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UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

UNIFIED PATENTS INC.
Petitioner

v.

RECURSIVE WEB TECHNOLOGIES, LLC
Patent Owner

SPIDER SEARCH ANALYTICS, LLC
Patent Owner

IPR2019-00472
U.S. 7,454,430

**PETITION FOR *INTER PARTES* REVIEW
OF U.S. PATENT 7,454,430**

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I. INTRODUCTION

Petitioner Unified Patents Inc. (“Petitioner”) respectfully requests *inter partes* review (“IPR”) of claims 1-3, 5, 7-8, 10-13, 19-20, and 23 (collectively, the “Challenged Claims”) of U.S. Patent 7,454,430 (“the ’430 Patent”) (Ex. 1001).

II. U.S. PATENT 7,454,430

A. Alleged Invention

The ’430 Patent relates to automatically finding and extracting information from electronic documents, such as web pages, in a process commonly known as a “crawl.” ’430 Patent (Ex. 1001) at Abstract, 1:17-22. The ’430 Patent also recites steps for analyzing web pages to generate requests appropriately configured to harvest resulting dynamic pages from a server (i.e., from what is known as the “Deep Web”). *Id.* at 13:1-5, 13:48-55, 14:59-67.

Breadth First Crawling

The ’430 Patent describes the well-known method of conducting a crawl in a “breadth first” manner, meaning that “all links from a particular page are **first** explored then each one of them is used as a starting point for the next step.” *Id.* at 13:32-35.¹ This is in contrast to a “depth first” search, in which a particular link from

¹ All emphases appearing in quotations have been added by Petitioner unless indicated otherwise.

the particular (top) page is followed to a maximum depth of search (further explained below) before returning to explore additional links from the top page. *Smyth Decl.* (Ex. 1003) at ¶40.

Depth and Relevance

The “depth” of a subsequent page is equal to the minimum number of links that must be followed from a starting page in order to reach a subsequent page. ’430 *Patent* (Ex. 1001) at 6:48-53. As discussed by the ’430 Patent, pages of interest to a given application (i.e. “relevant” pages) are unlikely to be at a great depth from a starting page (“...the relevant pages are in most cases no deeper than 2-3 levels down from the main page.”), and thus crawlers may be configured to only crawl to a certain maximum depth (i.e. number of links) from starting pages in the interests of speed and efficiency. ’430 *Patent* (Ex. 1001) at 13:24-31.

Dynamic Web Pages

The ’430 describes dynamic web pages as pages that do not exist until after they are requested (e.g., such as in response to user input), which was known to pose a challenge for standard web crawlers. ’430 *Patent* (Ex. 1001) at 4:54-67. This type of content is often stored in a server and available to users via a search form, for example as seen in job boards, online dictionaries, and airline travel websites. *Id.*

Analysis and Request Generation

In order for a crawler to access dynamic pages, the ’430 Patent teaches collecting dynamic pages and determining their underlying structure to generate

appropriate requests to be submitted to the database. *Id.* at 13:48-55. A plurality of these requests may be configured to create exhaustive enumerations of questions that will generate all dynamic pages that the server can produce. *Id.* at 14:7-19.

However, as shown below, all of the above concepts were well-known in the art prior to the '430 Patent.

B. Prosecution History

During prosecution of the '430 Patent, the examiner issued a restriction requirement but did not issue any claim rejections. *File History* (Ex. 1002) at pp.91-95. None of the prior art relied upon here was of record during prosecution.

III. REQUIREMENTS FOR INTER PARTES REVIEW UNDER 37 C.F.R. § 42.104

A. Grounds for standing under 37 C.F.R. § 42.104(a)

Petitioner certifies that the '430 patent is available for IPR and that the Petitioner is not barred or estopped from requesting IPR challenging the Claims of the '430 Patent identified in this Petition.

B. Identification of challenge under 37 C.F.R. § 42.104(b) and relief requested

In view of the prior art and evidence, at least claims 1-3, 5, 7-8, 10-13, 19-20, and 23 of the '430 Patent are unpatentable and should be cancelled. 37 C.F.R. § 42.104(b)(1). Based on the prior art references identified below, IPR of the Challenged Claims should be granted. 37 C.F.R. § 42.104(b)(2).

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