20, 39
X --- Y	US 2013/0138514 A1 (YAN, R et al.) 30 May 2013; abstract; figures 1, 2; paragraphs [0012], [0017], [0024], [0025], [0030], [0032]	21, 22, 27, 28, 30, 31, 36, 37 ----- 23-26, 29, 32-35, 38
Y	US 7296033 B1 (LYNCH, G) 13 November 2007; column 10, lines 23-30	2-4, 12-14
Y	US 2013/0080264 A1 (UMEDA, S) 28 March 2013; paragraph [0233]	9, 19
Y	US 2011/0282751 A1 (KWON, K et al.) 17 November 2011; figure 3; paragraph [0039]	10, 20
Y	US 2013/0163428 A1 (LEE, J et al.) 27 June 2013; paragraph [0054]	23, 32
Y	US 2009/0204541 A1 (ZHUK, O et al.) 13 August 2009; figure 5; paragraphs [0018]-[0020], [0045], [0073]	24-26, 33-35
Y	US 2013/0124357 A1 (HE, Z et al.) 16 May 2013; figure 16; paragraph [0085]	29, 38
Y	US 8255285 B1 (PERETZ, E et al.) 28 August 2012; figure 2; column 7, lines 43-50	39

Further documents are listed in the continuation of Box C.

* Special categories of cited documents:
 "A" document defining the general state of the art which is not considered to be of particular relevance
 "E" earlier application or patent but published on or after the international filing date
 "L" document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)
 "O" document referring to an oral disclosure, use, exhibition or other means
 "P" document published prior to the international filing date but later than the priority date claimed
 "T" later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention
 "X" document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone
 "Y" document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art
 "&" document member of the same patent family

Date of the actual completion of the international search 28 January 2015 (28.01.2015)	Date of mailing of the international search report 17 FEB 2015
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Name and mailing address of the ISA/US Mail Stop PCT, Attn: ISA/US, Commissioner for Patents P.O. Box 1450, Alexandria, Virginia 22313-1450 Facsimile No. 571-273-3201	Authorized officer: Shane Thomas PCT Helpdesk: 571-272-4300 PCT OSP: 571-272-7774
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INTERNATIONAL SEARCH REPORT

International application No.

PCT/US14/51376

Box No. II Observations where certain claims were found unsearchable (Continuation of item 2 of first sheet)

This international search report has not been established in respect of certain claims under Article 17(2)(a) for the following reasons:

1. Claims Nos.:
because they relate to subject matter not required to be searched by this Authority, namely:

2. Claims Nos.:
because they relate to parts of the international application that do not comply with the prescribed requirements to such an extent that no meaningful international search can be carried out, specifically:

3. Claims Nos.:
because they are dependent claims and are not drafted in accordance with the second and third sentences of Rule 6.4(a).

Box No. III Observations where unity of invention is lacking (Continuation of item 3 of first sheet)

This International Searching Authority found multiple inventions in this international application, as follows:

This application contains the following inventions or groups of inventions which are not so linked as to form a single general inventive concept under PCT Rule 13.1. In order for all inventions to be examined, the appropriate additional examination fee must be paid.

Group I: Claims 1-20 and 39 are directed toward methods and a system for placement of advertising on publisher content based on winning bids.

Group II: Claims 21-38 are directed toward a method and system for placement of advertising on publisher content based on non-defaulting status.

The inventions listed as Groups I and II do not relate to a single general inventive concept under PCT Rule 13.1 because, under PCT Rule 13.2, they lack the same or corresponding special technical features for the following reasons:

-See Supplemental Box-

1. As all required additional search fees were timely paid by the applicant, this international search report covers all searchable claims.
2. As all searchable claims could be searched without effort justifying additional fees, this Authority did not invite payment of additional fees.
3. As only some of the required additional search fees were timely paid by the applicant, this international search report covers only those claims for which fees were paid, specifically claims Nos.:

4. No required additional search fees were timely paid by the applicant. Consequently, this international search report is restricted to the invention first mentioned in the claims; it is covered by claims Nos.:

Remark on Protest

- The additional search fees were accompanied by the applicant's protest and, where applicable, the payment of a protest fee.
- The additional search fees were accompanied by the applicant's protest but the applicable protest fee was not paid within the time limit specified in the invitation.
- No protest accompanied the payment of additional search fees.

-Continued from Box III: Lack of Unity of Invention-

The special technical features of Group I include determine a winning bid and bidder information associated with the winning bid for each of the advertisement units; and send the winning bid and the bidder information for each of the advertisement units to an advertisement serving system for processing by an ad exchange; receive the winning advertisement associated with each winning bid from the advertisement serving system; and render the winning advertisement on the web page for display a bidder associated with the winning bid, which are not present in Group II.

The special technical features of Group II include a set of advertisements that are designated as defaulting advertisements and non-defaulting advertisements, wherein the set of advertisements are arranged in an order of decreasing value; determining, by at least one of the one or more processors, an advertisement from the advertisement chain response that delivers an advertisement without defaulting; and assigning, by at least one of the one or more processors, an impression to the advertisement that delivers without defaulting, which are not present in Group I.

The common technical features shared by Groups I and II are one or more processors; memory storing instructions executable by at least one of the processors and causing the processor to: receive an advertisement request from a user device viewing publisher content, at an advertisement server; transmit an advertisement response to the advertisement request; determine an advertisement to be displayed; and display the advertisement on the publisher content.

However, these common features are previously disclosed by US 2009/0234713 A1 to Bi, H et al. (hereinafter 'Bi'). Bi discloses one or more processors; memory storing instructions executable by at least one of the processors and causing the processor to: receive an advertisement request from a user device viewing publisher content, at an advertisement server (an ad engine 112, which may comprise a processing unit and system memory, receives an ad network tag request from a user agent viewing a webpage, paragraphs [0144] and [0153]); transmit an advertisement response to the advertisement request (ad engine responds to user agent with an ad network tag, paragraph [0144]); determine an advertisement to be displayed (based on the ad network tag, user agent receives ad information, and determines whether to display a default ad, paragraphs [0145]-[0148]); and display the advertisement on the publisher content (the received advertisement may be rendered on the webpage, paragraph [0146]).

Since the common technical features are previously disclosed by the Bi reference, these common features are not special and so Groups I and II lack unity.