Filed on behalf of: E-NUMERATE SOLUTIONS, INC.

UNITED STATES PATENT AND TRADEMARK OFFICE
_____

BEFORE THE PATENT TRIAL AND APPEAL BOARD
_____

MERRILL COMMUNICATIONS LLC d/b/a MERRILL
CORPORATION,
Petitioner

v.

E-NUMERATE SOLUTIONS, INC.,
Patent Owner

Case IPR2018-01394
U.S. Patent 7,650,355

_____

E-NUMERATE SOLUTIONS, INC'S PATENT OWNER RESPONSE
PURSUANT TO 37 C.F.R. § 42.120

TABLE OF CONTENTS

PATENT OWNER'S EXHIBIT LIST

Exhibit Number	Description
2001	Expert Declaration of Dr. Michael J Smith

I. INTRODUCTION

The Petitioner did not demonstrate that any of the claims of U.S. Patent No. 7,650,355 ("the '355 patent") are obvious because the Petitioner failed to show that a person of ordinary skill in the art ("POSA") would have been motivated to modify the structure and components of either Simpson or Lyons to achieve the claimed invention or that a POSA "would have had a reasonable expectation of success in doing so." *OSRAM Sylvania, Inc. v. Am Induction Techs., Inc.*, 701 F.3d 698, 706 (Fed. Cir. 2012). The Board has consistently declined to conclude that a claim is obvious when the Petition fails to identify any objective evidence such as experimental data, tending to establish that two different structures can be combined to achieve the claimed invention with a reasonable expectation of success.[1] Here, the Petitioner did not set forth any such objective evidence.[2] Rather, the Petitioner's own expert made hand-waving arguments that the two database systems of Simpson and Lyons, which did not support XML, and which required file-specific user-

---

[1] *Epistar, et al. v. Trustees Of Boston University,* IPR2013-00298, Decision Not To Institute, Paper No. 18 (P.T.A.B. November 15, 2103).

[2] *See e.g.*, Petition, pp. 32-35 and 61-62.

customized input_templates or multi-screen Import Wizards to "tag" data with field names so they could be imported into a database system, could be modified to accept XML-formatted markup documents by first running the XML markup documents through an HTML converter (which would remove all markup and structure from said XML markup document). However, such an implementation would eliminate Goldfarb's stated improvements of "adding more structure to data files and providing a universal file structure that would ease the exchange of data between programs and over the internet"[3] by flattening the XML data file of relevant metadata. Further, the Petitioner failed to address the inefficiencies created by flattening the relevant data structure out of the XML file when converting to HTML or how Lyons could be modified to accept the XML data file.

Moreover, the Petitioner blatantly relied on expert testimony to meet missing elements in the context of both single and double reference attacks. As established by the Federal Circuit, "common sense is typically invoked to provide a known motivation to combine,"[4] not a claim limitation, like in this situation. Further, relying on "common sense" to supply a claim limitation is

---

[3] Exhibit 1003, 78; See also Exhibit 1006, xxxix-xl

[4] *Arendi S.A.R.L. v. Apple Inc.*, Appeal No. 2015-2073, (August 10, 2016) p. 10.

suspect when the missing limitation is not "simple" and the technology not "straightforward," and especially so when the limitation is central to the claimed subject matter.

Still yet, the *Arendi* court warned that, especially in the context of a missing claim limitation, resorting to common sense "cannot be used as a wholesale substitute for reasoned analysis and evidentiary support."[5] In this case and the related matters, as will be established below, the Petitioner blatantly relied on expert testimony to meet complex missing elements that are central to the claimed subject matter, via conclusory statements (not a "reasoned analysis") without evidentiary support, in blatant disregard of the factors of *Arendi*. To this end, this Petition should fail.

For these reasons as explained more fully below, the Petitioner failed to show that there is a substantial evidence to support its position that the claims of the '355 patent are obvious over Simpson, Lyon and Goldfarb. Accordingly, the Board should not cancel any of the claims of the '355 patent.

---

[5] *Id.*

II. BACKGROUND

A. Prior Art Markup Language Documents[6]

Inventor Russell T. Davis pioneered several inventions related to
Reusable Data Markup Language including, but not limited to, the '355
patent.[7] As discussed below, these patents provided numerous advantages over
prior art Markup Languages.[8]

In the late 1990's when numbers were treated the same as letters (text) in
software programs, both online and offline, e-Numerate's key technical
advancements allowed numbers to be substantively treated as the numerical
values they represent.[9] This opened the computer world, both online and

---

[6] It should be noted that the following exemplary citations to the specification
and/or advantages are for illustrative purposes only, as there may be others
and some covered systems/methods may omit one or more of the same. Thus,
such exemplary citations should not be deemed limiting to the claim language
in any way.

[7] Exhibit 1001, 1:5-19.

[8] *Id.* at 2:1-11.

[9] *Id.* at 1:44-46.

offline, to vastly improve a user's ability to identify, manipulate, compare, convert and process numbers in software like never before.[10] The technical innovations of the '355 patent[11] are embodied in software that improves and enhances the functionalities of computer systems over the prior art.[12] The problem that they solve relates to the need for the intelligent identification and processing of numerical information on the Internet.

The Problem

In the late 1990's, the Internet was replete with numerical data but (i) there was no way of distinguishing this numerical data from text, (ii) data and analytic routines were not standardized, and (iii) calculations occurred at too low a conceptual level.[13]

---

[10] *Id.* at 2:35-46.

[11] *Id.*

[12] *See, e.g.,* Exhibit 2001, ¶ 19.

[13] Exhibit 1001, 1:44-46.

The advances of the inventions claimed in the '355 patent[14] relate to

deficiencies in the prior-art markup languages that existed at the time of the

invention.[15] These were Hyper Text Markup Language (HTML)[16] and

Extensible Markup Language (XML).[17]

Internet browsers interpret and display documents formatted in

HTML.[18] In order to distinguish the text characters to be displayed from the

information describing how the text characters are to be formatted,

"annotations" that are not visible to the viewer of the displayed document are

added to the document.[19] The HTML specification describes the use of a

markup language to include these non-displayed annotations.[20] A markup

language is a system for inserting information about the formatting and display

---

[14] *Id.*

[15] *See, e.g.,* Exhibit 2001, ¶ 21.

[16] Exhibit 1001, 1:28-38.

[17] *Id.* at 1:60-66.

[18] *Id.* at 1:39-46.

[19] *Id.* at 1:46-47.

[20] *Id.* at 1:33-36.

of a group of text characters by placing non-displayed "markup" text before

and after the group of text characters.[21] These markups, commonly known as

"tags" in online and other documents in digital format, describe the structure

and formatting of digital documents and instruct computer systems on how to

display them.[22]

HTML works only with text and images.[23] Numbers in HTML

documents are read and displayed as text characters.[24] There is no HTML tag

capable of annotating the context or meaning of numerical data appearing in a

markup document for computer systems to interpret these numerical data as

numbers representing a particular type of information instead of a simple string

of text characters.[25] At most, HTML tags can be used only to indicate the

display format (e.g., font, size, color, alignment) of numerical data.[26] For

---

[21] *Id.* at 1:33-36.

[22] *Id.* at 1:36-38.

[23] *Id.* at 1:40-41.

[24] *Id.* at 1:44-46.

[25] *Id.* at 1:51-53.

[26] *Id.* at 1:39-44.

example, a financial statement showing numbers could be displayed by computer systems running browsers, but HTML cannot be used to annotate a given number as "revenue" or "expense," or as "dollars" or "Euros," or as representing "thousands" or "millions," but rather only as a text character to be displayed in a certain way according to embedded formatting tags.[27] Consequently, computer systems running web browsers could use HTML tags to display documents containing numbers, but the HTML tags do not enable computer systems to run analytical applications that read, manipulate, combine, compare, transform or analyze the numbers, load them into a spreadsheet, or display them in a graph directly from multiple online sources.[28]

XML version 1.0 was developed in the mid-to-late 1990s to help overcome some of HTML's limitations.[29] XML, itself, does not include a set of pre-defined tags, but rather is a specification that governs the creation of tags by particular users or groups.[30] The XML specification allows developers to

---

[27] *Id.* at 9:44-50.

[28] *Id.* at 1:53-59.

[29] *Id.* at 1:60-63.

[30] *Id.* at 1:63-66.

create customized tags that, via a glossary of terms, describe the structure and

meaning of online content.[31] In other words, XML allows developers to create

their own individual markup languages.[32] Thus, a user can use XML to create

their own markup tags that annotate data characteristics that are meaningful to

that particular user.[33] But at the time of the inventions of the '355 patent[34], no

set of XML tags had been promulgated for general use, so any XML tag

taxonomy created by one user would not be compatible with the taxonomies

created by other users.[35] One user's XML tag taxonomy, whether individuals

or groups, is not ordinarily available to any other users or groups of users.[36]

XML's lack of standardization, and its separation of data from its annotations

(metadata), left users with no way to manipulate, combine, compare,

transform or analyze numerical data from singular or multiple online sources

---

[31] *Id.* at 2:2-7.

[32] *Id.* at 2:2-7.

[33] *Id.* at 2:2-7.

[34] *Id.*

[35] *Id.* at 2:7-11.

[36] *Id.* at 2:7-11.

using differing custom created XML tag taxonomies.[37] The only way to correct

the deficiency of XML was to convert unrelated documents by hand.[38]

Various Embodiments Covered by The Claimed Invention

In contrast to XML, the Reusable Data Markup Language ("RDML")

represented a significant advance over HTML and XML.[39] The patents-at-issue

in this case solve these HTML- and XML-related problems with unique tools

that allowed users for the first time to easily view, compare and analyze

numerical data on the Internet.[40] The Reusable Data Markup Language

("RDML") and RDML companion innovations pair the metadata directly

with the numerical data in machine-readable form so the numerical data could

be easily identified and used in different program applications.[41] This is a

dramatically different approach than previously used, which was to keep

---

[37] *Id.* at 2:35-38.

[38] *Id.* at 2:38-41.

[39] *See, e.g.,* Exhibit 2001, ¶ 25.

[40] Exhibit 1001, 8:14-18.

[41] *Id.* at 5:45-49.

document metadata and data itself separate from each other.[42] Without the pairing of metadata directly with the numerical data as described in the '355 patent[43], the capabilities presented in the XBRL standard would not be possible.[44] RDML companion innovations also define standards for both data formats and analytic routines[45] and enhance analytical calculation power by creating data objects at the line item and document levels.[46] This overcomes the limitations of traditional spreadsheets which operate only at the cell (single number) level.[47]

Reusable Data Markup Language provides RDML tags for data characteristics that HTML lacked and supplies a set of tags for content and meaning of numbers for general use, which is missing in XML.[48]

---

[42] *Id.* at 1:63-66.

[43] *Id.*

[44] *Id.* at page 2.

[45] *Id.* at 10:38-39.

[46] *Id.* at 15:59-63.

[47] *Id.* at 2:30-34.

[48] *Id.* at 9:4-11.

…Continued

A suite of software applications has been developed to create documents with RDML tag markups, read or parse the RDML documents, display them as graphs or in tree views, combine and compare data from multiple online sources, and manipulate, transform and analyze numerical data from multiple online sources.[49] RDML permits the browsing and manipulation of numbers, and allows the "RDML Data Viewer" to act as a combination Web browser and spreadsheet/analytic application that automatically read numbers from multiple online sources, understand their meaning, and manipulate them without human intervention.[50]

RDML encodes information about numbers in tags that relate to each number.[51] The encoded information is connected with the numbers themselves and the tags move with the numbers when the numbers are ported.[52] By

---

[49] *Id.* at 17:1-7.

[50] *Id.* at 17:7-14.

[51] *Id.* at 4:11-16.

[52] *Id.* at 4:11-16.

associating the numbers with the numbers' attributes and making it machine-readable, RDML facilitates browsing for and processing numbers.[53]

The RDML Data Viewer is an "Application" in accordance with the XML Specifications.[54] The RDML Data Viewer accesses information contained in an XML-formatted document by invoking the XML Processor to obtain individual data elements based on their "extended" tags that have been defined in accordance with the "extensibility" features of XML.[55] The RDML Data Viewer automates the process of merging the tagged elements derived from documents written in different formats and languages into a single, standardized data set.[56] Where there are conflicts, the RDML Data Viewer automatically resolves the conflicts between the characteristics of the varying documents to create a standard set of tags using the RDML taxonomy.[57] The RDML Data Viewer also provides a macro development and management

---

[53] *Id.* at 3:51-61.

[54] *Id.* at 8:46-52.

[55] *Id.* at 9:4-11.

[56] *Id.* at 9:50-52.

[57] *Id.* at 11:21-27.

scheme that allows users to create reusable custom routines for the

manipulation, transformation and display of RDML-formatted data.[58] By

defining standards for data characteristics and content-analysis, RDML

addresses the problems caused by XML's use of customized tagging making

RDML applicable for general use.[59]

The Impact of the Improvements of the '355 Patent

The claimed invention covers "Pairing the metadata directly with the

numerical data in machine-readable form so the numerical data could be easily

identified and used in different program applications."[60] This has never been

done.

The inventions claimed in the '355 patent[61] were invented prior to the

creation of the XBRL standard.[62] Prior art, as embodied in HTML and XML

---

[58] *Id.* at 8:60-62.

[59] *Id.* at 10:17-19.

[60] *Id.* at 5:45-49.

[61] *Id.*

[62] *Id.* at page 2.

at the time of the filing of the '355 patent[63], did not provide any metadata (i.e.,

information about the attributes or characteristics of a data element) beyond

simple display formatting.[64] Without these attributes and characteristics, it was

not possible for a human or a computer to select, process, combine or output

data elements without resorting to human intervention to find, associate and

take into account how the appropriate attributes and characteristics would

affect the selection, processing, combination and outputting activities.[65] For

example, financial statements, such as those submitted to the SEC, contain

numeric values for typical accounting data items types such as "Assets,"

"Balances," "Cash," etc.[66] To organize the multiple occurrences of these items,

accountants would create financial statements such as "Balance Sheets,"

"Income Statements," etc., that typically have formats that hierarchically

display and summarize these accounting items in a manner that reflects how

the individual organization or organizational unit represents its financial

---

[63] *Id.*

[64] *Id.* at 1:36-38, 1:63-66.

[65] *Id.* at 2:35-41.

[66] *Id.* at 9:44-50.

…Continued

condition.[67] Before the introduction of the inventive concepts contained in the

'355 patent[68], there were no tools that could automatically associate individual

accounting data items with the appropriate sections of the organization's

financial statements.[69] Typically, the organization would have to rely on its

senior financial accountants to manually select, analyze, combine, and format

accounting items in a manner that corresponded to that organization's

Financial Statement situation.[70] Thus, each iteration of Financial Statement

preparation required a large amount of human intervention to create a

Financial Statement that faithfully adhered to the "letter" and "intent" of the

generally accepted accounting standards due to the lack of a means to capture

and utilize the required metadata.[71] The '355 patent[72] provides these

---

[67] *Id.* at 9:44-50.

[68] *Id.*

[69] *Id.* at 5:45-52.

[70] *See, e.g.,* Exhibit 2001, ¶ 31.

[71] *Id.*

[72] Exhibit 1001.

capabilities which are not addressed by either HTML or XML.[73] The

continuing significant efforts by the Financial Accounting Standards Board

(FASB) and the XBRL International organization to grow and expand the

Extensible Business Reporting Language are a testament to the necessity and

value of the inventions contained in the '355 patent.[74] The SEC is currently

performing cross-financial entity and cross-industry "data mining" activities to

better understand financial trends and to better discover improprieties by

comparing financial entities.[75] These activities would not be possible without

the ability of different program applications to utilize the inventions contained

in the '355 patent.[76]

One embodiment covered by the claimed invention also seeks to "define

standards for both data formats and analytic routines."[77]

---

[73] *See, e.g.,* Exhibit 2001, ¶ 31.

[74] Exhibit 1001.

[75] *See, e.g.,* Exhibit 2001, ¶ 31.

[76] Exhibit 1001.

[77] *Id.* at 10:38-39.

Before the introduction of the inventions contained in the '355 patent[78]

the preparation of financial statements involved the manual selection, analysis,

combination, and outputting of numerical data items based on the best efforts

of the organization's senior accountants and later accepted as appropriate by

Certified Public Accountants.[79] Without defined standards for capturing and

accessing both numerical data attributes and characteristics, the selection of

appropriate data formats and analytic routines could not be performed

automatically by either human or machine.[80] The '355 patent[81] provides a

mechanism to capture the metadata required to identify the attributes and

characteristics of each numerical data element, and thereby allow the

automated selection of the appropriate analytic routines based on the metadata

associated with those analytical routines.[82] For example, an international

organization may operate in several political jurisdictions, each having their

---

[78] *Id.*

[79] *See, e.g.,* Exhibit 2001, ¶ 33.

[80] Exhibit 1001, 10:17-19.

[81] *Id.*

[82] *Id.* at 12:60- 13:3.

own financial regulations, reporting formats and analytical processing

procedures.[83] For the international organization to produce a combined

Financial Statement of Condition, the financial statement within each

jurisdiction must first be created and then combined into a consolidated

financial statement.[84] To facilitate this consolidation, senior international

accountants would have to manually identify the variations associated with

each jurisdiction and determine how these diverse statements of financial

condition could be combined.[85] One embodiment covered by the claimed

invention provide a mechanism to capture the necessary numerical data, item

metadata, and analytical processing routine metadata to facilitate the required

association of numerical data to routines needed to automatically produce

combined financial statements without manual human intervention.

---

[83] *Id.* at 49:58-62.

[84] *Id.* at 49:58-62.

[85] *See, e.g.,* Exhibit 2001, ¶ 33.

One embodiment covered by the claimed invention involves "enhance analytical calculation power by creating data objects at the line item and document levels."[86]

Prior art at the time of the filing of the '355 patent[87] only provided for the automated display of structured data using HTML[88] or XML.[89] While these display structures provided an elementary "visual" representation of the relationship between the data elements, there was no standard way of capturing these relationships in a manner that this information could be stored and accessed by human or automated processes.[90] The '355 patent[91] provides a mechanism to capture and utilize these types of relationships.[92] For example, financial transactions typically might consist of a date, description, multiple

---

[86] *Id.* at 15:59-63.

[87] *Id.*

[88] *Id.* at 1:28-38.

[89] *Id.* at 1:60-66.

[90] *Id.* at 10:17-19.

[91] *Id.*

[92] *Id.* at 12:60-13:3.

…Continued

account identifiers (e.g., debit, credit, distribution, etc.) and amounts for each.[93] In a manual or automated accounting system, these components of a financial transaction would typically be stored together in an information processing system (e.g., "data base").[94] Without the inventions contained in the '355 patent[95], there would be no automated way of unambiguously capturing these elements presented in an HTML or XML document due to the lack of the necessary metadata.[96]

One possible embodiment of the Reusable Data Markup Language (RDML) includes "A set of tags to encode attributes and meaning of numbers."[97] RDML encodes information about numbers in tags that relate to each number, which is connected with the numbers themselves and the tags move with the numbers when the numbers are ported."[98]

---

[93] *Id.* at 9:44-50.

[94] *Id.*

[95] *Id.*

[96] *Id.* at 2:35-41.

[97] *Id.* at 9:4-11.

[98] *Id.* at 4:11-16.

Prior art at the time of the filing of the '355 patent[99] did not provide a

mechanism to identify numerical data element attributes, characteristics,

formats or relationships.[100] For example, an information system would

typically store structured data, such as financial transactions, in a "database"

system that preserved record or "line item" relationships for a collection of

related transactions (i.e., a business document).[101] Typically, the metadata

describing these record and data element characteristics would be stored in the

"schema" subsystem of the database system.[102] However, there was no

universal mechanism to store and share the metadata describing the structure

of the records, the metadata of the individual data elements within each

record, the metadata describing the relationship among different records

representing a transaction, nor the semantic meaning of the data elements.[103]

For example, an "invoice" might consist of various information about the

---

[99] *Id.*

[100] *Id.* at 1:51-53.

[101] *Id.* at 9:44-50.

[102] *Id.* at 11:4-7.

[103] *Id.* at 11:7-13.

supplier (e.g., name, address, tax id, etc.), consumer (e.g., name, address, tax id, etc.), and individual invoice line items (e.g., item identifier, description, dimensions, cost, etc.) .[104] Without RDML's encoding of attributes and meaning, each time information from one information system (manual or automated) was to be shared with another information system, a "mapping" of all of these data elements had to be manually created.[105] Various embodiments covered by the claimed invention provide for automated sharing of the metadata necessary for information to be shared among information systems without manual intervention.[106]

RDML also includes "A suite of applications that create documents with RDML tag markups, read or parse the RDML documents, display them as graphs or in tree views, combine and compare data from multiple online sources, and manipulate, transform and analyze numerical data from multiple online sources."[107]

---

[104] *See, e.g.,* Exhibit 2001, ¶ 37.

[105] *Id.* at 2:41-46.

[106] *Id.* at 24:18-22.

[107] *Id.* at 17:1-7.

…Continued

The '355 patent[108] includes the specifications for the implementation of automated information application systems to provide the benefits of various embodiments covered by the claimed invention, and the implementation specifications for the "RDML Data Viewer" describe the mechanisms necessary to provide the benefits of such embodiments.[109] Just as the "dial telephone" enhanced the efficiency and ease of use of the telephone system beyond that experienced when human operators were necessary to make a telephone call, the RDML Data Viewer provides for the automated creation and sharing of the metadata necessary for information systems (manual or computerized) to more efficiently share and use complex structured information without the necessity for manual creation of "mappings" each time a new pair of information systems need to share information.[110]

Further, embodiments covered by the claimed invention have numerous advantages over prior art systems such as Excel.[111] For example, if a person

---

[108] *Id.*

[109] *Id.* at 17:7-14.

[110] *Id.* at 9:50-52.

[111] *Id.* at 11:14-17.

…Continued

had an Excel spreadsheet with a column entitled "Pound" along with numbers

in that column, without additional metadata, it would not be clear whether the

column heading "Pound" was a unit of measure for the weight of an object or

a unit of measure for British currency.[112] All the ways in which this

information in the "Pound" column could be combined for use in conjunction

with other data in the spreadsheet was not indicated since metadata about its

semantic meaning was not available in the spreadsheet itself.[113] While Excel

spreadsheets can encode formulas, formats and relationships, the encoding of

this information is unique to the layout of each individual spreadsheet.[114]

When new or different analyses or outputs are required, the spreadsheet must

be manually modified in structure and analytical content to provide the desired

results.[115] While "templates" were available to define generic documents, such

as invoices, these were required to have been manually revised to deal with

each specific situation since the spreadsheet structure was not based on the

---

[112] *See, e.g.,* Exhibit 2001, ¶ 40.

[113] Exhibit 1001, 49:63-66.

[114] *Id.* at 52:9-15.

[115] *Id.* at 12:27-33.

semantic meaning of the numerical data elements nor universal concepts of how the data elements in a specific template can be selected, analyzed, combined and output.[116] The '355 patent[117] provides the ability to analyze and share this information among manual and automated information systems by recording both semantic meaning and macros that embody logical tests to select the appropriate processing based on this and other data elements contained in the document.[118]

Additionally, the '355 patent[119] reveals particular advantages when dealing with macros.[120] Some analysts considered a macro a "shortcut" which appears to imply the "recorded series of steps" required to achieve a given computation or formatting result.[121] For example, such a "shortcut" might be recorded in spreadsheet "formula" to sum a column of numbers and combine

---

[116] *Id.* at 12:4-9.

[117] *Id.*

[118] *Id.* at 12:9-11.

[119] *Id.*

[120] *See, e.g.,* Exhibit 2001, ¶ 41.

[121] Exhibit 1001, 10:41-44.

that sum with other sums.[122] However, that formula would be only related to

the set of cells that the analyst identified during the construction of the

formula, and the rationale used in creating that formula would not be recorded

in a way that a human or automated process could access or evaluate.[123]

RDML standardizes the recording of these steps in a "macro" that includes the

identification of the specific data items that these steps apply to by specifying

the data element metadata needed to determine which data elements are to be

selected and how they are to be processed given their individual attributes and

characteristics.[124] Further, RDML stores this information in a "Second

Document" (i.e., external file) that is accessible on the Internet so that it can be

used by any process related to the specific data elements involved.[125] For

example, XBRL uses such external "linkbase" files containing "rules" (i.e.,

"Macros") that perform "recorded series of steps" (i.e., "shortcuts" or

"calculations") but also contain rules for data validation, data element

---

[122] *Id.* at 10:41-44.

[123] *Id.* at 10:44-46.

[124] *Id.* at 10:46-51.

[125] *Id.* at 12:64-13:3.

combination and transformation that are based on metadata that identify the attributes and characteristics of the data element (e.g., "Fixed Asset" vs. "Financial Asset") rather than the specifics of a spreadsheet template.[126] The '355 patent[127] invents the solution to the data sharing problem by storing semantically sensitive Macros in universally accessible "Second Documents" available to all human and automated processors on the Internet.[128]

The inventions of the '355 patent[129] cannot simply be performed "by hand."[130] At least one embodiment covered by the claimed invention addresses the problem of combining information from data elements that are in different formats and units of measure in two different documents.[131] For example, the financial statement for a company's U.S. and Canadian divisions might record

---

[126] *Id.* at 13:9-14.

[127] Exhibit 1001.

[128] *Id.,* at 12:64-13:3.

[129] *Id.*

[130] *Id.,* at 26:30-33.

[131] *Id.,* at 2:35-41.

…Continued

information related to fixed assets in different formats and units of measure.[132]

Prior art before the filing of the '355 patent[133] would not encode the metadata

necessary for a human or automated process to unambiguously identify the

attributes and characteristics of similarly named numerical data elements so

that these differing data elements could be combined to yield an identified

result.[134] Various embodiments covered by the claimed invention provide for

the encoding of the attributes and characteristics in the "First Document" and

a mechanism to access the selection, analysis, processing and output

formatting information contained in a "Second Document" on the Internet.[135]

For a human to perform the required process "by hand," the human would

have to have access to the specific set of instructions that would apply to the

specific document and data elements to be processed.[136] Without the semantic

---

[132] *Id.* at 9:44-50.

[133] *Id.*

[134] *Id.,* at 4:11-16.

[135] *Id.,* at 12:64-13:3.

[136] *Id.* at 12:27-30.

relationship capabilities invented by the '355 patent[137], a human could not

unambiguously locate these recorded steps by hand.[138] Even if a human was

provided with a document containing the processing steps, prior art did not

provide for the encoding of the necessary metadata needed to ensure that,

based on the attributes and characteristics of the data elements to be combined,

they would qualify for the application of the selected process.

The use of semantic tags in various embodiments (covered by the

claimed invention) is a major breakthrough of the patented inventions.[139] As

used in the '355 patent[140], the term "semantic tags" is discussed as including, in

addition to the association of a descriptive "name" with a data item (e.g.,

"Pounds"), additional attributes and characteristics information is recorded.[141]

These additional attributes and characteristics provide semantic meaning,

allowing the RDML Data Viewer to select, analyze, process and output results

---

[137] *Id.*

[138] *Id.,* at 2:35-41.

[139] *Id.,* at 3:5-12.

[140] *Id.*

[141] *Id.,* at 3:5-12.

based on information stored in universally accessible "Second Documents" stored on the Internet.[142] While the '355 patent[143] does not claim the invention of semantic tags, RDML invented the use of semantic tags to enable the unambiguous selection, analysis, processing and outputting of information based on the information contained in the semantic tags that were not prior art at the time of patent filing.[144]

Various embodiments covered by the claimed invention are more than merely XML.[145] XML's specifications define a syntax for writing documents containing "character data entities" and associated "markup entities."[146] This syntax for writing serves the same purpose English grammar provides as a syntax for writing prose.[147] XML by definition is extensible, allowing the creation of XML-compliant documents that can be accessed by any human or

---

[142] *Id.* at 12:64-13:3.

[143] *Id.*

[144] *Id.,* at 49:63-66.

[145] *See, e.g.,* Exhibit 2001, ¶ 44.

[146] Exhibit 1001, 1:63-66.

[147] *See, e.g.,* Exhibit 2001, ¶ 44.

automated process that has access to the Internet.[148] Various embodiments

covered by the claimed invention utilize XML-compliant document formats to

ensure that all available Internet "Applications" can interface with the "XML

Processor" described in the XML specifications to "read" the document's

contents.[149] Using the XML-compliant document formats, the '355 patent[150]

implements various embodiments for using semantic tags to select, analyze,

process and output results claimed and not within the capabilities provided by

the XML specification.[151]

The '355 patent[152] uses the XML syntax and the "XML Processor" as an

established and universal method of accessing formatted information on the

Internet.[153] The '355 patent[154] utilizes semantic tags defined using the

---

[148] Exhibit 1001, 1:63-66; 2:1-3.

[149] *Id.,* at 9:4-11.

[150] *Id.*

[151] *Id.,* at 12:64-13:3.

[152] *Id.*

[153] *Id.,* at 9:4-11.

[154] *Id.*

extensibility features of XML to record information used by the "RDML Data Viewer" to provide the invented capabilities for selecting, analyzing, processing and outputting information based on the values of those semantic tags and the information contained in "Second Document(s)" as described in the '355 patent.[155] The '355 patent[156] is not simply a "dialect" of XML, rather it utilizes the XML-compliant document format as a platform for deploying the inventive concepts in a manner that is universally accessible on the Internet.[157] XML's limitation to providing an extensible syntax for accessing "character data entities" and "markup entities" through the XML Processor does not in any way support the implementation of these inventions.[158]

---

[155] *Id.,* at 9:4-11.

[156] *Id.*

[157] *Id.,* at 12:64-13:3.

[158] *Id.* at 1:63-66; 2:1-3.

Further Points Regarding Technical Advancement of the Various

Embodiments Covered by the Claimed Invention

Various embodiments covered by the claimed invention represent a

significant advance over XML and HTML since they invent the ability to view

and select data through semantic tags identifying attributes and characteristics

beyond the limited formatting capabilities of HTML and XBRL[159] and the

ability to automatically invoke processing procedures ("Macros") that are

stored in external "Second Documents" accessible on the Internet.[160] (Note

that these Macros embody procedures that would be necessary for processing

by a human or computer.[161]), compare, combine, and analyze numerical data

on the Internet.[162]

The patents are not simply XML inventions because the claims do not

use "XML elements." Although the preferred embodiment of the '355 patent[163]

---

[159] *Id.* at page 2.

[160] *Id.* at 12:64-13:3.

[161] *Id.* at 12:27-30.

[162] *Id.* at 1:53-59.

[163] *Id.*

is XML-compliant, that does not mean that the tags used in the patented invention merely include XML tags.[164] The patents use the International XML document syntax (or format) and the XML extensibility features to add the inventive capabilities claimed, thus ensuring that all computers and humans can receive, interpret and process the documents using existing computer systems.[165]

As a further point about allegedly performing the claimed inventions "by hand," that is not possible.[166] Without various embodiments covered by the claimed invention to semantically link XML character data entities to external second documents, a human would not have access to the selection, macro, output and document combination information contained in the second documents needed to be able to perform these embodiments by hand.

---

[164] *Id.,* at 12:64-13:3.

[165] *Id.* at 9:4-11.

[166] *Id.* at 26:30-33.

…Continued

B.   The '355 Patent[167]

With regard to the '355 patent[168] dealing with macros, the human would not have unambiguous identification of the specific XML "character data entity" attributes needed to select the appropriate Macro.[169]

III. DESCRIPTION OF THE PRIOR ART

A.   Simpson (Ex. 1005)

Simpson is a user guide that describes the structure and operation of the Microsoft Access 97 database management system software.[170] Simpson teaches that the Access database software could import or link data into the

---

[167] It should be noted that the following exemplary citations to the specification and/or advantages are for illustrative purposes only, as there may be others and some covered systems/methods may omit one or more of the same. Thus, such exemplary citations should not be deemed limiting to the claim language in any way.

[168] Exhibit 1001.

[169] *Id.* at 12:27-30.

[170] Exhibit 1005.

database from a wide variety of file formats, including hypertext markup
language ("HTML") tables.[171]

Simpson is unable to import structured data from a file and instead
utilizes Input Wizards (e.g. Table Wizard, HTML Import Wizard, etc.) to
create tags (i.e. field names) for the data as it is imported into a blank table.[172]
The Input Wizards require user input to define the type of file formatting (e.g.
csv, xls, etc.).[173] Additionally, the Input Wizards require user input to create
tags (i.e. field names, indexing, data type, etc.) for the data.[174] The Input
Wizards will, by default, automatically select the first row of data in a file as
the proposed field name.[175] The user can then either accept the default

---

[171] *See id.* at 209−40.

[172] *See id.* at 156-157, 237-238.

[173] *See id.* at 214-215, 231-232, 235, 238.

[174] *See id.* at 225-233, 236, 238-239.

[175] *See id.* at 225-228, 230-233, 238.

selection or change the field names.[176] The data in the table can then be

associated with a database structure for a user.[177]

Simpson also teaches that the Access database software can create

dynamic links to the database in output documents, such as reports, or in

HTML tables published to the World Wide Web.[178] Also, Simpson further

teaches that field names and metadata fields within the database can be used to

tag data in the database records with semantic meaning that can be utilized by

the software in queries and calculations.[179] However, when exporting HTML

files, tags relating to background, logos, navigation buttons, and text styles are

not inserted into the published file unless the user specifies and applies an

HTML template file.[180] The HTML template, which is separate from the

---

[176] *See id.*

[177] *See id.* at 229-230, 234-235, 237-239.

[178] *See id.* at 126, 247−50, 445−72.

[179] *See id.* at 74, 359−414, 419−33, 742−44.

[180] *See id.* at 247-249, 642-646.

…Continued

imported data, includes settings relating to presentation of the data as it is being outputted.[181]

B. Goldfarb (Ex. 1006)

The XML Handbook was written by Charles Goldfarb – the inventor of XML's parent language SGML – and Paul Prescod – a member of the of the World Wide Web Consortium XML team. It describes what a markup language is, what XML is, how XML works, and the improvements XML brings to the World Wide Web.[182] *The XML Handbook* also teaches the structure and function of XML.[183] For example, *The XML Handbook* explains that XML is used for digital representation of documents, using "elements" to represent the logical components of a document and "attributes" to describe properties of the elements.[184]

---

[181] *See id.*

[182] *See generally* Exhibit 1006; *see also id.* "About the Authors" (back cover).

[183] *See, e.g., id.* at 33-47.

[184] *See id.* at 34-35.

The structure and function of XML "allows us to do more precise searches, deliver software components, describe such things as collections of Web pages and electronic commerce transactions, and much more."[185] *The XML Handbook* explains that at the time the book was published as of 1998, XML had already impacted "all types of applications from words processors and spreadsheets to database managers and email. More and more, such applications are reaching out to the Web, tapping into the power of the Web, and it is XML that is enabling them to do so."[186]

In addition to describing the structure and function of XML in general, *The XML Handbook* includes several use cases discussing how XML has been and could be implemented in the real world to improve computing systems. In one such use case, *The XML Handbook* teaches an XML visual editing and publishing tool for a government filing applications, such as the SEC's EDGAR reporting system.[187] Specifically, *The XML Handbook* teaches the use of Document Type Definitions (DTDs) associated with EDGAR to facilitate

---

[185] *Id*. at xxxv.

[186] *Id*. at xxxvi.

[187] *Id*. at 153-62.

…*Continued*

the reporting of financial data, such as SEC 10-K filings.[188] As such, an XML

document may be used as a basis for submitting compliant data to a

government agency.[189]

Moreover, *The XML Handbook* clarifies that XML is not the same as

HTML.[190] For example, "XML data is smart data. HTML tells how the data

should look, but XML tells you what it means."[191] Additionally, XML "differs

from HTML because it contains the actual abstract data, not the look of the

screen."[192] The book repeatedly expounds these differences, using examples

such as the following:

"In HTML:

<p>P200 Laptop

Friendly Computer Shop

$1438

---

[188] *See id*. at 41, 154-58.

[189] *See id.* at 24.

[190] *See id*. at xxxix, x, 7, 15-17, 22-24, 26-27, 55-58, 73-75.

[191] *Id*. at x.

[192] *Id*. at 74.

In XML:

<product>

<model>P200 Labtop</model>

<dealer>Friendly Computer Shop</dealer>

<price>$1438</price>

</product>."[193]

Further, XML was intended to overcome deficiencies present in

HTML.[194] For example, XML allowed for document types to be formally

defined, which was explicitly absent from HTML.[195] Additionally, unlike

HTML, XML validates data and may be used to deliver personalized data.[196]

Further, XML improves upon HTML by decreasing download times,

decongesting servers, and simplifying code.[197]

---

[193] *Id.* at xxxix.

[194] *See id.* at xxxix, x, 7, 15-17, 22-24, 26-27, 55-58, 73-75.

[195] *See id.* at 17, 26-27, 55-56.

[196] *See id.* at xxxv-xxxvi, 22-24.

[197] *See id.* at 22-24, 55-56.

C.   Lyons (Ex. 1007)

Lyons (U.S. Patent No. 5,189,608) teaches a data processing system that stores tagged financial (numerical) data in a database.[198] The system of Lyons allows the user to tag numerical data with characteristics of that data, including, for example, the currency type (e.g. U.S. dollars) and the denomination/data precision (e.g. whether the input amount is in thousands, millions, etc.).[199] It also teaches transforming financial data in multiple formats into a standardized format and outputting information in a desired format.[200]

In use, in order to interpret inputted data, Lyons teaches that an input template needs to be provided to function as structured gateways for inputting data.[201] Additionally, a hierarchy allows the user to define a structure of the entity, and a dictionary defines valid types and periods for which data can be

---

[198] *See* Exhibit 1007 at 2:39-54.

[199] *See id*. at 11:38-64.

[200] *See id*. at 3:3-9, Abstract.

[201] *See id*. at 8:3-27.

entered.[202] As such, "the user must specify the relationship between the data in whatever format it is found in the input file and the format in which it is desired to be arranged in the system database."[203]

Lyons teaches that reports based on data stored in the database can be generated.[204] Additionally, a user can specify, for example, the data precision and currency to be displayed in the reports.[205] Lyons further teaches that numerical values, such as currency, can be converted using, for example, a currency conversion function.[206]

IV. CLAIM CONSTRUCTION

In its Petition, Merrill proposed constructions for several of the claim terms in the '355 patent and the Board has adopted these constructions. For purposes of this proceeding only, the Patent Owner does not dispute the

---

[202] *See id*. at 8:3-27.

[203] *Id*. at 10:3-34.

[204] *See id*. at 26:15-32.

[205] *See id*. at 17:39-18:1, 21:60-63.

[206] *Id*. at 3:23-25.

proposed and adopted constructions. The Patent Owner reserves the right to take a different position in any District Court proceeding.

V. PETITIONER FAILED TO DEMONSTRATE THAT THERE IS SUBSTANTIAL EVIDENCE THAT ANY OF THE CHALLENGED CLAIMS ARE OBVIOUS

The Petitioner advances two sets of obviousness grounds. The first set is based on Simpson alone and then based on Simpson in view of Goldfarb. The second set of obviousness grounds is based on Lyons alone and then based on Lyons in view of Goldfarb.[207]

Unless otherwise indicated, the arguments below apply to all claims challenged in the Petition. The Petitioner incorporates its claim 1 arguments into the sections of the Petition pertaining to the other challenged independent claims, claims 27, 28 and 54.[208]

In this and related matters (IPR2018-01389; IPR2018-01391; IPR2018-01392), the Petitioner blatantly relied on expert testimony to meet missing elements in the context of both single and double reference attacks. As

---

[207] *See* Petition, pp 16-68.

[208] *See* Petition, pp 25-30, 41-46, 55-61, and 62-68.

established by the Federal Circuit, "common sense is typically invoked to provide a known motivation to combine,"[209] not a claim limitation, like in this situation. Further, relying on "common sense" to supply a claim limitation is suspect when the missing limitation is not "simple" and the technology not "straightforward," and especially so when the limitation is central to the claimed subject matter.

Still yet, the *Arendi* court warned that, especially in the context of a missing claim limitation, resorting to common sense "cannot be used as a wholesale substitute for reasoned analysis and evidentiary support."[210] In this case, the conclusory statements by the Petitioner's expert is, by no means, a "reasoned analysis." Further, the Petitioner's expert offers no evidentiary support for such conclusory statements made in connection with the claim limitations that are missing from the cited art.

In this case and the related matters, as will be established below, the Petitioner blatantly relied on expert testimony to meet complex missing elements that are central to the claimed subject matter, and without evidentiary

---

[209] *Arendi S.A.R.L. v. Apple Inc.*, Appeal No. 2015-2073, (August 10, 2016) p. 10.

[210] *Id.*

support, in blatant disregard of the factors of *Arendi*. To this end, this Petition

should fail.

A. Grounds 1 & 2: Simpson Or Simpson In View Of Goldfarb Does Not Render Claims 1, 27, 28, And 54 Obvious

1. Petitioner Fails To Establish That Either Simpson Or Goldfarb Disclose "generating at least one second title corresponding to results of the operation"

Claim 1 requires "generating at least one second title corresponding to

results of the operation,"[211] in the specific context claimed. A non-limiting

example of such claim limitation is illustrated in Figure 6 (reproduced below)

of the '355 patent by steps 606 and 608 where the databases return the results

to the server, and the server creates an RDML document.[212]

---

[211] Exhibit 1001, col. 56, ll. 46-47.
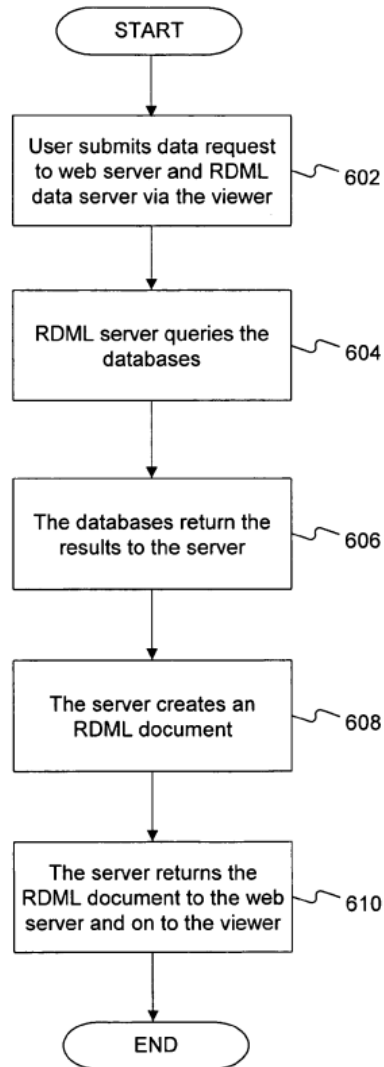
[212] Exhibit 1001, Figure 6.

FIG. 6

Ground 1

The Petitioner alleged that Simpson teaches this claim limitation.[213] In

particular, in an attempt to meet the above claim element, the Petitioner only

argues that "[i]n the example from *Mastering Access 97* discussed immediately

---

[213] Petition, p. 21.

above, the displayed field titles "SaleTaxRate," "SalesTax," and "TotalSale" are each correlated to the result of an operation performed by the macro on numerical data."[214]

Assuming *arguendo* that the Petitioner's above argument is persuasive (which it is not), such cited evidence and associated argument do not address the Patent Owner's claimed "generat[ing] at least one second title corresponding to results of the operation," in the specific context claimed.[215] For example, the Petitioner simply refers to the "SaleTaxRate," "SalesTax," and "TotalSale" which are sourced from the original data.[216] To this end, the "second title," required by the claim, is not *generated* (only new values are), and a "second title" is certainly not generated that "correspond[s] to results of the operation," in the specific context claimed.[217] Thus, there is no disclosure of a **generation** of the "second title," in the specific context claimed.[218]

---

[214] *Id.*

[215] Exhibit 1001, col. 56, ll. 46-47 (emphasis added).

[216] Petition, p. 21.

[217] Exhibit 1001, col. 56, ll. 46-47 (emphasis added).

[218] *Id.*

To establish a prima facie case of obviousness, three basic criteria must be met. First, there must be some suggestion or motivation, either in the references themselves or in the knowledge generally available to one of ordinary skill in the art, to modify the reference or to combine reference teachings. Second, there must be a reasonable expectation of success. Finally, the prior art reference (or references when combined) must teach or suggest all the claim limitations. The teaching or suggestion to make the claimed combination and the reasonable expectation of success must both be found in the prior art and not based on applicant's disclosure.[219]

The Patent Owner respectfully asserts that at least the third element of the prima facie case of obviousness has not been met, since the prior art excerpts, as relied upon, fail to teach or suggest all the claim limitations, as noted above.

---

[219] *See, e.g., In re Vaeck*, 947 F.2d 488, 20 USPQ2d 1438 (Fed.Cir.1991).

Ground 2

The Petitioner alleged that Simpson in combination with Goldfarb teaches this claim limitation.[220] The Patent Owner incorporates the arguments above from Ground 1 in connection with the present arguments for Ground 2.

In an attempt to meet the above claim element, the Petitioner only argues that "[i]t would have been obvious to a POSITA that when the numerical values of the dimensions of each painting are transformed from inches to centimeters, the corresponding title of 'inches' would likewise change to 'centimeters.'"[221]

To support this assertion, the Petitioner offers the following expert testimony:

> Based on the Auction Demo example, it would have been obvious to a POSITA to access data from two different sources of XML documents (such as Gallery 3), thus providing two markup documents containing items whose dimensions are given in two different units of measure (inches versus centimeters). A POSITA would have found it obvious that if one data source measured dimensions in inches, and another in centimeters, the system in the Auction Demo example could simply multiply the values contained in one of the data sources by the well-known ratio of inches to centimeters in order to store both sets of data together as a single markup document. (*See, e.g., id.* at 89-90.) A POSITA would

---

[220] Petition, p. 39.

[221] Petition, p. 39.

recognize that tags specifying units of measure, such as inches versus centimeters, are semantic tags. A POSITA would also have found it obvious to place the script for converting from inches to centimeters in a macro. It would further have been obvious to have such a script or macro change the legend displayed on the table from "inches" to "centimeters" in conjunction with displaying the converted values."[222]

Contrary to the expert testimony, it would <u>not</u> have been obvious to have a script or macro change a "legend" displayed on the table from "inches" to "centimeters" in conjunction with displaying the converted values. First, there is no disclosure of any "legend" in *The XML Handbook.* Secondly, in view of such lack of disclosure, it appears that the Petitioner's expert is clearly engaging in the creation of hypothetical possibilities, in order to meet the missing claim element. This is evidenced by such expert's <u>own admissions</u>.

Specifically, the Petitioner's expert opined that "the system in the Auction Demo example **<u>COULD</u>** simply multiply the values contained in one of the data sources by the well-known ratio of inches to centimeters in order to store both sets of data together as a single markup document."[223] Clearly, by opining that the demo **<u>COULD</u>** allegedly be used to meet the claim limitations at issue, the Petitioner's expert has <u>admitted</u> that the claim limitations at issue

---

[222] Exhibit 1003, ¶ 70.

[223] *Id.*

are <u>not</u> taught by the cited prior art.   Thus, the Petitioner is clearly attempting

to fill this <u>admittedly</u> *missing* claim element, based <u>solely</u> on the above expert

testimony. This is improper.

As set forth by the Federal Circuit, "common sense is typically invoked

to provide a known motivation to combine,"[224] <u>not</u> a claim limitation, like in

this situation. Further, relying on "common sense" to supply a claim

limitation is suspect when the missing limitation is not "simple" and the

technology not "straightforward," and especially so when the limitation is

central to the claimed subject matter. In this case, the Examiner cited the

present claim limitations at issue, in the Notice of Allowance (excerpted-

annotated below):[225]

---

[224] *Arendi S.A.R.L. v. Apple Inc.*, Appeal No. 2015-2073, (August 10, 2016) p.

10.

[225] Exhibit 1002, p. 1122 (emphasis added).

Allowable Subject Matter

2.   Claims 1, 4-28, 31-34, 37-47, 50-61, 64-68 are allowed.

The prior arts of record al alone or in combination, does not teach or fairly

suggest combination of steps as recited in independent claims 1, 33, 34, and 66,

wherein:

generating at least one first title corresponding to the series of numerical values;

performing an operation defined by the macro on the series of numerical values

to transform the series of numerical values into a new representation of the series of

numerical values based on the tags;

generating at least one second title corresponding to the results of the operation;

and displaying the results of the operation and the at least one second title, wherein:

the macro makes a copy of the series of numerical values before the operation is

performed[[.]], the macro comprises at least one arithmetic statement, the at least one

arithmetic statement comprises a variable, the variable is referenced in a local or

remote document other than a document that contains the macro, and the step of

receiving the macro comprises receiving the macro including interpreted code,

meta-data, and error handling instructions.

Further, a response was filed by the Patent Owner on 7/1/2009, wherein

the Patent Owner argued that these claim elements were central to

distinguishing the art of record. See excerpt below from pages 19-20 of such

response:[226]

---

[226] Exhibit 1002, pp. 1093-1094 (emphasis added).

In this application, a prima facie case of obviousness has not been established because the Examiner has not clearly articulated a reason why one of ordinary skill would find the claimed combination obvious in view of the cited references.

Claim 1 recites a method including, for example:

> receiving a series of numerical values having tags indicating characteristics of the numerical values;
> generating at least one first title corresponding to the series of numerical values;
> receiving a macro defined to perform an operation on the series of numerical values;
> performing an operation defined by the macro on the series of numerical values to transform the series of numerical values into a new representation of the series of numerical values based on the tags;
> generating at least one second title corresponding to the results of the operation; and
> displaying the results of the operation and the at least one second title,
> wherein the macro makes a copy of the series of numerical values before the operation is performed.

(emphasis added).

In addition, Applicant submits that *Yamanaka* also fails to teach or suggest 1) "generating at least one first title corresponding to the series of numerical values," 2) "generating at least one second title corresponding to the results of the operation," and 3) "displaying the results of the operation and the at least one second title," as further recited in claim 1.

Heninger does not cure the deficiencies of *Yamanaka*. *Heninger* discloses "a server side scripting language and programming tool" (paragraph 0016). The Examiner cites paragraphs 0404-0415 of *Heninger* to allegedly disclose the claimed "new representation of the series of numerical values based on the tags" (Office Action at page 4). According to *Heninger*, a time function "returns the current time as a formatted string, or an integer in a few cases" (paragraph 0405). The current time can be short, medium, or long (paragraphs 0406-0412).

Even assuming that the different time options correspond to the claimed "new representation of the series of numerical values based on the tags," which Applicant does not concede, *Heninger* fails to teach or suggest 1) "generating at least one first title corresponding to the series of numerical values," 2) "generating at least one second title corresponding to the results of the operation," and 3) "displaying the results of the operation and the at least one second title," as further recited in claim 1.

Still yet, the Arendi court warned that, especially in the context of a missing claim limitation, resorting to common sense "cannot be used as a wholesale substitute for reasoned analysis and evidentiary support."[227] In this case, the above conclusory statement by the Petitioner's expert is, by no means, a "reasoned analysis."[228] Further, the Petitioner's expert offers <u>no</u> evidentiary support for such conclusory statements made in connection with the claim limitations that are missing from the cited art. For these reasons, the Petitioner's arguments fail.

2. Petitioner Fails To Establish That Either Simpson Or Goldfarb Disclose "the macro makes a copy of the series of numerical values before the operation is performed"

Claim 1 requires "the macro makes a copy of the series of numerical values before the operation is performed,"[229] in the specific context claimed. A non-limiting example of such claim limitation is illustrated in Figure 7A

---

[227] *Arendi S.A.R.L. v. Apple Inc.*, Appeal No. 2015-2073, (August 10, 2016) p. 10.

[228] *Id.*

[229] Exhibit 1001, col. 56, ll. 49-50.

(reproduced below) of the '355 patent by macro adapter 760 which can make a

copy of data before a macro is run.[230]
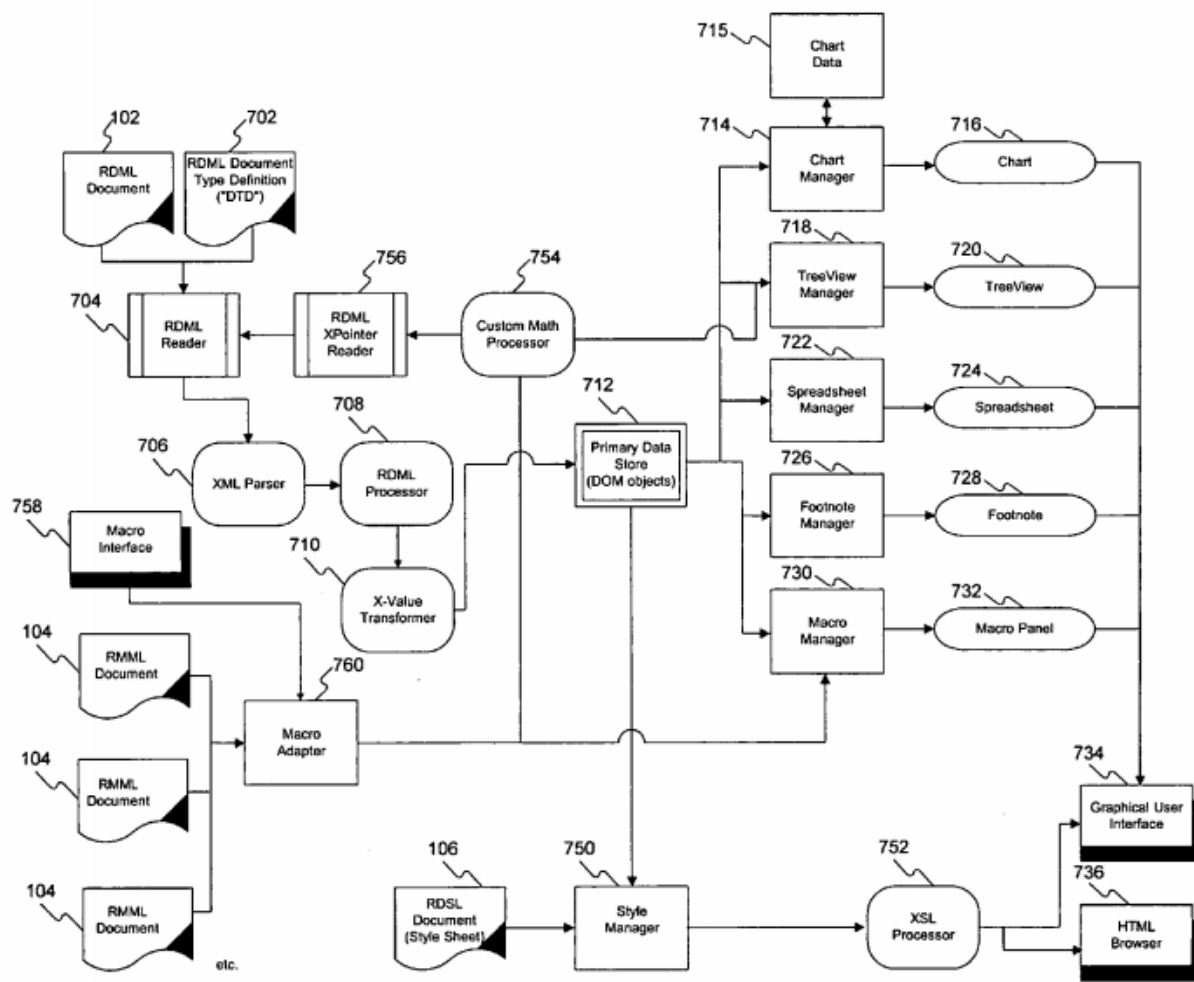
FIG. 7A

---

[230] Exhibit 1001, Figure 7A.

Ground 1

The Petitioner alleged that Simpson teaches this claim limitation.[231] In particular, in an attempt to meet the above claim element, the Petitioner argued that:

> *Mastering Access 97* teaches that a macro can use the "TransferDatabase," "TransferSpreadsheet," or "TransferText" action to import, export, or link data from an external database, spreadsheet, or text file. … Mastering Access 97 also teaches that when Microsoft Access imports data from a table in a spreadsheet, text, or HTML file, it copies that data into an Access database table. …Thus, Mastering Access 97 teaches using a macro to make a copy of imported data before performing operations on the data.

Argument 1

First, with respect to the Petitioner's argument, the Petitioner is clearly relying on multiple different macros to meet the Patent Owner's claimed "macro defined to perform an operation on the series of numerical values" where "**the** macro makes a copy of the series of numerical values before the operation is performed," in the specific context claimed.[232] As is required by the claims, it is the <u>same</u> macro that 1) performs the operation on the series of

---

[231] Petition, pp. 22-23.

[232] Exhibit 1001, col. 56, ll. 49-50.

…Continued

numerical values, and 2) <u>also</u> makes the copy before the operation is performed, in the specific context claimed.[233] *Mastering Access 97* does <u>not</u> disclose this claimed feature, and the Petitioner's arguments do <u>not</u> even *attempt* to address the same.

Argument 2

Second, with respect to the Petitioner's argument, *Mastering Access 97* merely presents isolated disclosures of operation-specific macros and a copy operation, which simply <u>fails</u> to teach an articulated disclosure of a "macro [that] makes a copy of the series of numerical values **before** the operation is performed",[234] in the specific context claimed.

The Petitioner seems to have admitted that *Mastering Access 97* fails to teach all elements of the claim by indicating that:

> [a]t a minimum, doing so would have been obvious. …[and it] would thus have been obvious to a POSITA reading *Mastering Access 97* to utilize the disclosed macro copy commands before (rather than after) the macro had performed operations modifying the data series.[235]

---

[233] *Id.*

[234] *Id.* (emphasis added).

[235] Petition, pp. 22-23.

Further, the Petitioner admitted that:

[e]ven if copying the imported data were not part of the importation process performed … [a] POSITA would readily have understood the advantages of performing these copying functions *before* performing operations that could alter the data, including preserving the original data set for other uses and/or maintaining an unmodified data set in the event that an error occurred in running the macro. …[and] It would thus have been obvious to a POSITA reading *Mastering Access 97* to utilize the disclosed macro copy commands before (rather than after) the macro had performed operations modifying the data series.[236]

In view of such lack of the aforementioned explicit disclosure in

Mastering Access 97 in connection with the temporal requirement of the present

claim element, it appears that the Petitioner is clearly engaging in the creation

of hypothetical possibilities, in order to meet the missing claim element.

As set forth by the Federal Circuit, "common sense is typically invoked

to provide a known motivation to combine,"[237] not a claim limitation, like in

this situation. Further, relying on "common sense" to supply a claim

limitation is suspect when the missing limitation is not "simple" and the

technology not "straightforward," and especially so when the limitation is

---

[236] *Id.*

[237] *Arendi S.A.R.L. v. Apple Inc.*, Appeal No. 2015-2073, (August 10, 2016) p. 10.

central to the claimed subject matter. In this case, the Examiner cited the

present claim limitations at issue in the Notice of Allowance (excerpted-

annotated below):[238]

Allowable Subject Matter

2.   Claims 1, 4-28, 31-34, 37-47, 50-61, 64-68 are allowed.

The prior arts of record al alone or in combination, does not teach or fairly

suggest combination of steps as recited in independent claims 1, 33, 34, and 66,

wherein:

generating at least one first title corresponding to the series of numerical values;

performing an operation defined by the macro on the series of numerical values

to transform the series of numerical values into a new representation of the series of

numerical values based on the tags;

generating at least one second title corresponding to the results of the operation;

and displaying the results of the operation and the at least one second title, wherein:

the macro makes a copy of the series of numerical values before the operation is

performed[[.]], the macro comprises at least one arithmetic statement, the at least one

arithmetic statement comprises a variable, the variable is referenced in a local or

remote document other than a document that contains the macro, and the step of

receiving the macro comprises receiving the macro including interpreted code,

meta-data, and error handling instructions.

---

[238] Exhibit 1002, p. 1122 (emphasis added).

…Continued

Further, a response was filed by the Patent Owner on 11/19/2007,[239] wherein the Patent Owner argued that these claim elements were central to distinguishing the art of record. See excerpt below from Page 20 of such response:[240]

Claim 1 recites a method including, for example:

> receiving a series of numerical values having tags indicating characteristics of the numerical values;
>
> . . .
>
> performing an operation defined by the macro on the series of numerical values to transform the series of numerical values into a new representation of the series of numerical values based on the tags; and
>
> wherein the macro makes a copy of the series of numerical values before the operation is performed.

(emphasis added). *Beauregard* does not teach or suggest at least these elements.

Still yet, the Arendi court warned that, especially in the context of a missing claim limitation, resorting to common sense "cannot be used as a wholesale substitute for reasoned analysis and evidentiary support."[241] In this case, the above conclusory statement by the Petitioner's expert is, by no

---

[239] Exhibit 1002, p. 850 (emphasis added).

[240] *See id.* at 20 (emphasis added).

[241] *Arendi S.A.R.L. v. Apple Inc.*, Appeal No. 2015-2073, (August 10, 2016) p. 10.

…Continued

means, a "reasoned analysis."[242] Further, the Petitioner's expert offers <u>no</u> evidentiary support for such conclusory statements made in connection with the claim limitations that are missing from the cited art. For these reasons, the Petitioner's arguments fail.

Ground 2

The Petitioner alleged that Simpson in combination with Goldfarb teaches this claim limitation.[243] In the present Ground 2, the Petitioner merely references to the arguments in Ground 1.[244] In view of the mere reference to the Petitioner's previously addressed, failed arguments, the Patent Owner hereby incorporates its response above with respect to Ground 1.

---

[242] *Id.*

[243] Petition, p. 40.

[244] *See, e.g., id.*

B.   Grounds 3 & 4: Lyons Or Lyons In View Of Goldfarb Does Not Render Claims 1, 27, 28, And 54 Obvious

> **1.   Petitioner Fails To Establish That Either Lyons Or Goldfarb Disclose "generating at least one second title corresponding to results of the operation"**

Claim 1 requires "generating at least one second title corresponding to results of the operation,"[245] in the specific context claimed. A non-limiting example of such claim limitation is illustrated in Figure 6 (reproduced below) of the '355 patent by steps 606 and 608 where the databases return the results to the server, and the server creates an RDML document.[246]

---

[245] Exhibit 1001, col. 56, ll. 46-47.

[246] Exhibit 1001, Figure 6.
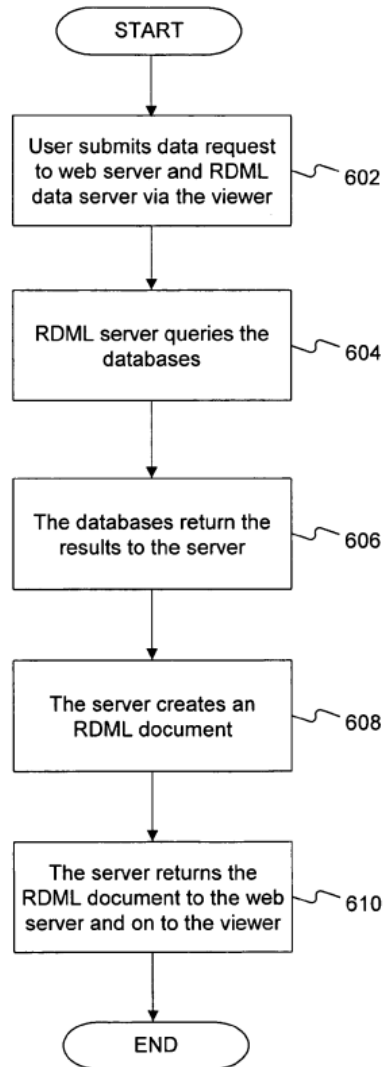
FIG. 6

Ground 3

The Petitioner alleged that Lyons teaches this claim limitation.[247] In

particular, in an attempt to meet the above claim element, the Petitioner only

---

[247] Petition, p. 52.

…Continued

argues that "Lyons teaches generating a title corresponding to 'return on sales' that is to be generated when using the spreadsheet generating function."[248]

However, Lyons fails to teach all of the Patent Owner's claimed language.

First, the "return on sales" that is referenced by the Petitioner is a "variable," not a <u>title</u>, in the specific context claimed.[249] This is confirmed where Lyons discloses that:

> [a] <u>variable</u> is a name the user specifies in a rule to represent a <u>value</u> <u>or values</u>. A <u>left variable</u> is to the left of an equal sign and a <u>right</u> <u>variable</u> is to the right of an equal sign. For example, **RETURN ON SALES**=NET.sub.-- INC.IS1 SALES*100.[250]

Further, there is no disclosure, in Table XV, of a title corresponding to "return on sales."[251] Instead, the "title" (as asserted by the Petitioner and shown in Table XV) is highlighted below:

---

[248] Petition, 52, *quoting in part* Exhibit 1007 at Table XV.

[249] *See, e.g.,* Exhibit 1007 at Table XV.

[250] Exhibit 1007, at col. 36, ll. 18-22 (emphasis added).

[251] *See, e.g.,* Exhibit 1007 at Table XV.

TABLE XV

```
A1:  [W14] '##A=E;T=ACTUAL                                    READY
            A                    B            C     D     E     F
 1.  ##A=E;T=ACTUAL;P=FY86
 2.              ••••••••••••••••••••••••••••••••••••••••••••••••••••••••••
 3.                          FINANCIAL HIGHLIGHTS
 4.                               EOY 1986
 5.              ••••••••••••••••••••••••••••••••••••••••••••••••••••••••••
 6.                                       ABC   ASC   FWS   CORP
 7.  ##S=•I/S                             ───   ───   ───   ───
 8.  #R=SALES          SALES
 9.  #R=TOT_OP-EXP     TOTAL OP. EXP.
10.  #R=BEFOR_TAX      PRE-TAX EARNINGS
11.  #R=NET_INC        NET INCOME
12.
13.  ##S=B/S
14.  #R=T_CURRASST     TOTAL CURR ASSETS
15.  #R=TOT_ASSETS     TOTAL ASSETS
16.  #R=T_CURRLIA      TOTAL CURR LIABS
17.  #R=TOT_LIAB       TOTAL LIABILITIES
18.  #R=RET_EARN       RETAINED EARNINGS
19.  #R=T_EQTY         TOTAL EQUITY
20.                    RETURN ON SALES
25-Nov-86    12:09 AM
```

252

Further, Lyons explicitly states that, in connection with such table, "Table XV is illustrative of a typical reference file which is used to extract data from the computer system and display it in a worksheet in an external program."[253] Simply nowhere in Lyons is there any disclosure of the above highlighted title being "generated" in any manner.

To this end, the "second title" is <u>not</u> disclosed to be *generated*, and the "second title" is certainly <u>not</u> disclosed to be generated that "<u>correspond[s] to</u>

---

[252] Exhibit 1007 at Table XV (emphasis added).

[253] *Id.* at col. 23, ll 23-25.

results of the operation," in the specific context claimed. Thus, there is no

disclosure of a **generation** of the "second title," in the specific context claimed.

Ground 4

The Petitioner alleged that Lyons in combination with Goldfarb teaches

this claim limitation.[254] In particular, in the present Ground 4, the Petitioner

merely references to the arguments in Ground 2 and Ground 3.[255] In view of

the mere reference to the Petitioner's previously addressed, failed arguments,

the Patent Owner hereby incorporates its response above with respect to

Ground 2 and Ground 3.

> **2.   Petitioner Fails To Establish That Either Lyons Or Goldfarb
> Disclose "the macro makes a copy of the series of numerical
> values before the operation is performed"**

Claim 1 requires "the macro makes a copy of the series of numerical

values before the operation is performed,"[256] in the specific context claimed. A

non-limiting example of such claim limitation is illustrated in Figure 7A

---

[254] Petition, p. 63.

[255] *See, e.g., id.*

[256] Exhibit 1001, col. 56, ll. 49-50.

(reproduced below) of the '355 patent by macro adapter 760 which can make a copy of data before a macro is run.[257]
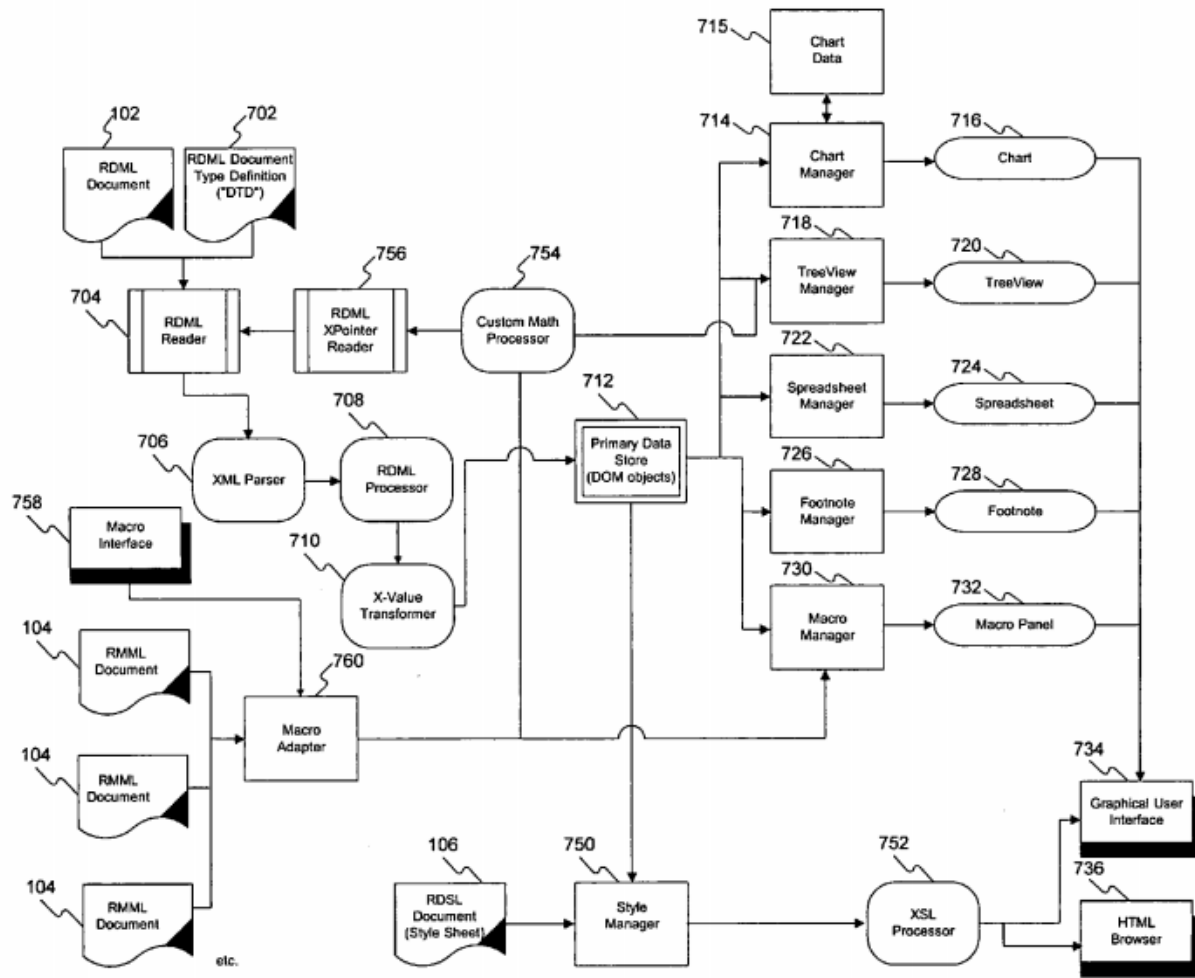

FIG. 7A

Ground 3

The Petitioner alleged that Lyons teaches this claim limitation.[258] In particular, in an attempt to meet the above claim element, the Petitioner only

---

[257] Exhibit 1001, Figure 7A.

[258] Petition, p. 53.

argues that "[i]t would have been obvious to a POSITA for the functions

disclosed in Lyons to perform operations on a copy of the relevant data from

the data base, rather than altering the original data."[259] In an attempt to

support such conclusion, the Petitioner offers the following expert testimony:

> 84. It would have been obvious to a POSITA for these and other functions (macros) disclosed in Lyons to create a copy of the relevant data from the database before performing mathematical operations on them. For example, creating a copy of the data before performing operations that could alter it would have been an obvious safeguard against an error that occurred in running the function or performing the calculations. Computer errors were far more common in 1987 (when the Lyons patent application was filed) than they are today, which would have made working off a copy of the data even more obvious to a POSITA. Furthermore, even if no computer error occurred, it would have been obvious to POSITA that in many situations, a user would want to have both the original and modified sets of data available after a calculation. For example, the exported worksheet report shown in Table XV (discussed above) includes both "pre-tax earnings" and "net income." A POSITA would understand that in calculating the net income, a user would not want to overwrite the pre-tax earnings data. Copying the data before performing mathematical operations is an obvious way to accomplish that goal.[260]

---

[259] Petition, p. 53.

[260] Exhibit 1003, ¶ 84.

Argument 1

In the above arguments, the Petitioner only attempted to address the temporal missing element, namely the copy being made "**before** the operation is performed,"[261] in the specific context claimed.

However, there is an additional missing element, namely that the claims require a "macro defined to perform an operation on the series of numerical values"[262] where "**the macro** makes a copy of the series of numerical values before the operation is performed,"[263] in the specific context claimed. Thus, as is required by the claims, the same macro 1) performs the operation on the series of numerical values, as well as 2) makes the copy before the operation is performed, in the specific context claimed. To this end, the Petitioner has not even attempted to meet such claimed feature.

---

[261] Exhibit 1001, col. 56, ll. 49-50 (emphasis added).

[262] Exhibit 1001, col. 56, ll. 40-41.

[263] Exhibit 1001, col. 56, ll. 49-50 (emphasis added).

Argument 2

Notably, in attempting to address the temporal missing element, namely

the copy being made "**before** the operation is performed," in the specific

context claimed, the Petitioner's expert's opinion is replete with conclusory

statements without any tangible evidentiary support.[264] Further, in view of

such lack of the aforementioned explicit disclosure in *Mastering Access 97*, it

appears that the Petitioner is clearly engaging in the creation of hypothetical

possibilities, in order to meet the missing claim element.

As set forth by the Federal Circuit, "common sense is typically invoked

to provide a known motivation to combine,"[265] not a claim limitation, like in

this situation. Further, relying on "common sense" to supply a claim

limitation is suspect when the missing limitation is not "simple" and the

technology not "straightforward," and especially so when the limitation is

central to the claimed subject matter. In this case, the Examiner cited the

---

[264] *See, e.g.,* Exhibit 1003, ¶ 84.

[265] *Arendi S.A.R.L. v. Apple Inc.*, Appeal No. 2015-2073, (August 10, 2016) p.

10.

present claim limitations at issue in the Notice of Allowance (excerpted-

annotated below):[266]

Allowable Subject Matter

2.   Claims 1, 4-28, 31-34, 37-47, 50-61, 64-68 are allowed.

The prior arts of record al alone or in combination, does not teach or fairly

suggest combination of steps as recited in independent claims 1, 33, 34, and 66,

wherein:

generating at least one first title corresponding to the series of numerical values;

performing an operation defined by the macro on the series of numerical values

to transform the series of numerical values into a new representation of the series of

numerical values based on the tags;

generating at least one second title corresponding to the results of the operation;

and displaying the results of the operation and the at least one second title, wherein:

the macro makes a copy of the series of numerical values before the operation is

performed[[.]], the macro comprises at least one arithmetic statement, the at least one

arithmetic statement comprises a variable, the variable is referenced in a local or

remote document other than a document that contains the macro, and the step of

receiving the macro comprises receiving the macro including interpreted code,

meta-data, and error handling instructions.

---

[266] Exhibit 1002, p. 1122 (emphasis added).

Further, a response was filed by the Patent Owner on 11/19/2007,[267] wherein the Patent Owner argued that these claim elements were central to distinguishing the art of record. See excerpt below from page 20 of such response:[268]

> Claim 1 recites a method including, for example:
>
> > receiving a series of numerical values having tags indicating characteristics of the numerical values;
> >
> > . . .
> >
> > performing an operation defined by the macro on the series of numerical values to transform the series of numerical values into a new representation of the series of numerical values based on the tags; and
> >
> > . . .
> >
> > wherein the macro makes a copy of the series of numerical values before the operation is performed.
>
> (emphasis added). *Beauregard* does not teach or suggest at least these elements.

Still yet, the Arendi court warned that, especially in the context of a missing claim limitation, resorting to common sense "cannot be used as a wholesale substitute for reasoned analysis and evidentiary support."[269] In this case, the above conclusory statement by the Petitioner's expert is, by no

---

[267] Exhibit 1002, p. 850 (emphasis added).

[268] *See id.* at 20 (emphasis added).

[269] *Arendi S.A.R.L. v. Apple Inc.*, Appeal No. 2015-2073, (August 10, 2016) p. 10.

…Continued

means, a "reasoned analysis."[270] Further, the Petitioner's expert offers <u>no</u>

evidentiary support for such conclusory statements made in connection with

the claim limitations that are missing from the cited art. For these reasons, the

Petitioner's arguments fail.

Ground 4

The Petitioner alleged that Lyons in combination with Goldfarb teaches

this claim limitation.[271] In particular, in the present Ground 4, the Petitioner

merely references to the arguments in Ground 2 and Ground 3.[272] In view of

the mere reference to the Petitioner's previously addressed, failed arguments,

the Patent Owner hereby incorporates its response above with respect to

Ground 2 and Ground 3.

---

[270] *Id.*

[271] Petition, p. 64.

[272] *See, e.g., id.*

C. **Grounds 2 & 4: A POSA Would Not Be Motivated To Modify Simpson or Lyons In View Of Goldfarb**

Contrary to Petitioner's allegation[273], a POSA would not have been motivated to modify Simpson (or Lyons) to import an XML document as taught by Goldfarb to achieve the claimed invention of the '355 patent and would not have had a reasonable expectation of success doing so.[274] Rather, a POSA would have realized that modifying Simpson in the manner suggested by the Petitioner would have eliminated Goldfarb's stated improvement of "adding more structure to data files and providing a universal file structure that would ease the exchange of data between programs and over the internet."[275] Further, the Petitioner fails to address the inefficiencies created by such modification.

As discussed above in §III., prior art at the time of the filing of the '355 patent did not provide a mechanism to identify numerical data element attributes, characteristics, formats or relationships from files. For example, an information system would typically store structured data, such as financial transactions, in a "database" system that preserves record or "line item"

---

[273] Petition, pp. 32-35.

[274] Exhibit 2001, ¶ 84.

[275] Exhibit 1003, p. 78; *see also* Exhibit 1006, xxxix-xl.

relationships for a collection of related transactions (i.e., a business document).

Typically, the metadata describing these record and data element characteristics would be stored in the "schema" subsystem of the database system. However, there was no universal mechanism to store and share the metadata describing the structure of the records, the metadata of the individual data elements within each record, the metadata describing the relationship among different records representing a transaction, nor the semantic meaning of the data elements. For example, an "invoice" might consist of various information about the supplier (e.g., name, address, tax id, etc.), consumer (e.g., name, address, tax id, etc.), and individual invoice line items (e.g., item identifier, description, dimensions, cost, etc.). Because there was no encoding of attributes and meaning, each time information from one information system (manual or automated) was to be shared with another information system, a "mapping" of all these data elements had to be manually created.

The '355 patent overcame these prior art limitation by creating RDML, a markup language based on XML[276]. For example, shown below is a fragment of an RDML document that supplies the data for one line item in the document.

---

[276] Exhibit 1001, col. 20, ll 23-56.

```
<line_item
    li_ID = "1"
    li_legend = "Department of Energy"
    li_title = "Outlays - Dept. of Energy"
    li_cat = ""
    y_axis_title = "$ in Thousands"
    level = "1"
    format = "#,##0;(#,##0)"
    relation = "Parent"
    li_notes = ""
    li_desc = ""
    li_prec = "-3"
    li_unit = "$"
    li_mag = "3"
    li_mod = "in"
    li_measure = ""
    li_scale = ""
    li_adjustment = ""
    li_aggregation = "">
<data_y>
2754567, 2699717, 2726457, 2578954, 2343297, 2252927, 2474440, 2392904, 2392536,2200326,
2298612, 2303643, 2233062, 3229510, 3840973,5049308, 6412986, 7441295,7261157, 11756883,
11657178, 10590471, 10991261, 10587245, 11026443, 10692802, 11166039, 11386923,12083898,
12478820, 15522633, 16941547, 17839298, 17617000, 16203000, 14467000, 14366000,15240000,
15190000, 14938000, 14412000, 14556000
</data_y>
</line_item>
```

tag containing attributes or characteristics of the numerical values specified in the sub-element <data_y>

As shown above, embedded within the RDML file is an exemplary tag reflecting characteristics of the numerical values specified in the sub-element <y-values>.[277] A computer running within the RDML system will automatically associate the "tags" with the numerical values.

---

[277] *Id.*

1. Both Simpson And Lyon Disclose Existing Systems With Limitations The Claimed Invention Overcomes

Both Simpson and Lyons disclose structured database systems that can import external text files. However, neither Simpson nor Lyons can import markup documents in the context claimed (i.e. XML-based documents). Instead, both Simpson and Lyons rely on the prior art methods of <u>manually</u> creating a "mapping" of all these data elements in the file.

<u>Simpson</u>

As discussed above in §III.A, Simpson is unable to import structured data from a file, and instead utilizes Input Wizards (e.g. Table Wizard, HTML Import Wizard, etc.) to create tags (e.g. field names) for the data as it is imported into a blank table. The Input Wizards require user input to define the type of file formatting (e.g. csv, xls, etc.). Additionally, the Input Wizards require user input to create tags (i.e. field names, indexing, data type, etc.) for the data. The Input Wizards will, by default, automatically select the first row of data in a file as the proposed field name. The user can then either accept the default selection or change the field names. The data in the table can then be associated with a database structure for a user.[278]

---

[278] Exhibit 2001, ¶ 91.

The Petitioner alleged that "[t]he field names located in the first line of the imported text file thus act as tags identifying the data type (such as "currency" in the example above) for the imported data fields."[279] However, this is not true. In Petitioner's example, "currency" is simply a string assigned by Access 97 (after user input) to a data set during the file import process and does not reflect <u>characteristics</u> of the numerical values, as required by independent claims 1, 27, 28 and 54, in the context of the entire claim.

For example, if a person had a table with a column entitled "Pound" along with numbers in that column, it is not clear whether the column heading "Pound" was a unit of measure for the weight of an object or a unit of measure for British currency.

<u>Lyons</u>

As discussed above in §III.A, Lyons is unable to import structured data from a file and that a user-created input template needs to be provided in order to function as structured gateways for inputting data. Additionally, a hierarchy allows the user to define a structure of the entity, and a dictionary defines valid periods, types, and periods for which data can be entered. As

---

[279] Petition, p. 18.

such, "the user must specify the relationship between the data in whatever format it is found in the input file and the format in which it is desired to be arranged in the system database."[280]

For example, the income statement might look like Table III as follow:

TABLE III

	A	B
1.	Schedule	IS1
2.	Entity	ABC
3.	Period	Q1 87
4.	Type	Actual
5.	Income Statement 1	
6.		
7.		
9.		Amt (000)
10.	Sales	424
11.	Cost of Goods Sold	161
12.	Depreciation	64
13.	Selling and Admin.	93
14.	Total Operating Expenses	318
15.	Operating Profit	106
16.	Other Income	51
17.	Total Income	157
18.	Interest Expense	34
19.	Earnings Before Taxes	123
20.	Provisions for Taxes	57
21.	Net Income	66

[281]

In order to create an input template, a user would open the "CREATE/INPUT_TEMPLATE" menu of Table IV and fill out the

---

[280] Exhibit 2001, ¶ 94.

[281] Exhibit 1007, col. 10, ll 47-68

…Continued

necessary information on the screen.[282] "By filling in this screen the user is specifying the number of rows and columns required to hold the data on the template. In filling in the number of rows, the user begins counting from the first row that contains data. The number of rows required need not match the number of rows in the schedule definition."[283] This process of creating an INPUT_TEMPLATE had to be repeated for each file type received (e.g. "if subsidiary entities furnish data in an income statement or balance sheet, the user would create two input templates, one for the income statement schedule and one for the balance sheet schedule.")[284] Table V, below, shows an INPUT_TEMPLATE screen.

---

[282] Exhibit 1007, col. 10, ll 19-36.

[283] *Id.*

[284] Exhibit 1007, col. 10, ll 36-38.

TABLE V

CREATE/INPUT-TEMPLATE/ADD

───────────────ENTER───────────────
WORKSHEET TEMPLATE DEFINITION
PERIOD : Q1 87   SCHEDULE : ISI
ARE THERE MULTIPLE SEPT ON THE WORKSHEET ?   Y   N

WHAT IS THE DIRECTION OF THE VARIABLE ?   ACROSS DOWN
FIRST DATA CELL : B10
CELL LOCATIONS FOR : ─────
    SCHEDULE : B1   FIRST ROW DESCRIPTION   : A10
    ENTITY   : B2   FIRST COLUMN DESCRIPTION : B9
    PERIOD   : B3
    TYPE   : B4
IS THE WORKSHEET FILE READY ?   Y   N

WORKSHEET FILE NAME : ABC
───────────────INSTRUCTION───────────────
Enter cell locations where data begins, and where schedule,
entity, period, and type are stored.

Add input template format, integrity rules and descriptions.

285

"Once the template is chosen, the system will read in the worksheet data through the template and into the data base. The data from the input file will then be stored in the system's database in association with the SEPT value read from the input file of Table III in accordance with the location information specified in the input template of Table V. The data from the first data cell (B10) of the input file will be stored in the data cell1 associated with that SEPT value and data from the succeeding cells (B11-B21) will be stored in data cells2-12."[286]

---

[285] Exhibit 1007, col. 12, ll 40-60.

[286] Exhibit 1007, col. 14, ll 37-47.

2. The Proposed Modification Would Eliminate Goldfarb's Stated Improvement

Contrary to Petitioner's allegation,[287] a POSA would not have been motivated to modify the system of Simpson (or Lyons) with Goldfarb. The Petitioner asserted that such system could be combined by using a third party application to "convert between XML and HTML,"[288] and then import the resulting HTML file into the Access 97 database."[289] However, such an implementation would eliminate Goldfarb's stated improvements of "adding more structure to data files and providing a universal file structure that would ease the exchange of data between programs and over the internet"[290] by flattening the XML data file of relevant metadata.

For example, consider the table below which illustrates how code for a simple income statement would look converting XML to HTML. Notice that it is now very hard to determine that the number "11837" is the 2015 revenue data, and certainly not in the simple, direct, and straightforward way that is

---

[287] Petition, pp. 32-35.

[288] Exhibit 1003, 82.

[289] Exhibit 1003, 82.

[290] Exhibit 1003, p. 78; *see also* Exhibit 1006, xxxix-xl.

enabled by the XML format. The conversion from XML to HTML has resulted in the loss of the simple, direct, and straightforward association between numbers ("11837") and their meaning (2015 revenue). Although HTML has a "header cell" tag ("<th>") and a "standard cell" tag ("<td>"), these tags are used so that header cells can be visually formatted differently and are not linked with the corresponding data.[291]

XML	HTML
<?xml version="1.0" encoding="UTF-8"?> <doc> <incmstmts> <stmt> <year>2015</year> <revenue>11837</revenue> <netincome>3653</netincome> </stmt> <stmt> <year>2014</year> <revenue>10818</revenue> <netincome>3463</netincome> </stmt> </incmstmts> </doc>	<!DOCTYPE html> <html> <body> <table border=1> <thead> <tr> <th>year</th> <th>revenue</th> <th>netincome</th> </tr> </thead> <tbody> <tr> <td>2015</td> <td>11837</td> <td>3653</td> </tr> <tr> <td>2014</td> <td>10818</td> <td>3463</td> </tr> </tbody> </table> </body> </html>

---

[291] Exhibit 2001, ¶ 99.

Petitioner's expert stated the "the fundamental purposes of introducing the XML standard included adding more structure to data files and providing a universal file structure that would ease the exchange of data between programs and over the Internet."[292] However, by modifying Lyons and Simpson as proposed by Petitioner (e.g. by converting input files from XML to HTML format prior to uploading), this express purpose of XML is thwarted.[293]

3.   Petitioner Failed To Address The Inefficiencies Created

Furthermore, the Petitioner failed to address the inefficiencies created by flattening the relevant data structure out of the XML file when converting to HTML. Doing so would require importing the file into the system of Simpson (or Lyons) using their inefficient and manual-intensive import Wizard or input_templates.[294]

Clearly, a POSA would not have been motivated to modify either Simpson or Lyons to import the XML document of Goldfarb to achieve the

---

[292] Exhibit 1003, ¶ 78.

[293] Exhibit 2001, ¶ 100.

[294] Exhibit 2001, ¶ 101.

claimed invention and would not have had a reasonable expectation of success of doing so. Because the modification proposed by the Petitioner would render the prior art invention unsatisfactory for its intended purpose by eliminating Goldfarb's stated improvement,[295] then there is no suggestion or motivation to make the proposed modification.[296]

In addition, converting from XML to HTML, as proposed by the Petitioner,[297] flattens the data file thereby removing tags and metadata associated with the numerical values (which in turn changes the principle of operation of the prior art invention) further indicates that the teachings of the references are not sufficient to render the claims prima facie obvious.[298] For these additional reasons, claims 1, 27, 28 and 54 would not have been obvious.

---

[295] Exhibit 1003, ¶ 78; *see also* Exhibit 1006, xxxix-xl.

[296] *See, e.g., In re Gordon*, 733 F.2d 900, 221 USPQ 1125 (Fed. Cir. 1984).

[297] Exhibit 1003, ¶ 82.

[298] *See, e.g., In re Ratti*, 270 F.2d 810, 813, 123 USPQ 349, 352 (CCPA 1959).

4. Petitioner Fails To Show How A POSA Would Have Modified Lyons To Accept XML Data Files

The Board should deny Petitioner's challenge under Ground 4 for claims 1, 27, 28 and 54 because Petitioner fails to show how Lyon's system of "automatic entry of data from spreadsheet tables into the database by 'a mapping means or template… that specifies for each different input spreadsheet the location of the first data cell in the spreadsheet and the size of the spreadsheet'"[299] could be modified to accept XML data files.

In particular, the Petitioner (including the Petitioner's expert) ignore the incompatibility of the Lyon's and Goldfarb systems. Whereas Lyons teaches a flat datafile imported via a simple, user-defined input_template,[300] Goldfarb, on the other hand, teaches a complex file with data structure, tags, and numerical values.[301]

Instead, the Petitioner (including the Petitioner's expert) summarily state that "[a] POSITA seeking to further improve and modernize Lyons' database would have been motivated to utilize the structured data format of XML to

---

[299] Petition, p. 62.

[300] Exhibit 1007, col. 2, ll 50-65.

[301] Exhibit 1006, pp. 33-47.

add more detailed metadata to the database and provide greater consistency and predictability to the importation of source files."[302] This is not sufficient to carry Petitioner's burden.[303]

For all these reasons, the Board should deny the challenge to claims 1, 10, 17, 26 and 27 in Ground 4.

---

[302] Petition, p. 62.

[303] *See, e.g., Cutsforth v.Motivepower*, 636 Fed. Appx. 575, 577-78 (Fed. Cir. 2016) (non-precedential); *Arendi S.A.R.L. v. Apple Inc.*, 832 F.3d 1355, 1362 (Fed. Cir. 2016) (holding that that "references to 'common sense' . . . cannot be used as a wholesale substitute for reasoned analysis and evidentiary support"); *Ariosa Diagnostics v. Verinata Health, Inc.*, 805 F.3d 1359, 1366 (Fed. Cir. 2015) (requiring the Petition to show "how a skilled artisan would have used what it show[n] in combining or modifying the prior art references or how it tended to show that a skilled artisan would have had a reasonable expectation of success in achieving the suggested combination and modification").

VI. CONCLUSION

For all the reasons expressed herein, the Petitioner did not show that it is reasonably likely to prevail on any of the proposed grounds of rejections. Accordingly, the Board should not cancel any of the claims of the '355 patent.

Date: May 6, 2019

Respectfully Submitted,

By: */Gregory Gonsalves/*
Dr. Gregory Gonsalves
Reg. No. 43,639
2216 Beacon Lane
Falls Church, Virginia 22043
(571) 419-7252
gonsalves@gonsalveslawfirm.com

By: */G. Andrew Gordon/*
G. Andrew Gordon
Registration No. 64,517
6518 Ryeworth Dr
Frisco, TX 75035
Telephone: 408-390-4473
andrew@agordonlawfirm.com

CERTIFICATE OF COMPLIANCE

This Paper contains 12,585 words, excluding the portions exempted by 37 C.F.R. ¶42.24(a)(1). Accordingly, this Paper complies with the requirements of 37 C.F.R. § 42.24(b)(1).

Dated: May 6, 2019   By: */Gregory Gonsalves/*
                                             Dr. Gregory Gonsalves
                                             Reg. No. 43,639
                                             Gonsalves Law Firm
                                             2216 Beacon Lane
                                             Falls Church, Virginia 22043
                                             (571) 419-7252
                                             gonsalves@gonsalveslawfirm.com

CERTIFICATE OF SERVICE

Under 37 C.F.R. §§ 42.6(e), this is to certify that I caused an electronic copy of the foregoing PATENT OWNER'S RESPONSE PURSUANT TO 37 C.F.R. § 42.120 and its exhibits to be served on the Petitioner's lead and backup counsel listed below by filing in the Patent Review Processing System and by email to the following email addresses:

> Lead Counsel
> Katherine J. Rahlin
> Fredrikson & Byron, P.A.
> 200 South Sixth Street, Suite 4000
> Minneapolis, MN 55402
> Phone: (612) 492-7370
> Fax: (612) 492-7077
> krahlin@fredlaw.com

Date: May 6, 2019

> By: /Gregory Gonsalves/
> Dr. Gregory Gonsalves
> Reg. No. 43,639
> 2216 Beacon Lane
> Falls Church, Virginia 22043
> (571) 419-7252
> gonsalves@gonsaiveslawfirm.com