

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

GOOGLE LLC,
Petitioner,

v.

METARAIL, INC.,
Patent Owner.

Case IPR2024-01272
U.S. Patent No. 10,152,734

PATENT OWNER'S PRELIMINARY RESPONSE

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PATENT OWNER'S APPENDIX OF EXHIBITS

Exhibit	Description
EX2001	Declaration of Dr. Sam Malek
EX2002	Dr. Sam Malek Curriculum Vitae

I. INTRODUCTION

The Board should deny institution of *inter partes* review of U.S. Patent No. 10,152,734 (the “’734 patent”) because Petitioner fails to demonstrate a reasonable likelihood that any challenged claim is obvious.

The ’734 patent discloses a novel way of providing deep-linked advertisements through websites and applications. This new method involves the use of a “universal variable map” or “universal variable database” that maps relationships between the fields of one website or application to the fields of another website or application. Through this mapping in the universal variable map/database, user parameters inputted in a field at a first website/application can be correlated with and automatically transferred to a corresponding field of a second website/application. This allows advertisers to present ads to users that, when clicked, will land the user deep within the advertiser’s website/application with fields pre-filled, rather than simply directing the user to the home page of the website/application.

Petitioner’s proposed combinations of references fail to demonstrate any reasonable expectation that the claims would have been obvious. Each of Petitioner’s grounds relies on a single reference – Halevy – as purportedly teaching the universal variable map/database which is a limitation in all challenged claims. But Halevy does not teach any universal variable map/database that maps relationships between

“field identifiers” belonging to a “networked data source” and a “networked data target,” as recited in the challenged claims. Instead, Halevy simply teaches a search engine with improved capabilities of performing searches for websites where relevant data is accessible only through fillable forms. Because Petitioner cannot show that any of its proposed combinations teaches the required universal variable map/database, Petitioner cannot show obviousness of any challenged claim.

Importantly, Petitioner does not even present a consistent theory as to how Halevy purportedly teaches the required mapping of “field identifiers” of a “networked data source” with “field identifiers” of a “networked data target.” Instead, Petitioner and its expert waffle back and forth between arguing that the “SO-properties” taught in Halevy are either “field identifiers” or “normalized variables” – concepts that are distinct in the ’734 patent. Petitioner’s reading of Halevy in this proceeding is also directly at odds with positions it has taken in the pending IPR proceedings on Metarail’s related patents.¹ The inconsistencies in Petitioner’s theory of how the asserted prior art maps to the limitations of the challenged claims render the Petition fatally defective.

The Petition therefore fails to present any reasonable likelihood of success on any ground, and institution should be denied.

¹ IPR2024-01269, IPR2024-01270 and IPR2024-01271.

II. THE '734 PATENT

United States Patent No. 10,152,734 issued on December 11, 2018 to Patent Owner Metarail, Inc. (“Metarail”). One of the inventors of the '734 patent, Narendra Nath, founded Wayfare Interactive in 2010. The company rebranded as Patent Metarail in 2017. Metarail is an advertising technology company whose clients have included Expedia Group, Yahoo!, GoDaddy, Tripadvisor, Travelocity, Progressive, Kayak, and Assurance among others. The technological foundation of the company and its products is Metarail’s innovative deep-linking technology, which is described and claimed in various patents obtained by Metarail, including the '734 patent.

The '734 patent relates to improved methods and systems for providing “deep-linked” or “parameter-based” advertisements in electronic commerce, such as through websites and apps. As described in the '734 patent, these types of advertisements involve the user typing in search parameters relating to the product or service that the user is interested in. For example, a user viewing a travel site on the Internet might type in “search parameters, such as where s/he is traveling from, where to, travel dates, how many people in the party, class of travel, etc.” EX1001, 2:51-57. “These search parameters are then passed along with each ad click to the appropriate advertiser.” *Id.*, 2:57-59. The advertiser then uses this information to: “(a) hyper-target the placement of ads and customize the copy of ads presented on targeted web pages, and (b) automatically activate searches from their home page,

thereby landing the web user ‘deep’ into their booking process rather than on their home page as is customary with other forms of ad clicks.” *Id.*, 2:59-65.

At the time of the ’734 invention, however, deep-linked ads were limited by the need for advertisers to manually program the code necessary to connect the initial publisher’s site or app with the appropriate locations on the advertiser’s site or app. *Id.*, 3:5-18. This problem stemmed from the fact that “each web site uses its own field descriptors and variable names, and the only way to create deep-linked ads has been to manually obtain the names of the respective variables from both publishers and advertisers and then integrate them to each other through manual programming.” *Id.*, 3:18-23.

The ’734 patent addresses this problem through the use of a novel “universal variable map” that maps relationships between the fields of one site to the fields of another site. As the ’734 patent explains, this universal variable map provides the benefit that user parameters inputted in fields at a first site can be correlated with and automatically transferred to corresponding fields of a second site:

[T]hrough the universal variable map, forms and fields from one site can be associated with one or more relevant forms and fields from one or more different sites, even if the sites themselves may be in different verticals. Leveraging this unique and comprehensive universal variable map, embodiments can take a web site visitor from an initial stop (e.g., a home page of a first web site) directly and in real-time through a

specific deep-link ad to a landing spot on another site (e.g., a checkout page of a second web site), or to a home page on another site with as much data pre-populated as available based on the user's input in the context of the particular E-commerce transaction.

Id., 5:65-6:10. The '734 patent also refers to the "universal variable map" as a "universal variable database." *Id.*, 14:4-5, 16:29-30, 16:63.

The '734 patent depicts an exemplary embodiment of a universal variable map/database as follows:

Web Sites	xxx.com	yyy.net	zzz.org	...	Normalized Variables
Variable 1	Orig	Depart_City	From	...	from
Variable 2	Dest	Arrival_City	To	...	to
Variable 3	...	...	...	...	...
...	...	...	...	...	...

Id., 12:56-66. As depicted in this example, the universal variable map/database links programming variables across multiple websites so that inputs to form fields in one website can be easily transferred to the appropriate form fields in other websites. For example, the field "Orig" in the website xxx.com corresponds to the field "Depart_City" in the website yyy.net and the field "From" in the website zzz.org. These fields are related to each other through the normalized variable "from" in the universal variable map/database.

Figure 11A in the '734 patent depicts an example of how the universal variable map/database is used to transfer user-inputted information in a form on a first site to a form on a second site:

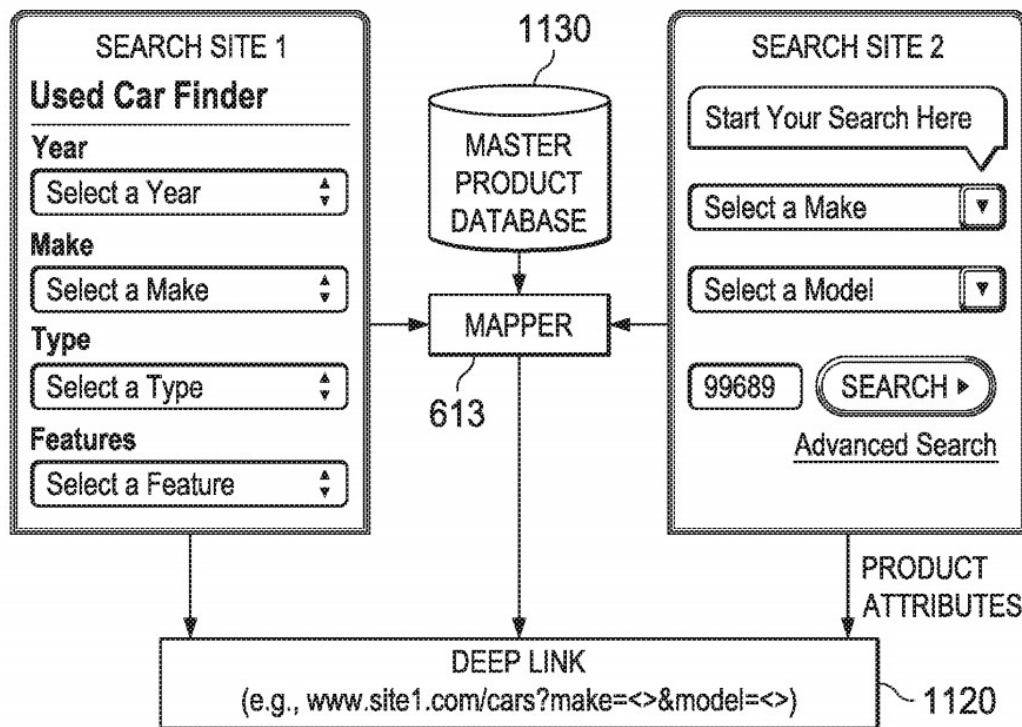


FIG. 11A

EX1001, Fig. 11A. As the '734 patent explains:

In the example of FIG. 11A, Search Site 2 is to present to its visitors a deep-linked ad for Search Site 1. *Mapper 613 may access universal variable map or variable database 530 . . . , cross reference programming variables used by Search Site 2 with those used by Search Site 1, and automatically create a deep-linked ad* (deep link 1120 in this example). . . . When a user selects . . . deep link 1120 on Search Site 2, the user's browser is automatically directed to a network

address indicated by deep link 1120 A form at the network address on Search Site 1 may be pre-populated with field identifier values (in this example, product attributes such as “Toyota” and “Prius”), along with any user input provided at Search Site 2.

Id., 16:61-17:11 (emphasis added).

The universal variable map/variable database appears as a limitation in all of the independent claims 1, 8, and 15 of the ’734 patent. *Id.*, 25:21-60 (claim 1), 26:23-62 (claim 8), 27:24-28:16 (claim 15). For example, claim 1 recites:

1. A method, comprising:

in response to a user interacting with a user interface of a networked data source on a user device, accessing a **universal variable data database, the universal variable data database representing a universal variable map** of searchable classes and attributes of products or services on the Internet, the accessing performed by a computer having a processor and a non-transitory computer-readable medium, the **universal variable data database** maintained by the computer;

determining, by the computer based on dynamic data collected through the user interface while the user is interacting with the user interface of the networked data source, field identifiers of the networked data source stored in the **universal variable data database**, the dynamic data containing user-specified values pertaining to a product or service;

determining, by the computer, field identifiers of a networked data target that are mapped to the field identifiers of the networked data source in the **universal variable data database**;

automatically generating, by the computer using the **universal variable data database**, a deep-linked ad that links the field identifiers of the networked data source and the field identifiers of the networked data target;

presenting the deep-linked ad through the user interface of the networked data source on the user device; and

responsive to the user selecting the deep-linked ad through the user interface of the networked data source on the user device, passing the user-specified values pertaining to the product or service to the networked data target using the deep-linked ad that links the field identifiers of the networked data source and the field identifiers of the networked data target such that, without necessitating any pre-existing relationship between the networked data source and the networked data target, an electronic product or service order form at the networked data target is automatically filled in or acted upon with the user-specified values pertaining to the product or service and presented on the user device.

Id., 25:21-60 (emphasis added).

A. Person of Ordinary Skill in the Art (POSITA)

Petitioner and its expert state that a POSITA “would have had a bachelor’s degree in computer science or a related field, and at least two years of experience with web-programming and search engine systems.” Pet., 8. For purposes of this preliminary response, Patent Owner and its expert apply this definition, as the Petition fails under any definition of a POSITA. *See* EX2001, Malek Dec., ¶¶ 35-36.

III. OVERVIEW OF THE ASSERTED REFERENCES

A. Oldham (EX1020)

U.S. Patent No. 8,150,979 to Oldham (“Oldham”) relates to an Internet search system that can present advertisements to the user based on user-specific information, such as the user’s location. Oldham provides the following high-level depiction of its system:

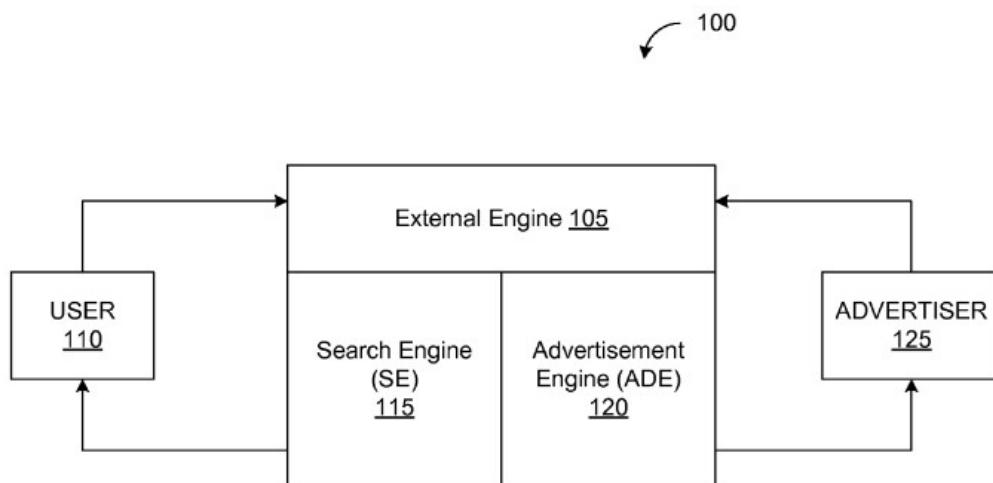


FIG. 1

EX1020, Fig. 1. As described in Oldham, the system includes “an external engine 105 configured to receive input from a user 110 of a first system,” the first system being a device such as a computer, smartphone, or any other device that can connect with the external engine through a network. *Id.*, 4:35-46. “The external engine 105 can include a search engine (SE) 115 and an advertisement engine (ADE) 120.” *Id.*, 4:46-48. The search engine provides Internet searching functionality for the user, while the advertisement engine receives advertisements from a second system associated with one or more advertisers. *Id.*, 4:48-54. “Further, the external engine 105 can be configured to present, to a user 110, the advertisements received from the advertisers 125.” *Id.*, 4:54-56.

Oldham describes that the external engine can “determine values of the user’s geographic attributes” as well other attributes based on the search queries submitted by the user to the system. *Id.*, 6:40-47. This information can be used to determine the particular advertiser content that is to be presented to the user. As explained in Oldham, “the website of an advertiser 125 . . . may include several landing pages, each landing page specific to a geographic location.” *Id.*, 6:55-58. Each URL that is presented to the user in response to a search query “can be encoded with the values of the user’s attributes. A user 110 presented with the search results 230 and the relevant advertisements 235 can click on one or more of the URLs. . . . When the URLs of accessed results 240 are provided to the advertiser, based on the values of

the attributes, the advertiser 115 can direct the user 110 to different landing pages.”
Id., 6:62-7:2.

B. Halevy (EX1006)

U.S. Patent Application Publication No. 2006/0230033 to Halevy et al. (“Halevy”) relates to a system that allows for keyword searching of websites where content is “not directly available on web pages, but is instead accessible through queries entered into web-based forms.” EX1006, [0003]. Halevy achieves this through the use of a “form engine” that engages in a web-crawling process to collect information about websites with web-based forms, which is then stored in a “form database.” *Id.*, [0034]-[0035]. When a user subsequently inputs a keyword search query to the system, the form engine uses the data stored in the form database to identify forms that are most relevant to the search query and returns those results to the user along with links to the corresponding forms. *Id.*, [0036], [0136]-[0138]. The user can then click on any of the links to submit a query to the appropriate form. *Id.*

Halevy describes that each form in the “form database” is categorized in terms of search ontology classes and properties, which are referred to as “SO-classes” and “SO-properties.” *Id.*, [0038]. The SO-class of a form “specifies the types of objects that can be obtained by querying the form. For example, books, hotels, restaurants.” *Id.*, [0045]. The SO-properties of a form are “output properties” that “specif[y] the type of information we will obtain from answers to a successful form submission.”

Id., [0048]. The SO-classes and SO-properties are organized in a hierarchy, wherein each SO-class has its associated SO-properties. *Id.*, [0038] (“SO-properties have domains (the classes in the ontology they refer to) . . .”). These SO-classes and associated SO-properties are used to identify forms in the database that are relevant to the user’s keyword search query.

Figure 6 in Halevy shows how the SO-classes and SO-properties are used to retrieve relevant results from the form database in response to a user’s query:

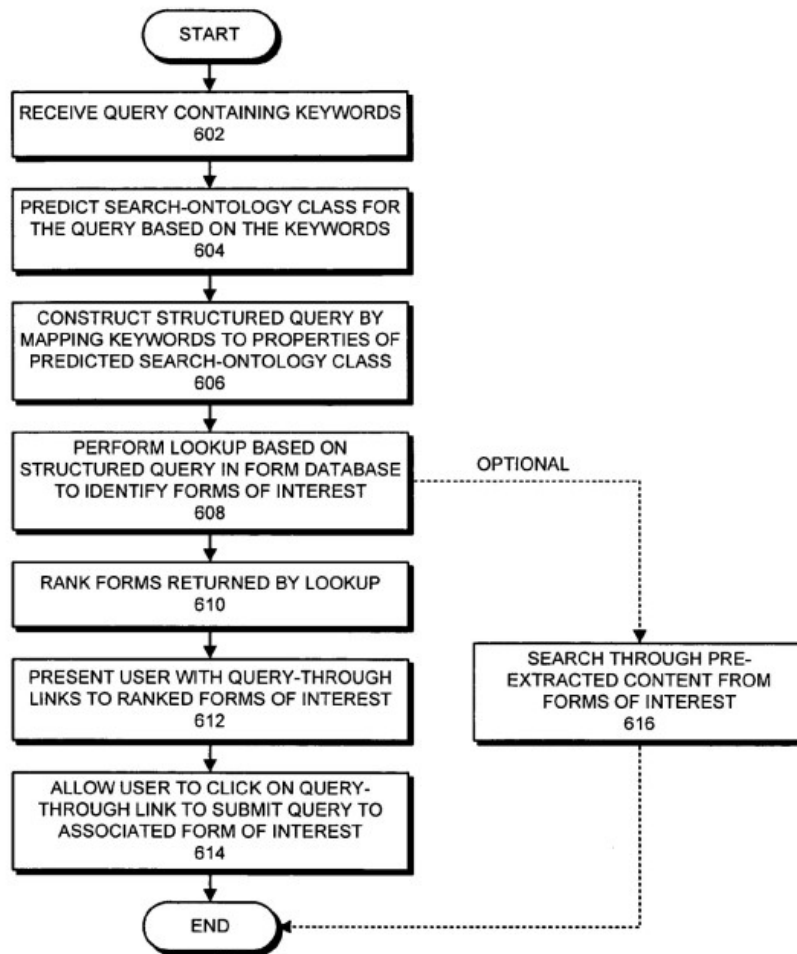


FIG. 6

Id., Fig. 6. As shown in Figure 6, when a user inputs a keyword search query (602), the first step performed by Halevy's system (604) is to predict the SO-class that is most relevant to the user's query. *Id.*, [0136]. Once the SO-class has been identified, the system then constructs a structured query that maps keywords in the query to SO-properties within the identified SO-class (606). *Id.* That structured query is then used to perform a lookup in the form database to identify relevant forms for the user (608). *Id.*, [0137].

Halevy describes that the process of translating the user's query into a search of the form database is handled by a "query analyzer." *Id.*, [0089]. The query analyzer receives the keyword query from the user and "predict[s] the SO-class in the ontology that is most relevant to the query." *Id.* Halevy teaches three different ways of performing this prediction process: "(1) word-based prediction; (2) property-based prediction; and (3) feedback-based prediction." *Id.*, [0090]. In word-based prediction, "the predicted class is the one that is most likely to generate the words in the search query," as determined using a set of mathematical calculations to find the "marginal probability estimation" for each word. *Id.*, [0092]-[0094]. In property-based prediction, "property recognizers are employed to identify interesting constants in user queries," and "SO-classes can be predicted based on the properties recognized." *Id.*, [0095]. In feedback-based prediction, the SO-class is

predicted based on the number of “the first 20 hits from just a keyword query” that are web forms that have been labeled for a particular SO-class. *Id.*, [0104].

Once Halevy’s system has predicted a SO-class for a particular user query, “a structured query is constructed by mapping the individual words in the query to properties of the chosen search class.” *Id.*, [0112]. This process involves “recognizers” that attempt to identify “a particular word (or sequence of words) in the query with some confidence to be an example value of a particular SO-property (or a set of properties). Using this information, the query description module tries to match each word in the user query to the most likely search class property.” *Id.* The end result is a structured query that is then used to perform a lookup of relevant forms in the form database. *Id.*, [0112], [0137].

The focus of Halevy is therefore a search engine that can return, in response to a user’s keyword search query, websites that contain forms that are responsive the user’s query. As discussed in greater detail below, Halevy is far afield from the deep-linking advertisement technology of the ’734 patent.

C. Rousso (EX1021)

U.S. Patent Application Publication No. 2010/0057556 to Rousso et al. (“Rousso”) relates to a system “to identify aggregate and generate qualified sales and marketing leads for distribution via an online bidding system.” EX1021, [0005]. Rousso describes its system as a “lead bidding system” that “delivers a dynamic lead

generation platform for all advertisers to participate in ongoing competitive bidding for qualified online leads.” *Id.*, [0007]. In the lead bidding system, leads are generated based on information submitted by consumers. *Id.*, [0035]. “[T]he leads are bid upon by providers (i.e., bidders). The winner of the bidding for the lead then receives delivery of the lead data and is afforded the opportunity of placing targeted advertisements . . . before the lead generating consumer.” *Id.*

IV. THE PETITION FAILS TO DEMONSTRATE A REASONABLE LIKELIHOOD OF SUCCESS AS TO ANY CHALLENGED CLAIM

The Petition presents four grounds. In ground 1, Petitioner challenges claims 1-5, 8-12, and 15-19 as obvious over Oldham in view of Halevy. Pet., 5. For ground two, Petitioner challenges these same claims as obvious over Oldham and alleged “Applicant Admitted Prior Art” (or “APA”) in view of Halevy. *Id.* For ground three, Petitioner challenges claims 6-7, 13-14, and 20 as obvious over Oldham and Halevy in view of Rousso. *Id.* For ground four, Petitioner challenges claims 6-7, 13-14, and 20 as obvious over Oldham, APA, and Halevy in view of Rousso. *Id.*

All of Petitioner’s grounds fail to demonstrate a reasonable likelihood that the challenged claims would have been obvious. None of the combinations teach the “universal variable data database” or “universal variable map” that is required in each of the challenged claims.

A. Ground 1 Fails

- 1. The proposed combination would not have rendered obvious “determining, by the computer based on dynamic data collected through the user interface while the user is interacting with the user interface of the networked data source, field identifiers of the networked data source stored in the universal variable data database . . .” (element [1B], [8B], [15B]).**

Element [1B] in claim 1 recites the step of “determining, by the computer based on dynamic data collected through the user interface while the user is interacting with the user interface of the networked data source, field identifiers of the networked data source stored in the universal variable data database . . .” Independent claims 8 and 15 also include virtually the identical language. *Id.*, claims 8 (element [8B]), 15 (element [15B]). And all the other challenged claims in ground 1 also include this limitation by their dependency on claims 1, 8, or 15. *Id.*, claims 2-7, 9-14, 16-20. As the proposed combination of Oldham and Halevy does not teach or suggest this “determining” of field identifiers of the networked data source stored in the universal variable data database, the Petition fails to present any reasonable expectation of success on ground 1.

Petitioner argues that the “networked data source” in its proposed combination is Oldham’s external engine. Pet., 32. Petitioner further asserts that this external engine is the user interface through which the user inputs a search query that is the “dynamic data collected through the user interface while the user is

interacting with the user interface of the networked data source.” *Id.*, 32-33. Petitioner’s argument fails, however, because Petitioner has not shown that there is any teaching in its proposed combination of “determining . . . *field identifiers of the networked data source* stored in the universal variable data database,” as required in this element. Petitioner does not identify any teaching in Oldham that there are any “field identifiers” in Oldham’s external engine, the alleged “networked data source.” EX2001, Malek Dec., ¶ 58. Instead, Petitioner makes a series of arguments regarding Halevy, all of which lack merit.

First, Petitioner argues that “Halevy’s form engine determines ‘*field identifiers of the networked data source stored in the universal variable data database*’ based on the user’s search query (i.e., ‘*the dynamic data*’) by mapping keywords in the query to SO-properties (i.e., normalized variables) of various forms in an identified SO-class.” Pet., 33-34. This argument makes no sense, as it fails to explain what the alleged “field identifiers” are in Oldham’s external engine. Instead, Petitioner is merely characterizing functionality of Halevy’s system. EX2001, Malek Dec., ¶ 59.

Petitioner then goes on to argue that “POSAs would have recognized that the SO-properties mapped to the keywords are *determined ‘field identifiers of the networked data source stored in the universal variable data database’ based on the dynamic data* because the SO-properties for each class are defined by the form

engine and mapped to corresponding fields from various forms stored in the form database.” Pet., 34. Thus, Petitioner apparently argues that the SO-properties in Halevy’s system are the “field identifiers of the networked data source.” *See also* Pet., 35 (referring to “the SO-properties (i.e., *field identifiers of the networked data source in the universal variable database*”). This argument also fails. Halevy’s SO-properties obviously cannot be “field identifiers” of Oldham’s external engine, because Halevy’s SO-properties do not come from Oldham’s external engine. In addition, Halevy’s SO-properties are not “field identifiers” at all. Rather, the SO-properties are simply search filters that assist Halevy’s search engine in determining a form’s degree of relevancy to the user’s keyword search query. EX2001, Malek Dec., ¶¶ 60-62, 48-51. Notably, Petitioner argues elsewhere in the Petition that SO-properties are “normalized variables,” which are different from “field identifiers.” *See* Pet., 29 (“The SO-properties (i.e., normalized variables) are associated with SO-classes”); *id.* at 35 (“Halevy’s crawling process maps corresponding fields on multiple website forms (i.e., *field identifiers of networked data targets*) to SO-properties (i.e., normalized variables) of the SO-classes identified for the forms.”). As described in the ’734 patent, “normalized variables” are used to create associations between field identifiers of different forms, but they are not themselves “field identifiers.” *See* EX1001, 15:65-16:3 (“In this way, once a site’s category is

defined, the variable mapping exercise can be simplified to match which variables or identifiers match up with which normalized variable”).²

Moreover, in the related IPR2024-01270, Petitioner likewise argues that the SO-properties in Halevy are “‘*a set of normalized variables*’ that are used to ‘*map[] the plurality of computer-readable field identifiers to one another,*’” rather than the field identifiers themselves. IPR2024-01270, Paper 2, at 48 (emphasis in original). Petitioner similarly argues that Halevy’s SO-properties are “normalized variables” rather than “field identifiers” in the related IPR2024-01271 proceedings. *See* IPR2024-01271, Paper 2, at 38.

Thus, both within this Petition as well as in relation to its other Petitions on Metarail’s related patents, Petitioner fails to present a consistent and coherent theory as to how the disclosures in Halevy map onto the elements of the challenged claims. This inconsistency in Petitioner’s arguments as to how the SO-properties in Halevy meet the elements of the claims supports denial of the Petition. *See Google LLC v. Uniloc USA, Inc.*, IPR2017-02082, Paper 10, at 12-14 (PTAB Mar. 29, 2018) (denying institution due to inconsistencies in Petitioner’s mapping of reference to claim element, noting that “We will not, and cannot, piece together Petitioner’s

² Petitioner agrees that “[t]he ’734 patent uses the terms ‘programming variable,’ ‘variable,’ ‘field identifier,’ and ‘identifier’ interchangeably.” Pet., 7 n.4.

inconsistent and contradictory arguments into a cogent and coherent explanation that supports anticipation. Rather, we must evaluate the Petition’s arguments as presented.”); *Facebook, Inc. v. Uniloc USA, Inc.*, IPR2017-01523, Paper 7, at 15-18 (PTAB Dec. 4, 2017) (denying institution for the same reasons). *See also Schumer v. Lab. Comput. Sys., Inc.*, 308 F.3d 1304, 1316 (Fed. Cir. 2002) (“It is not our task, nor is it the task of the district court, to attempt to interpret confusing or general testimony to determine whether a case of invalidity has been made out . . .”).

Finally, the declaration testimony of Petitioner’s expert, Dr. Fox, on this issue is also unconvincing. *See* EX1003, ¶ 102. Dr. Fox simply parrots back the same inconsistent and incoherent arguments as in the Petition, vacillating between arguing that SO-properties are “normalized variables” versus “field identifiers.” *Compare* Pet., 33-35 *with* EX1003, ¶¶ 101-103. *See also* IPR2024-01270, EX1003, ¶ 106 (“Since Halevy’s crawling process maps the fields of various forms to a set of SO-properties . . . , POSAs would have recognized the SO-properties to be ‘a set of normalized variables’ that are used to ‘map[] the plurality of computer-readable field identifiers to one another.’”) (emphasis in original); IPR2024-01271, EX1003, ¶ 96 (same). Thus, Petitioner’s expert offers no reliable evidence on this issue. *See Xerox Corp. v. Bytemark Inc.*, IPR2022-00624, Paper 12, at 2 (PTAB Feb. 10, 2023) (Director review designating institutional denial decision as precedential, where

institution was denied when declaration merely parroted petition, “was conclusory and added little to the assertions the testimony was offered to support.”).

2. The proposed combination would not have rendered obvious “determining . . . field identifiers of a networked data target that are mapped to the field identifiers of the networked data source in the universal variable data database” (element [1C], [8C], [15C]).

Elements [1C], [8C], and [15C] recite the step of “determining, by the computer, field identifiers of a networked data target that are mapped to the field identifiers of the networked data source in the universal variable data database.” As discussed in Section IV.A.1. above, Petitioner fails to show any teaching in the proposed combination of “field identifiers of the networked data source” under its theory that Oldham’s external engine is the “networked data source.” Thus, by necessity, Petitioner also cannot show that the proposed combination discloses elements [1C], [8C], and [15C], which recite mapping other field identifiers to the “field identifiers of the networked data source.”

Indeed, as with the previous element, Petitioner fails to articulate any clear theory as to how the proposed combination determines “field identifiers of a networked data target that are mapped to the field identifiers of the networked data source.” Instead, Petitioner makes a series of arguments regarding things that are purportedly “mapped” in Halevy’s system. Each of these arguments is critically flawed.

First, Petitioner asserts that “Halevy’s query process maps the keywords of a user query to the SO-properties (i.e., *‘field identifiers of the networked data source in the universal variable database’*) in order to return deep-links to the forms with the keywords in the query mapped to corresponding fields of the linked form.” Pet., 35. As discussed above, Halevy’s SO-properties are not “field identifiers of the networked data source.” But even if they were, the mapping described by Petitioner here – mapping between “keywords of a user query to the SO-properties” – is not the required mapping between field identifiers of a networked data target and a networked data source, because keywords of a user query are not “field identifiers.” Rather, they are simply the user’s input into the system. EX2001, Malek Dec., ¶ 67. Indeed, neither Petitioner nor its expert appears to argue that keywords are field identifiers. *See* Pet., 40 and EX1003, ¶ 114 (identifying “keywords of the query string” as “the user-specified values pertaining to the product or service”).

Next, Petitioner argues that “because Halevy discloses that single structured query – with keywords of the query mapped to SO-properties – returns multiple query-through links – with keywords mapped to corresponding fields based on the SO-property mapping – POSAs would have understood Halevy’s system to map corresponding form fields from different websites to the same SO-properties” Pet., 36. Here, Petitioner appears to present a different theory that the required mapping between field identifiers of a networked data target and a networked data

source is taught in Halevy because, in Halevy's system, form fields of different websites (which presumably would be the networked data target and networked data source) can have the same SO-properties.

But the mere fact that fields in forms for different websites might have the same SO-properties does not mean that the SO-properties are performing any "mapping" between field identifiers of different websites. EX2001, Malek Dec., ¶¶ 68-69. Indeed, Halevy does not teach that the SO-properties establish any relationship between different websites. Rather, the SO-properties are simply used by Halevy's search engine to identify forms relevant to the user's keyword search, as shown in Figure 6 of Halevy:

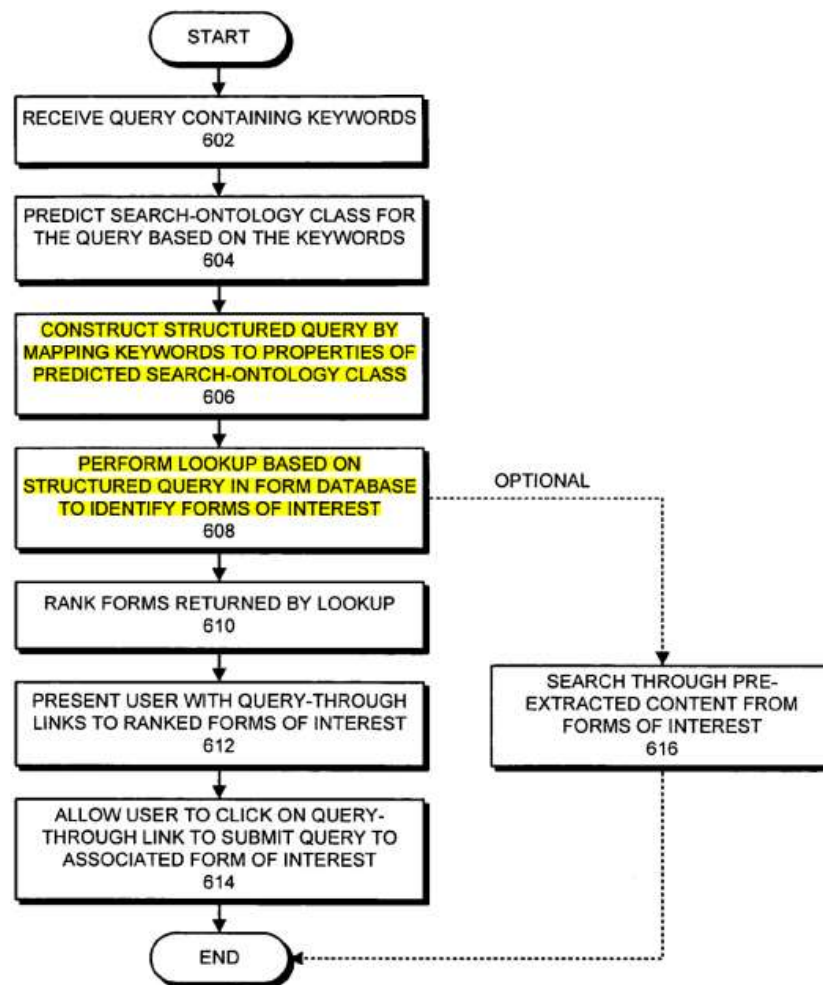


FIG. 6

EX1006, Fig. 6 (annotated). *See also id.*, [0136]-[0137]. Thus, Halevy’s SO-properties do not provide the required mapping of “field identifiers of a networked data target” to “the field identifiers of the networked data source.” EX2001, Malek Dec., ¶ 69. Indeed, the fact that Halevy’s system requires a complex set of prediction algorithms implemented by a “query analyzer” to predict which SO-classes and SO-properties might be relevant to a user’s query, prior to searching the form database, further shows that the form database does not provide the predetermined mapping

between different websites in a universal variable data database as contemplated in the '734 patent. EX2001, Malek Dec., ¶ 70.

Finally, Petitioner argues that Halevy's form query process "*determines the mapping between corresponding fields of forms in the form database (i.e., 'field identifiers of a networked data target')*" and the SO-properties identified for the keywords (i.e., '*field identifiers of the networked data source in the universal variable data database*')." Pet., 36-37. Here, Petitioner essentially argues that because Halevy's form database associates form fields with SO-properties, there is mapping in the form database between field identifiers of a networked data target and a networked data source. But again, this argument is based on Petitioner's assumption that SO-properties in the form database are "field identifiers of the networked data source," which as discussed in Section IV.A.1. above is incorrect. SO-properties are not "field identifiers," much less "field identifiers of the networked data source." Rather, they are simply search filters that assist Halevy's search engine in determining a form's degree of relevancy to the user's keyword search query. EX2001, Malek Dec., ¶¶ 62, 69-71.

In sum, Petitioner fails to show that the combination of Oldham and Halevy teaches all of the limitations of any of the challenged claims.

B. Ground 2 Fails

Petitioner's ground 2 fails for the same reasons that its ground 1 fails. The only difference between ground 2 and ground 1 is that, in ground 2, Petitioner points to APA as further support "[t]o the extent that more detailed disclosure is required regarding utilizing deep-link advertising based on the user's location." Pet., 51. Whether a POSITA would know that a user's location can be used in connection with deep-link advertising is irrelevant to Patent Owner's arguments set forth above for why the combination of Oldham and Halevy does not render the challenged claims obvious. Thus, none of Petitioner's additional arguments in ground 2 have any impact on Patent Owner's ground 1 arguments, which apply equally with respect to ground 2. *See* EX2001, Malek Dec., ¶ 74.

C. Ground 3 Fails

In ground 3, Petitioner assert that the combination of Oldham, Halevy, and Rousso renders obvious claims 6-7, 13-14, and 20 of the '734 patent. Pet., 53-61. Petitioner relies on Rousso solely for the purposes of the additional limitations in these dependent claims requiring the presence of two mobile devices. *Id.*, 58-61. Petitioner does not contend that Rousso teaches any part of the "universal variable data database" limitation of independent claims 1, 8 or 15. Thus, for the same reasons as discussed above for ground 1, Petitioner fails to show that the combination of

Oldham, Halevy, and Rousso renders claims 6-7, 13-14, and 20 obvious. *See* EX2001, Malek Dec., ¶ 75.

D. Ground 4 Fails

Petitioner's ground 4 is the same as ground 3, except that Petitioner also incorporates into ground 4 its ground 2 arguments "to the extent Patent Owner argues that more detailed disclosure is required regarding utilizing deep-link advertising based on the user's location." Pet., 61. For the same reasons discussed above with respect to grounds 1-3, Petitioner's ground 4 also fails. *See* EX2001, Malek Dec., ¶ 76.

V. CONCLUSION

The proposed combinations of Oldham, Halevy, and Rousso fail to teach or suggest the "universal variable data database" recited in the challenged claims. Thus, even if combined, these references do not teach or suggest all limitations of the challenged claims. The Petition therefore fails to present any reasonable likelihood of success on any ground, and institution should be denied.

Dated: January 28, 2025

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**CERTIFICATE OF COMPLIANCE WITH TYPE-VOLUME LIMITATION,
TYPEFACE REQUIREMENTS, AND TYPE STYLE REQUIREMENTS**

1. This Patent Owner's Preliminary Response complies with the type-volume limitation of 14,000 words, comprising 5,473 words, excluding the parts exempted by 37 C.F.R. § 42.24(a)(1).

2. This Patent Owner's Preliminary Response complies with the general format requirements of 37 C.F.R. § 42.6(a) and has been prepared using Microsoft Word in 14 point Times New Roman.

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CERTIFICATE OF SERVICE

Petitioner has consented to e-mail service in this proceeding. Pursuant to 37 C.F.R. §42.6, the undersigned certifies that on January 28, 2025, a copy of the foregoing document was served by email upon the following counsel at the below email addresses:

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