EXHIBIT 3

IN THE UNITED STATES DISTRICT COURT

FOR THE EASTERN DISTRICT OF VIRGINIA

I/P ENGINE, INC.,)
)
    Plaintiff,)
)
  v.) C.A. No. 2:11-cv-512-RAJ
)
AOL, INC., GOOGLE INC., IAC SEARCH &) **JURY TRIAL DEMANDED**
MEDIA, INC., TARGET CORP., and)
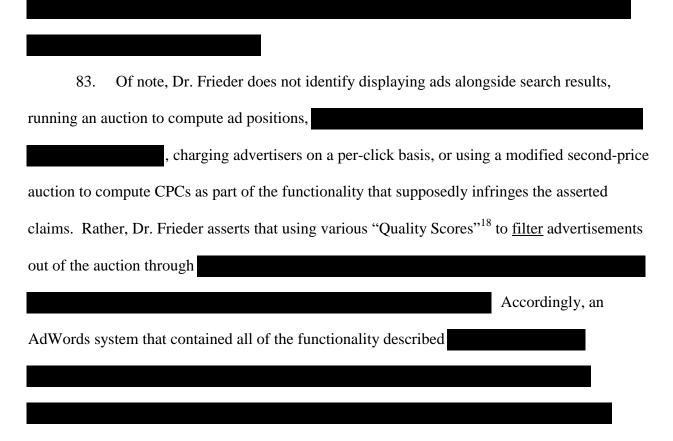GANNETT CO., INC.)
)
    Defendants.)

**REPORT OF DEFENDANTS' EXPERT
LYLE H. UNGAR, PH.D., CONCERNING
NONINFRINGEMENT**

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of advertisements are thus not constant. Externally, the position an ad is displayed is termed "Ad Rank."

81. After the auction is completed, Google calculates the price an advertiser will pay for the display of its ad if actually clicked on by the user. Advertisers are charged on a per-click basis: if the ad is not clicked on, then Google does not receive any money. ("Ad System Overview," G-IPE-0009737.) ██

██

██ This price is termed "actual cost per click," "Actual CPC," or simply "CPC." As would be expected, the CPC for any ad in any given auction will not exceed its Max CPC. (See, generally, "Life of a Dollar," G-IPE-0008851 to G-IPE-0008854; "Ad System Overview," G-IPE-0009737.)

82. Google uses a sophisticated machine learning algorithm termed the "Smart Ad Selection System" or Smart Ads to compute predicted clickthrough rates. (*See, e.g.*, "Smart Ad Selection System (SmartASS™)," G-IPE-0002076 to G-IPE-0002080.) █████████████

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UNGAR EXPERT REPORT ON NONINFRINGEMENT—CONFIDENTIAL OUTSIDE COUNSEL ONLY
C.A. No. 2:11-cv-512-RAJ

[██]

[██]

[███████████████████████████████]

83.   Of note, Dr. Frieder does not identify displaying ads alongside search results,

running an auction to compute ad positions, [██████████████████████████████████]

[███████████], charging advertisers on a per-click basis, or using a modified second-price

auction to compute CPCs as part of the functionality that supposedly infringes the asserted

claims. Rather, Dr. Frieder asserts that using various "Quality Scores"[18] to <u>filter</u> advertisements

out of the auction through [███████████████████████████████████████]

[██] Accordingly, an

AdWords system that contained all of the functionality described [███████████]

[███]

[███]

84.   The next sections describe the operation of AdWords in more detail.

2.   Load Balancing

85.   A user's incoming search query is first received by Google's load balancing

system, which determines which Google web servers should receive and process the query. This

ensures that each search request is routed to a web server with available resources, reducing the

chance that the user request will "hang" or take overly long. One can think of load balancing as

similar to an employee at a grocery store that directs shoppers to the cashier with shortest

checkout line… in a store with thousands of cashiers and millions of customers. ("The Life of a

Query," G-IPE-0004739-40).

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[18]   [██]