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| Baker Botts L.L.P. 1001 Page Mill Road Building One, Suite 200 Palo Alto, CA 94304-1007 | | | GAVIN, KRISTIN ELIZABETH | |
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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

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Office Action Summary

Application No.

15/807,436

Applicant(s)

Dimerman, Dan

Examiner

KRISTIN E GAVIN

Art Unit

3683

AIA (FITF) Status

Yes

– The MAILING DATE of this communication appears on the cover sheet with the correspondence address –

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTHS FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1) Responsive to communication(s) filed on 11 September 2020.

A declaration(s)/affidavit(s) under **37 CFR 1.130(b)** was/were filed on ____.

2a) This action is **FINAL**.

2b) This action is non-final.

3) An election was made by the applicant in response to a restriction requirement set forth during the interview on ____; the restriction requirement and election have been incorporated into this action.

4) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims*

5) Claim(s) 1-3,6,9-12,15-18,21 and 24 is/are pending in the application.

5a) Of the above claim(s) ____ is/are withdrawn from consideration.

6) Claim(s) ____ is/are allowed.

7) Claim(s) 1-3,6,9-12,15-18,21 and 24 is/are rejected.

8) Claim(s) ____ is/are objected to.

9) Claim(s) ____ are subject to restriction and/or election requirement

* If any claims have been determined allowable, you may be eligible to benefit from the **Patent Prosecution Highway** program at a participating intellectual property office for the corresponding application. For more information, please see http://www.uspto.gov/patents/init_events/pph/index.jsp or send an inquiry to PPHfeedback@uspto.gov.

Application Papers

10) The specification is objected to by the Examiner.

11) The drawing(s) filed on ____ is/are: a) accepted or b) objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

Priority under 35 U.S.C. § 119

12) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

Certified copies:

a) All b) Some** c) None of the:

1. Certified copies of the priority documents have been received.

2. Certified copies of the priority documents have been received in Application No. ____.

3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

** See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) Notice of References Cited (PTO-892)

3) Interview Summary (PTO-413)

Paper No(s)/Mail Date ____.

2) Information Disclosure Statement(s) (PTO/SB/08a and/or PTO/SB/08b)

4) Other: ____.

Paper No(s)/Mail Date 9/11/20.

DETAILED ACTION

This non-final Office action is responsive to the request for continued examination filed September 11th, 2020. Claims 1 and 16 have been amended. Claim 7-8 and 22-23 have been cancelled. Claims 1-3, 6, 9-12, 15-18, 21, and 24 are presented for examination.

Notice of Pre-AIA or AIA Status

1. The present application, filed on or after March 16, 2013, is being examined under the first inventor to file provisions of the AIA.

Continued Examination Under 37 CFR 1.114

2. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 9/11/20 has been entered.

Information Disclosure Statement

3. The information disclosure statement (IDS) submitted on 9/11/20 is in compliance with the provisions of 37 CFR 1.97. Accordingly, the information disclosure statement is being considered by the examiner.

Response to Arguments

4. Applicant's arguments filed 9/11/20 have been fully considered but they are not persuasive.

Regarding claim rejections under 35 U.S.C. 101, Examiner has fully considered Applicant's arguments and amendments. Beginning with Step 2A Prong One analysis, on page 9 of the provided remarks, Applicant argues that the remaining claims are not directed to a mathematical concept or a method of organizing human activity. Specifically addressing the generating a time curve graph and delivering risk notifications limitations, Applicant argues that these claim recitations do not have an inherent relationship to mathematical concepts or methods of organizing human activity. Examiner argues that the generation of a time curve graph could be performed as an action of the human mind and the delivering of risk notifications is listed as a "well-understood, routine, and conventional" computer function listed in MPEP 2106.05 specifically "receiving and/or transmitting information over a network". Applicant continues on page 10 of the provided remarks to argue that the limitations regarding identifying differences between data fields, weighting the identified differences, calculating one or more distance scores, and generating the time curve graph on the administrators computer "cover particular arrangements and functions for components of computing systems configured for specialized operations." Applicant continues to argue that "they are not generic, abstract or non-technical" and "the fact that the claims bear some relationship to machine analysis of contracts does not automatically make the claims ineligible, because when all elements and limitations are considered, they plainly cover a specific technical process of data analysis." Examiner respectfully

disagrees and argues that the identification of differences between data fields and weighting of those differences represent the abstract idea of mental processes as a form of observation and evaluation of the human mind. The calculating of one or more distance scores based on the weighted differences Examiner argues is representative of the abstract idea of mathematical concept in the form of mathematical calculation. The generation of the time curve graph additionally represents the abstract idea of mental processes in the form of evaluation. Performing a digital geometric analysis of the time curve graph is also directed to the mental process of observation and evaluation through the determination of a geometric shape over the threshold amount of time. Therefore, the claims are directed to an abstract idea.

Regarding Step 2A Prong Two, on pages 11-15 of the provided remarks Applicant argues that the claims recite particular limitations that integrate any judicial exception into a practical application. On page 12, specifically Applicant argues that “the claims provide an improvement in machine analysis of digital electronic contract documents that generates data indicating risk that has not been available before.” Examiner respectfully disagrees and argues per cited prior art Bach *'Time Curves: Folding Time to Visualize Patterns of Temporal Evolution Data'* machine analysis of digital documents that generates data indicating trust is a known function in the art. Examiner argues that contracts are a form of documents that could be applied to the method described in cited Bach. Applicant argues that “Claim 1 and all other independent claims include limitations that reflect improvements to the technical fields of detecting risk in a set of contract documents using techniques that did not exist before.” Examiner respectfully disagrees and argues that the processes outlined in the

cited prior art specifically Bach disputes the improvement of the present claim limitations. Continuing on page 13 of the provided remarks, Applicant argues that similar to Example 41, "Claim 1 of this Application integrates the alleged mathematical concept into a practical manner by reciting a specific manner that limits the use of the mathematical concepts to a practical application." Examiner respectfully disagrees and argues that Example 41 integrates the abstract idea into a practical application by "transforming the plaintext work signal to one or message block word signals M_A ". This form of transformation from plaintext work signal to one or message blocks is not present in the current claims. Therefore the current claims do not integrate the abstract idea into a practical application. Additionally, Applicant argues on pages 14-15 of the provided remarks that similar to Example 42, "the claims of the Application recite limitations that integrate the alleged method of organizing human activity into a practical application because they recite a specific improvement over prior art systems." Examiner respectfully disagrees and argues that the limitation regarding "converting information that was input by a user from one, standardized, form to another, non-standardized, form" is not present in the immediate claims. Therefore, the current claims do not integrate the abstract idea into a practical application.

Finally, regarding Step 2B analysis Applicant argues specifically on page 16 of the provided remarks that "the claims includes numerous features that are significantly more than the cited judicial exception of "a mathematical concept in the form of mathematical calculations" or "a certain method of organizing human activity in the form of fundamental economic principles or practices including mitigating risk." Applicant continues on to argue that "the limitations quoted above provide a specific way of

automatic risk management by generating a time curve graph based on contract data and delivering risk notifications upon determining that a geometric shape of the time curve graph indicates a lack of convergence over a threshold amount of time, in which both the time curve graph and risk notifications are presented to a user via a graphical user interface.” Examiner respectfully disagrees and argues that the method of generating time curve graphs in the present claims does not present more than the judicial exception. Various limitations within the claims regard storing and retrieving information from memory which is listed within MPEP 2106.05(d) as “well-understood, routine, and conventional”. The delivering of risk notifications as described above could also be noted as “well-understood, routine, and conventional” activity in the form of “receiving and/or transmitting data over a network”. Therefore, the present claims do not present “significantly more” than the judicial exception. The claim rejection under 35 U.S.C. 101 has been maintained.

Regarding claim rejections under 35 U.S.C. 112 first and second paragraphs, Examiner has fully considered Applicant’s arguments and amendments. On page 18 of the provided remarks, Applicant argues that “a person having ordinary level of skill in the art – which is high – would have known what time curve graphs are, so there is no requirement to explain those fundamentals in the specification.” Applicant continues on to argue that “A high level of skill in the art means that the skilled person has extensive knowledge and experience; therefore, less is needed in the disclosure to teach such a person how to make and use the invention, not more. A person having a high level of skill in the art is the person having ordinary skill in the art. There is no contradiction in the prior arguments, because the “ordinary” level is high, not low.” Examiner respectfully

disagrees and argues that a high level of skill in the art means that more is needed in the disclosure to teach a person how to make and use the invention. However, due to Applicant's clarifying amendments regarding the identification of the geometric shape in Claims 1 and 16, the claim rejections under 35 U.S.C. 112 first and second paragraph have been withdrawn.

Claim Rejections - 35 USC § 101

5. 35 U.S.C. 101 reads as follows:

Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

6. Claims 1-3, 6, 9-12, 15-18, 21, and 24 rejected under 35 U.S.C. 101 because the claimed invention is directed to non-statutory subject matter.

7. Step 1: Independent claims 1 (method), 10 (method), and 16 (system) and dependent claims 2, 3, 6, 11, 12, 15, 17, 18, and 21 and 24, respectively, fall within at least one of the four statutory categories of 35 U.S.C. 101: (i) process; (ii) machine; (iii) manufacture; or (iv) composition of matter. Claim 1 is directed to a method (i.e. process), claim 10 is directed to a method (i.e. process), and claim 16 is directed to a system (i.e. machine).

8. Step 2A Prong 1: Claims 1-3, 6, 9-12, 15-18, and 21 and 24 are directed to an abstract idea without significantly more. With respect to claims 1-3, 6, 9-12, 15-18, 21 and 24, the independent claims (claims 1, 10, and 16) are directed, in part, to storing a contract set of two or more contracts, generating time curve graphs based on the similarities between contracts, and calculating risk analysis through digital geometric

analysis. These claim elements are considered to be abstract ideas because they are directed to a mathematical concept in the form of a mathematical calculation. The mathematical calculation occurs through the weighting of the identified differences according to weights assigned to each data type of the one or more data fields in each contract document and the calculating one or more distance scores based on the weighted differences between each data type of the one or more data fields in each contract document. These claim elements are also considered to be abstract ideas also because they are directed to a certain method of organizing human activity in the form of fundamental economic principles or practices including mitigating risk. The method of organizing human activity occurs when it is determined whether or not the contract set is at risk through digital geometric analysis of the time curve graph. The identification of a geometric shape indicates the contract set is at risk and the system further utilizes this indication to notify the user of the system that the contract set is at risk. This notification provides a way of potentially mitigating the risk of the contract set. If a claim limitation, under its broadest reasonable interpretation, covers mathematical calculation, then it falls within the “mathematical concept” grouping of abstract ideas. Additionally, if a claim limitation, under its broadest reasonable interpretation, covers concepts directed to a fundamental economic practice including risk mitigation, then it falls within “certain method of organizing human activity”. Accordingly, the claim recites an abstract idea.

Additionally, the claims recite identifying differences between data field values of contract documents; weighting the identified differences according to weights assigned to each data type; generating and causing displaying, a time curve graph based on the one or more distance scores; performing a digital geometric analysis of the time curve

graph to identify whether the geometric shape of the time curve graph indicates a lack of convergence over a threshold amount of time; and in response to determining that the geometric shape indicates the lack of convergence over the threshold amount of time, generating and causing displaying, a notification indicating that the contract set is at risk. These claim elements are also considered to be abstract ideas also because they are directed to mental processes in the form of observation and evaluation. The mental processes occurs the system identifies differences between data fields. This identification could be performed as an observation of the human mind. Additionally, the weighting of the identified differences could be performed as an evaluation of the human mind. The performing of digital geometric analysis to determine geometric shapes could also be performed as an observation and judgement of the human mind. If a claim limitation, under its broadest reasonable interpretation, covers actions performed in the human mind, then it falls within the "mental processes" grouping of abstract ideas. Accordingly, the claim recites an abstract idea.

9. Dependent claims 6, 9, 21 and 24 are directed to the system generating time curve graphs, calculating the distance score between contracts, determining risk by performing geometric analysis, and notifying whether or not the contracts are at risk. These processes are similar to the abstract idea noted in the independent claims because they further the limitations of the independent claims which are directed to a method of organizing human activity which include fundamental economic principles in the form of mitigating risks. Accordingly, these claim elements do not serve to confer subject matter eligibility to the claims since they are directed to abstract ideas.

10. Dependent claims 2-3, 11-12, and 17-18 are not directed to any additional abstract ideas and are also not directed to any additional non-abstract claim elements. Rather, these claim elements offer further descriptive limitations of elements found in the independent claims and addressed above - such as describing the classification of digital contract metadata and the time-curve graph composition. While these descriptive elements may provide further helpful context for the claimed invention these elements do not serve to confer subject matter eligibility to the invention since their individual and combined significance is still not heavier than the abstract concepts at the core of the claimed invention.

11. Step 2A Prong 2: This judicial exception is not integrated into a practical application. In particular, both independent claim 1 and 10 recite additional element -“a computer-implemented method” and “a computer associated with a contract administrator” to perform the claim steps. The computer implementation as well as the computer associated with a contract administrator are recited at a high-level of generality (i.e. as a computing system) such that it amounts to no more than mere instructions to apply the exception using a generic computer system. Independent claim 16 recites additional elements - “a data processing system”, “one or more hardware processors”, and “a non-transitory computer-readable medium” to perform claim steps. The “a data processing system”, “one or more hardware processors”, and “a non-transitory computer-readable medium” are all recited at such a high-level of generality (i.e. as a processor to process contracts and a medium to provide for the exchange of data between various elements) such that it amounts to no more than mere instructions to apply the exception using a generic processing system and computer-readable

medium. Accordingly, this additional element does not integrate the abstract idea into a practical application because it does not impose any meaningful limits on practicing the abstract idea. The claim is directed to an abstract idea.

Independent claims 1 and 10 are additionally directed to claim elements such as, “a computer-implemented method” and “a computer associated with a contract administrator”. When considered individually, the “a computer-implemented method” and “a computer associated with a contract administrator” claim elements only contribute generic recitations of technical elements to the claims. It is readily available, for example, that the claim is not directed to any specific improvements of these elements. Examiner looks to Applicant’s specification in at least Paragraph 0025 for reference to “a computer system comprises a server computer (“server” for short), administrator device, and a natural language processor, which are communicatively coupled directly or indirectly via network”. This passage, as well as others, makes it clear that the invention is not directed at any technical improvement. When the claims are considered individually and as a whole, the additional elements noted above, appear to merely apply abstract concept to a technical environment in a very general sense. The most significant elements of the claims, that is the elements that really outline the inventive elements of the claims, are set forth in the elements identified as an abstract idea. The fact that the generic server is facilitating the abstract concept is not enough to confer statutory subject matter eligibility.


Independent claim 16 is additionally directed to claim elements such as, “a data processing system”, “one or more hardware processors”, and “a non-transitory computer-readable medium”. When considered individually, the “a data processing


system”, “one or more hardware processors”, and “a non-transitory computer-readable medium” claim elements only contribute generic recitations of technical elements to the claims. It is readily available, for example, that the claim is not directed to any specific improvements of these elements. Examiner looks to Applicant’s specification in at least Paragraph 0026 for reference to “Processor broadly represents one or more hardware processors such as central processing units, processor cores, or processor modules, with associated support circuitry such as memory management circuits, EO circuits, display drivers, and the like”. Examiner also looks to Applicant’s specification in at least Paragraph 0083 for reference to “Common forms of storage media include, for example, a floppy disk, a flexible disk, hard disk, solid-state drive, magnetic tape, or any other magnetic data storage medium, a CDROM, any other optical data storage medium, any physical medium with patterns of holes, a RAM, a PROM, and EPROM, a FLASH-EPROM, NVRAM, any other memory chip or cartridge” These passages, as well as others, makes it clear that the invention is not directed at any technical improvement. When the claims are considered individually and as a whole, the additional elements noted above, appear to merely apply abstract concept to a technical environment in a very general sense. The most significant elements of the claims, that is the elements that really outline the inventive elements of the claims, are set forth in the elements identified as an abstract idea. The fact that the generic computing device, processing device, and computer-readable medium are facilitating the abstract concept is not enough to confer statutory subject matter eligibility.


12. Step 2B: As explained above, there is nothing in the claims as a whole that adds significantly more to the abstract idea(s). Evidence regarding operations of the


additional elements that are well-understood, routine, and conventional is provided below.


MPEP 2106.05(d)(II) sets for the following:


The courts have recognized the following computer functions as well-understood, routine, and conventional functions when they are claimed in a merely generic manner (e.g., at a high level of generality) or as insignificant extra-solution activity. 

i. Receiving or transmitting data over a network, e.g., using the Internet to gather data, *Symantec*, 838 F.3d at 1321, 120 USPQ2d at 1362 (utilizing an intermediary computer to forward information); *TLI Communications LLC v. AV Auto. LLC*, 823 F.3d 607, 610, 118 USPQ2d 1744, 1745 (Fed. Cir. 2016) (using a telephone for image transmission); *OIP Techs., Inc., v. Amazon.com, Inc.*, 788 F.3d 1359, 1363, 115 USPQ2d 1090, 1093 (Fed. Cir. 2015) (sending messages over a network); *buySAFE, Inc. v. Google, Inc.*, 765 F.3d 1350, 1355, 112 USPQ2d 1093, 1096 (Fed. Cir. 2014) (computer receives and sends information over a network); but see *DDR Holdings, LLC v. Hotels.com, L.P.*, 773 F.3d 1245, 1258, 113 USPQ2d 1097, 1106 (Fed. Cir. 2014) ("Unlike the claims in *Ultramercial*, the claims at issue here specify **how** interactions with the Internet are manipulated to yield a desired result--a result that overrides the routine and conventional sequence of events ordinarily triggered by the click of a hyperlink." (emphasis added)); 

ii. Performing repetitive calculations, *Flook*, 437 U.S. at 594, 198 USPQ2d at 199 (recomputing or readjusting alarm limit values); *Bancorp Services v. Sun Life*, 687 F.3d 1266, 1278, 103 USPQ2d 1425, 1433 (Fed. Cir. 2012) ("The computer required by some of *Bancorp's* claims is employed only for its most basic function, the performance of repetitive calculations, and as such does not impose meaningful limits on the scope of those claims."); 

iii. Electronic recordkeeping, *Alice Corp.*, 134 S. Ct. at 2359, 110 USPQ2d at 1984 (creating and maintaining "shadow accounts"); *Ultramercial*, 772 F.3d at 716, 112 USPQ2d at 1755 (updating an activity log); 

iv. Storing and retrieving information in memory, *Versata Dev. Group, Inc. v. SAP Am., Inc.*, 793 F.3d 1306, 1334, 115 USPQ2d 1681, 1701 (Fed. Cir. 2015); *OIP Techs.*, 788 F.3d at 1363, 115 USPQ2d at 1092-93; 

v. Electronically scanning or extracting data from a physical document, *Content Extraction and Transmission, LLC v. Wells Fargo Bank*, 776 F.3d 1343, 1348, 113 USPQ2d 1354, 1358 (Fed. Cir. 2014) (optical character recognition); and 

vi. A web browser's back and forward button functionality, *Internet Patent Corp. v. Active Network, Inc.*, 790 F.3d 1343, 1348, 115 USPQ2d 1414, 1418 (Fed. Cir. 2015).

Similar to example four above, the independent claims store in one or more data repositories digital data representing a contract set as well as digital contract metadata. Therefore, Applicant's claims do not recite significantly more than the judicial exception. Thus, even when viewed as an ordered combination, nothing in the claims adds significantly more (i.e. an inventive concept) to the abstract idea. The claims are ineligible.

Claim Rejections - 35 USC § 103

13. The following is a quotation of 35 U.S.C. 103 which forms the basis for all obviousness rejections set forth in this Office action:

A patent for a claimed invention may not be obtained, notwithstanding that the claimed invention is not identically disclosed as set forth in section 102, if the differences between the claimed invention and the prior art are such that the claimed invention as a whole would have been obvious before the effective filing date of the claimed invention to a person having ordinary skill in the art to which the claimed invention pertains. Patentability shall not be negated by the manner in which the invention was made.

14. Claims 1-3, 9-12, 16-18, and 24 is/are rejected under 35 U.S.C. 103 as being unpatentable over Mont (U.S 2003/0177083 A1) in view of Noh (U.S 2014/0019368 A1) in view of Ozonat (U.S 2013/0191238 A1) in view of Bach ('Time Curves: Folding Time to Visualize Patterns of Temporal Evolution Data').

Claim 1

Regarding Claim 1, Mont discloses the following:

- *A computer-implemented method comprising* [see at least Paragraph 0010 for reference to the computer readable storage medium storing instructions that,

when executed by a computer, cause the computer to perform a method of determining risk and trust for e-contracts under negotiation]

- *storing, in one or more data repositories, digital data representing a contract set of two or more contract documents comprising a template document and one or more contract document versions based on the template document [see at least Paragraph 0041 for reference to the two e-contract templates described are stored in the contract template database; Paragraph 0009 for reference to contract context store for storing contextual data associated with contract negotiation and contract template store for storing metadata associated with contract templates]*
- *storing, in one or more data repositories, digital contract metadata [see at least Paragraph 0009 for reference to the contract template store for storing metadata associated with contract templates]*
- *the digital contract metadata including data identifying one or more data fields in each contract document of the contract set, data specifying a data type of the one or more data fields in each contract document of the contract set, and weights assigned to each data type [see at least Paragraph 0015 for reference to metadata being associated with contract templates and the aggregation of these templates to explicitly describe risk functions, trust functions, and recommended actions; Paragraph 0023 for reference to the centralized engine interprets risks and trust functions at different levels of abstraction as defined by metadata]*
- *in response to determining, generating and causing displaying, at [[a]]the computer associated with the contract administrator, a notification indicating that*

the contract set is at risk [see at least Paragraph 0008 for reference to a response from the measures of risk and trust to send to the negotiation agent and returning the response to the negotiation agent; Paragraph 0009 for reference to the negotiation engine being configured to output the response that is dependent on the evaluation of the effect of the contract proposal]

While Mont discloses the limitations above, it does not disclose weights being assigned to each data type. Mont also does not disclose calculating one or more distance scores based on the weighted differences between each data type of the one or more data fields in each contract document of the contract set.

However, Noh discloses the following:

- *weighting the identified differences according to weights assigned to each data type of the one or more data fields in each contract document of the contract set [see at least Paragraph 0029 for reference to weights applied to each local estimate of the concession rate to compute the weighted average; Paragraph 0033 for reference to the automated negotiation agent using the preference weights calculated for each of the issues involved in the negotiation to identify counteroffers to provide to the other party of the negotiation]*
- *calculating one or more distance scores based on the weighted differences between each data type of the one or more data fields in each contract document of the contract set [see at least Paragraph 0054 for reference to calculating the distances between the offer made by the opposing party and the candidate counteroffers that are weighted by weights that reflect perceived importance to the opposing party of the issues in the negotiation may include calculating*

distances between the offer made by the opposing party and the candidate counteroffers]

Before the effective filing date, it would have been obvious to one of ordinary skill in the art to modify the digital contract metadata of Mont to include weights assigned to each data type. Doing so would allow the modeling of the relative importance of an issue to the party negotiating contracts, as stated in Noh (Paragraph 0027).

While the combination of Mont and Noh discloses the above limitations, they do not disclose identifying differences between data field values of contract documents of the contract set or generating a graph by identifying differences between contract documents and distance scores.

However, Ozonat discloses the following:

- *identifying differences between data field values of contract documents of the contract set [see at least Paragraph 0013 for reference to the frequency estimator detecting the difference between term values for consecutive offers from a buyer]*
- *generating and causing displaying, at a computer associated with a contract administrator, a curve graph based on the one or more distance scores, [see at least Paragraph 0023 for reference to the change detector and distance estimator being used to estimate a buyer region of acceptable terms; Paragraph 0016 for reference to the distance estimator estimating the distance from each strategy to the sellers acceptable region of offers which is depicted by item 57 on Figure 5]*

Before the effective filing date, it would have been obvious to one of ordinary skill in the art to modify the computer method of Mont to include the graph generation based off distance scores of Ozonat. Doing so would indicate which combination of terms for an agreement would be acceptable to the seller, as stated by Ozonat (Paragraph 0011). This display would allow visualization of the different viewpoints, in context of negotiation of contract terms and conditions, as stated by Mont (Paragraph 0015).

While the combination of Mont, Noh, and Ozonat discloses the above limitation, they do not disclose a temporal ordering of the contract documents in the contract set. They also does not disclose generating and causing displaying, at a computer associated with a contract administrator, a time curve graph, the time curve graph including a geometric shape that graphically indicates one or more time curves between the documents of the set and a spatial proximity between the documents of the set. They also do not disclose the measure of each time curve of the one or more time curves in the time curve graph indicates an amount of time between a creation of two documents of the two or more contract documents, and the spatial proximity between the two or more document in the time curve graph indicates a metric of similarity between the two or more documents. Finally they do not disclose performing a digital geometric analysis of the time curve graph to identify whether the geometric shape of the time curve graph indicates a lack of convergence over a threshold amount of time and then in response to determining that the geometric shape indicates the lack of convergence over the threshold amount of time indicating that the set is at risk.

However, Bach discloses the following:

- *a temporal ordering of the documents* [see at least Page 2 Section 1 Paragraph 3 for reference to the data points within time curves being laid out on a curve which conveys temporal ordering and high-level progression patterns through its shape; Page 2 Paragraph 4 for reference to the goal of time curves is to offer a generic way of producing simple visual overview for a range of temporal datasets]
- *generating and causing displaying, at a computer associated with a administrator, a time curve graph, the time curve graph including a geometric shape that graphically indicates one or more time curves between the documents of the set and a spatial proximity between the documents of the set* [see at least Figure 1a as a reference to the generated time curve graph which displays both time curves between documents and spatial proximity between documents]
- *wherein a measure of each time curve of the one or more time curves in the time curve graph indicates an amount of time between a creation of two documents of the two or more documents, and the spatial proximity between the two or more document in the time curve graph indicates a metric of similarity between the two or more documents* [see at least Page 1 Figure 1a which displays the time curve principle which is a timeline that folded into itself in such a way that similar time points end up being close to one another such that the spatial proximity is the similarity and the distance between circles is the time difference]
- *performing a digital geometric analysis of the time curve graph to identify whether the geometric shape of the time curve graph indicates a lack of convergence over a threshold amount of time* [see at least Page 3 Paragraph 1 which discusses the time curve in Figure 1(b) revealing that the article on Palestine

underwent three stages, including turbulences in the form of zig-zag patterns suggesting a controversial stage but then the controversy is resolved and revisions become large and clustered, suggesting maturity; Page 6 Section 5.2 'Geometric Characteristics' for reference to the geometric characteristics of the time curve that can convey information including the 'Degree of oscillation' which suggests that a curve with no oscillation has a stable process while a high degree of oscillation has an unstable process; Figure 15 and related text regarding the five geometric characteristics of time curves]

- *in response to determining that the geometric shape indicates the lack of convergence over the threshold amount of time indicating that the set is at risk [see at least Page 3 Paragraph 1 which discusses the time curve in Figure 1(b) revealing that the article on Palestine underwent three stages, including turbulences in the form of zig-zag patterns suggesting a controversial stage; Page 3 Paragraph 2 for reference to the time curve giving cues as to whether the article can be trusted; Examiner notes 'potential lack of trust' in an article to be analogous to 'risk']*

Before the effective filing date, it would have been obvious to one of ordinary skill in the art to modify the contract comparison method of Mont to include the document ordering and time curve graph generation of Bach. Time curves make it easy to spot patterns that can be further examined using "detail-on-demand" techniques, as stated by Bach (Page 3 Paragraph 2). This would assist the centralized engine in defining risk and trust functions at the level of individual claims, at the level of the contract, and at the

contextual level of the contract with respect to market conditions and/or past history in the context of other contracts, as stated in Mont (Paragraph 0016).

Claim 2

While the combination of Mont, Noh, Ozonat, and Bach disclose the limitations above, regarding Claim 2, Mont discloses the following:

- *the digital contract metadata* [see at least Paragraph 0009 for reference to the contract template store for storing metadata associated with contract templates]

While Mont discloses the above limitation, it does not disclose inclusion of temporal data indicating a temporal ordering of the contract documents in the set.

However, Bach discloses the following:

- *further includes temporal data indicating a temporal ordering of the documents* [see at least Page 2 Section 1 Paragraph 3 for reference to the data points within time curves being laid out on a curve which conveys temporal ordering and high-level progression patterns through its shape; Page 2 Paragraph 4 for reference to the goal of time curves is to offer a generic way of producing simple visual overview for a range of temporal datasets]

Before the effective filing date, it would have been obvious to one of ordinary skill in the art to modify the digital contract metadata of Mont to include temporal data of Bach.

Time curves make it easy to spot patterns that can be further examined using “detail-on-demand” techniques, as stated by Bach (Page 3 Paragraph 2). This would assist the centralized engine in defining risk and trust functions at the level of individual claims, at the level of the contract, and at the contextual level of the contract with respect to

market conditions and/or past history in the context of other contracts, as stated in Mont (Paragraph 0016).

Claim 3

While the combination of Mont, Noh, Ozonat, and Bach disclose the limitations above, regarding Claim 3, Mont discloses the following:

- *the digital contract metadata further includes a contract clause library [see at least Paragraph 0005 for reference to the clauses of a contract containing admissible statements for a clause whereby a list of options may be provided; Examiner notes provided list of admissible clause statements as contract clause library]*

While Mont discloses the limitations above, it does not disclose data identifying the frequency of occurrence of each data type in each contract document of each contract set.

However, Ozonat discloses the following:

- *data identifying the frequency of occurrence of each data type in each contract document of each contract set [see at least Paragraph 0013 for reference to the frequency estimator detecting the difference between term values for consecutive offers from a buyer; Figure 1 item 26 'Frequency Estimator']*

Before the effective filing date, it would have been obvious to one of ordinary skill in the art to modify the digital contract metadata of Mont to include frequency data of Ozonat.

Doing so would provide the frequency of steps for the terms between contract documents within a contract set, as stated in Ozonat (Paragraph 0013). This display

would allow visualization of the different viewpoints, in context of negotiation of contract terms and conditions, as stated by Mont (Paragraph 0015).

Claim 9

While the combination of Mont, Noh, Ozonat, and Bach disclose the limitations above, regarding Claim 9, Mont discloses the following:

- *in response to determining that the contract set is not at risk, generating and causing displaying, at a computer associated with the contract administrator, a notification indicating that the contract set is not at risk* [see at least Paragraph 0008 for reference to a response from the measures of risk and trust to send to the negotiation agent and returning the response to the negotiation agent; Paragraph 0009 for reference to the negotiation engine being configured to output the response that is dependent on the evaluation of the effect of the contract proposal; Paragraph 0001 for reference to this apparatus and method being conducted in a B2B environment which involves business conducting transactions on the Internet; Figure 1 displaying high-level system architecture including item 8 'negotiation engine' sending a reply to item 15 'remote agent'; Paragraph 0018 for reference to the negotiation engine after conducting the evaluation of the risk level of the proposal outputting a set of suggested actions in which a reply is sent to remote agent containing an acceptance of the contract proposal; Examiner notes acceptance of contract proposal as contract set not at risk]

Claim 10

Regarding Claim 10, Mont discloses the following:

- *A computer-implemented method comprising* [see at least Paragraph 0010 for reference to the computer readable storage medium storing instructions that, when executed by a computer, cause the computer to perform a method of determining risk and trust for e-contracts under negotiation]
- *storing, in one or more data repositories, digital data representing a first contract set of two or more contract documents* [see at least Paragraph 0041 for reference to the two e-contract templates described are stored in the contract template database; Paragraph 0009 for reference to contract context store for storing contextual data associated with contract negotiation and contract template store for storing metadata associated with contract templates]
- *the two or more contract documents comprising a template document and one or more contract document versions based on the template document* [see at least Paragraph 0041 for reference to the two e-contract templates described are stored in the contract template database; Paragraph 0009 for reference to contract context store for storing contextual data associated with contract negotiation and contract template store for storing metadata associated with contract templates; Paragraph 0054 for reference to the viewpoint of the second e-contract template]
- *storing, in one or more data repositories, digital data representing a second contract set of two or more contract documents, the two or more contract documents comprising the template document and one or more contract document versions based on the template document* [see at least Paragraph 0041 for reference to the two e-contract templates described are stored in the

contract template database; Paragraph 0009 for reference to contract context store for storing contextual data associated with contract negotiation and contract template store for storing metadata associated with contract templates]

- *storing, in one or more data repositories, digital contract metadata* [see at least Paragraph 0009 for reference to the contract template store for storing metadata associated with contract templates]
- *the digital contract metadata including data regarding one or more data fields in each contract document of the first and second contract sets, data specifying a data type of the one or more data fields in each contract document of the first and second contract sets* [see at least Paragraph 0015 for reference to metadata being associated with contract templates and the aggregation of these templates to explicitly describe risk functions, trust functions, and recommended actions; Paragraph 0023 for reference to the centralized engine interprets risks and trust functions at different levels of abstraction as defined by metadata]
- *in response to identifying a directional trend between the first and second contract sets that indicate that the template document should be modified, generating and causing displaying, at a computer associated with the contract administrator, a notification indicating that the template document should be modified* [see at least Paragraph 0008 for reference to a response from the measures of risk and trust to send to the negotiation agent and returning the response to the negotiation agent; Paragraph 0009 for reference to the negotiation engine being configured to output the response that is dependent on the evaluation of the effect of the contract proposal]

While Mont discloses the limitations above, it does not disclose weights being assigned to each data type.

However, Noh discloses the following:

- *weights assigned to each data type* [see at least Paragraph 0029 for reference to weights applied to each local estimate of the concession rate to compute the weighted average; Paragraph 0033 for reference to the automated negotiation agent using the preference weights calculated for each of the issues involved in the negotiation to identify counteroffers to provide to the other party of the negotiation]

Before the effective filing date, it would have been obvious to one of ordinary skill in the art to modify the digital contract metadata of Mont to include weights assigned to each data type. Doing so would allow the modeling of the relative importance of an issue to the party negotiating contracts, as stated in Noh (Paragraph 0027).

While the combination of Mont and Noh discloses the limitations above, it does not disclose the generation and display of a curve graph based on the contract set and metadata in which the graph indicates similarities between contract documents in the contract set.

However, Ozonat discloses the following:

- *generating and causing displaying, at a computer associated with a contract administrator, a graph based on the contract set and contract metadata* [see at least Paragraph 0011 for reference to in Figure 2, a graph displays a line that

demarks a frontier of a region of acceptable terms that would be acceptable to the seller]

- *the graph graphically indicating similarities between contract documents in the contract set [see at least Paragraph 0023 for reference to the change detector and distance estimator that are used to estimate a buyer region of acceptable terms]*

Before the effective filing date, it would have been obvious to one of ordinary skill in the art to modify the contract risk detection method of Mont with the graph display of Ozonat. Doing so would indicate which combination of terms for an agreement would be acceptable to the seller, as stated by Ozonat (Paragraph 0011). This display would allow visualization of the different viewpoints, in context of negotiation of contract terms and conditions, as stated by Mont (Paragraph 0015).

While the combination of Mont, Noh, and Ozonat disclose the limitations above, they do not disclose the generation of a time curve graph based on the first and second set or the metadata or the determination of the need to modify the contract set by geometric analysis of the time curve graph.

However, Bach discloses the following:

- *generating and causing displaying, at a computer associated with a administrator, a time curve graph based on the first set, the second set, and the metadata, the time curve graph graphically indicating similarities between documents in the first set, similarities between documents in the second set, and a temporal ordering of documents in each set of the first and second sets [see at*

least Page 2 Section 1 Paragraph 3 for reference to the data points within time curves being laid out on a curve which conveys temporal ordering and high-level progression patterns through its shape; Page 2 Paragraph 4 for reference to the goal of time curves is to offer a generic way of producing simple visual overview for a range of temporal datasets; Page 1 Figure 1a which displays the time curve principle which is a timeline that folded into itself in such a way that similar time points end up being close to one another such that the spatial proximity is the similarity and the distance between circles is the time difference]

- *determining whether the template document of the set needs to be modified by performing a geometric analysis of the time curve graph to identify a geometric trend between the first and second sets that indicate that the template document should be modified [see at least Page 3 Paragraph 1 which discusses the time curve in Figure 1(b) revealing that the article on Palestine underwent three stages, including turbulences in the form of zig-zag patterns suggesting a controversial stage but then the controversy is resolved and revisions become large and clustered, suggesting maturity; Page 6 Section 5.2 'Geometric Characteristics' for reference to the geometric characteristics of the time curve that can convey information including the 'Degree of oscillation' which suggests that a curve with no oscillation has a stable process while a high degree of oscillation has an unstable process; Figure 15 and related text regarding the five geometric characteristics of time curves]*

Before the effective filing date, it would have been obvious to one of ordinary skill in the art to modify the contract comparison method of Mont to include the document ordering

and time curve graph generation of Bach. Time curves make it easy to spot patterns that can be further examined using “detail-on-demand” techniques, as stated by Bach (Page 3 Paragraph 2). This would assist the centralized engine in defining risk and trust functions at the level of individual claims, at the level of the contract, and at the contextual level of the contract with respect to market conditions and/or past history in the context of other contracts, as stated in Mont (Paragraph 0016).

Claim 11

While the combination of Mont, Noh, Ozonat, and Bach disclose the limitations above, regarding Claim 11, Mont discloses the following:

- *the digital contract metadata* [see at least Paragraph 0009 for reference to the contract template store for storing metadata associated with contract templates]

While Mont discloses the above limitation, it does not disclose inclusion of temporal data indicating a temporal ordering of the contract documents in the set.

However, Bach discloses the following:

- *further includes temporal data indicating a temporal ordering of the documents* [see at least Page 2 Section 1 Paragraph 3 for reference to the data points within time curves being laid out on a curve which conveys temporal ordering and high-level progression patterns through its shape; Page 2 Paragraph 4 for reference to the goal of time curves is to offer a generic way of producing simple visual overview for a range of temporal datasets]

Before the effective filing date, it would have been obvious to one of ordinary skill in the art to modify the digital contract metadata of Mont to include temporal data of Bach.

Time curves make it easy to spot patterns that can be further examined using “detail-on-

demand” techniques, as stated by Bach (Page 3 Paragraph 2). This would assist the centralized engine in defining risk and trust functions at the level of individual claims, at the level of the contract, and at the contextual level of the contract with respect to market conditions and/or past history in the context of other contracts, as stated in Mont (Paragraph 0016).

Claim 12

While the combination of Mont, Noh, Ozonat, and Bach disclose the limitations above, regarding Claim 12, discloses the following:

- *the digital contract metadata further includes a contract clause library [see at least Paragraph 0005 for reference to the clauses of a contract containing admissible statements for a clause whereby a list of options may be provided; Examiner notes provided list of admissible clause statements as contract clause library]*

While Mont discloses the limitations above, it does not disclose data identifying the frequency of occurrence of each data type in each contract document of each contract set.

However, Ozonat discloses the following:

- *data identifying the frequency of occurrence of each data type in each contract document of each contract set [see at least Paragraph 0013 for reference to the frequency estimator detecting the difference between term values for consecutive offers from a buyer; Figure 1 item 26 ‘Frequency Estimator’]*

Before the effective filing date, it would have been obvious to one of ordinary skill in the art to modify the digital contract metadata of Mont to include frequency data of Ozonat.

Doing so would provide the frequency of steps for the terms between contract documents within a contract set, as stated in Ozonat (Paragraph 0013). This display would allow visualization of the different viewpoints, in context of negotiation of contract terms and conditions, as stated by Mont (Paragraph 0015).

Claim 16

Regarding Claim 16, Mont discloses the following:

- *A data processing system comprising [see at least Paragraph 0016 for reference to the high level system architecture that shows a negotiator using contract templates to refine contract claims and drive the negotiation process]*
- *one or more hardware processors [see at least Paragraph 0114 for reference to the computer apparatus and processes performed in computer apparatus with the invention extending to computer programs, particularly computer programs on or in a carrier]*
- *a non-transitory computer-readable medium having instructions embodied thereon, the instructions, when executed by the one or more processors, cause [see at least Paragraph 0010 for reference to the computer readable storage medium storing instructions that, when executed by a computer, cause the computer to perform a method of determining risk and trust for e-contracts under negotiation]*
- *storing, in one or more data repositories, digital data representing a contract set of two or more contract documents comprising a template document and one or more contract document versions based on the template document [see at least Paragraph 0041 for reference to the two e-contract templates described are*

stored in the contract template database; Paragraph 0009 for reference to contract context store for storing contextual data associated with contract negotiation and contract template store for storing metadata associated with contract templates]

- *storing, in one or more data repositories, digital contract metadata [see at least Paragraph 0009 for reference to the contract template store for storing metadata associated with contract templates]*
- *the digital contract metadata including data identifying one or more data fields in each contract document of the contract set, data specifying a data type of the one or more data fields in each contract document of the contract set, and weights assigned to each data type [see at least Paragraph 0015 for reference to metadata being associated with contract templates and the aggregation of these templates to explicitly describe risk functions, trust functions, and recommended actions; Paragraph 0023 for reference to the centralized engine interprets risks and trust functions at different levels of abstraction as defined by metadata]*
- *in response to determining, generating and causing displaying, at [[a]]the computer associated with the contract administrator, a notification indicating that the contract set is at risk [see at least Paragraph 0008 for reference to a response from the measures of risk and trust to send to the negotiation agent and returning the response to the negotiation agent; Paragraph 0009 for reference to the negotiation engine being configured to output the response that is dependent on the evaluation of the effect of the contract proposal]*

While Mont discloses the limitations above, it does not disclose weights being assigned to each data type. Mont also does not disclose calculating one or more distance scores based on the weighted differences between each data type of the one or more data fields in each contract document of the contract set.

However, Noh discloses the following:

- *weighting the identified differences according to weights assigned to each data type of the one or more data fields in each contract document of the contract set [see at least Paragraph 0029 for reference to weights applied to each local estimate of the concession rate to compute the weighted average; Paragraph 0033 for reference to the automated negotiation agent using the preference weights calculated for each of the issues involved in the negotiation to identify counteroffers to provide to the other party of the negotiation]*
- *calculating one or more distance scores based on the weighted differences between each data type of the one or more data fields in each contract document of the contract set [see at least Paragraph 0054 for reference to calculating the distances between the offer made by the opposing party and the candidate counteroffers that are weighted by weights that reflect perceived importance to the opposing party of the issues in the negotiation may include calculating distances between the offer made by the opposing party and the candidate counteroffers]*

Before the effective filing date, it would have been obvious to one of ordinary skill in the art to modify the digital contract metadata of Mont to include weights assigned to each

data type. Doing so would allow the modeling of the relative importance of an issue to the party negotiating contracts, as stated in Noh (Paragraph 0027).

While the combination of Mont and Noh discloses the above limitations, they do not disclose identifying differences between data field values of contract documents of the contract set or generating a graph by identifying differences between contract documents and distance scores.

However, Ozonat discloses the following:

- *identifying differences between data field values of contract documents of the contract set [see at least Paragraph 0013 for reference to the frequency estimator detecting the difference between term values for consecutive offers from a buyer]*
- *generating and causing displaying, at a computer associated with a contract administrator, a curve graph based on the one or more distance scores, [see at least Paragraph 0023 for reference to the change detector and distance estimator being used to estimate a buyer region of acceptable terms; Paragraph 0016 for reference to the distance estimator estimating the distance from each strategy to the sellers acceptable region of offers which is depicted by item 57 on Figure 5]*

Before the effective filing date, it would have been obvious to one of ordinary skill in the art to modify the computer method of Mont to include the graph generation based off distance scores of Ozonat. Doing so would indicate which combination of terms for an agreement would be acceptable to the seller, as stated by Ozonat (Paragraph 0011).

This display would allow visualization of the different viewpoints, in context of negotiation of contract terms and conditions, as stated by Mont (Paragraph 0015).

While the combination of Mont, Noh, and Ozonat discloses the above limitation, they do not disclose a temporal ordering of the contract documents in the contract set. They also does not disclose generating and causing displaying, at a computer associated with a contract administrator, a time curve graph, the time curve graph including a geometric shape that graphically indicates one or more time curves between the documents of the set and a spatial proximity between the documents of the set. They also do not disclose the measure of each time curve of the one or more time curves in the time curve graph indicates an amount of time between a creation of two documents of the two or more contract documents, and the spatial proximity between the two or more document in the time curve graph indicates a metric of similarity between the two or more documents. Finally they do not disclose performing a digital geometric analysis of the time curve graph to identify whether the geometric shape of the time curve graph indicates a lack of convergence over a threshold amount of time and then in response to determining that the geometric shape indicates the lack of convergence over the threshold amount of time indicating that the set is at risk.

However, Bach discloses the following:

- *a temporal ordering of the documents* [see at least Page 2 Section 1 Paragraph 3 for reference to the data points within time curves being laid out on a curve which conveys temporal ordering and high-level progression patterns through its shape;

Page 2 Paragraph 4 for reference to the goal of time curves is to offer a generic way of producing simple visual overview for a range of temporal datasets]

- *generating and causing displaying, at a computer associated with a administrator, a time curve graph, the time curve graph including a geometric shape that graphically indicates one or more time curves between the documents of the set and a spatial proximity between the documents of the set [see at least Figure 1a as a reference to the generated time curve graph which displays both time curves between documents and spatial proximity between documents]*
- *wherein a measure of each time curve of the one or more time curves in the time curve graph indicates an amount of time between a creation of two documents of the two or more documents, and the spatial proximity between the two or more document in the time curve graph indicates a metric of similarity between the two or more documents [see at least Page 1 Figure 1a which displays the time curve principle which is a timeline that folded into itself in such a way that similar time points end up being close to one another such that the spatial proximity is the similarity and the distance between circles is the time difference]*
- *performing a digital geometric analysis of the time curve graph to identify whether the geometric shape of the time curve graph indicates a lack of convergence over a threshold amount of time [see at least Page 3 Paragraph 1 which discusses the time curve in Figure 1(b) revealing that the article on Palestine underwent three stages, including turbulences in the form of zig-zag patterns suggesting a controversial stage but then the controversy is resolved and revisions become large and clustered, suggesting maturity; Page 6 Section 5.2*

'Geometric Characteristics' for reference to the geometric characteristics of the time curve that can convey information including the 'Degree of oscillation' which suggests that a curve with no oscillation has a stable process while a high degree of oscillation has an unstable process; Figure 15 and related text regarding the five geometric characteristics of time curves]

- *in response to determining that the geometric shape indicates the lack of convergence over the threshold amount of time indicating that the set is at risk [see at least Page 3 Paragraph 1 which discusses the time curve in Figure 1(b) revealing that the article on Palestine underwent three stages, including turbulences in the form of zig-zag patterns suggesting a controversial stage; Page 3 Paragraph 2 for reference to the time curve giving cues as to whether the article can be trusted; Examiner notes 'potential lack of trust' in an article to be analogous to 'risk']*

Before the effective filing date, it would have been obvious to one of ordinary skill in the art to modify the contract comparison method of Mont to include the document ordering and time curve graph generation of Bach. Time curves make it easy to spot patterns that can be further examined using "detail-on-demand" techniques, as stated by Bach (Page 3 Paragraph 2). This would assist the centralized engine in defining risk and trust functions at the level of individual claims, at the level of the contract, and at the contextual level of the contract with respect to market conditions and/or past history in the context of other contracts, as stated in Mont (Paragraph 0016).

Claim 17

While the combination of Mont, Noh, Ozonat, and Bach disclose the limitations above, regarding Claim 17, Mont discloses the following:

- *the digital contract metadata* [see at least Paragraph 0009 for reference to the contract template store for storing metadata associated with contract templates]

While Mont discloses the above limitation, it does not disclose inclusion of temporal data indicating a temporal ordering of the contract documents in the set.

However, Bach discloses the following:

- *further includes temporal data indicating a temporal ordering of the documents* [see at least Page 2 Section 1 Paragraph 3 for reference to the data points within time curves being laid out on a curve which conveys temporal ordering and high-level progression patterns through its shape; Page 2 Paragraph 4 for reference to the goal of time curves is to offer a generic way of producing simple visual overview for a range of temporal datasets]

Before the effective filing date, it would have been obvious to one of ordinary skill in the art to modify the digital contract metadata of Mont to include temporal data of Bach.

Time curves make it easy to spot patterns that can be further examined using “detail-on-demand” techniques, as stated by Bach (Page 3 Paragraph 2). This would assist the centralized engine in defining risk and trust functions at the level of individual claims, at the level of the contract, and at the contextual level of the contract with respect to market conditions and/or past history in the context of other contracts, as stated in Mont (Paragraph 0016).

Claim 18

While the combination of Mont, Noh, Ozonat, and Bach disclose the limitations above, regarding Claim 18, Mont discloses the following:

- *the digital contract metadata further includes a contract clause library [see at least Paragraph 0005 for reference to the clauses of a contract containing admissible statements for a clause whereby a list of options may be provided; Examiner notes provided list of admissible clause statements as contract clause library]*

While Mont discloses the limitations above, it does not disclose data identifying the frequency of occurrence of each data type in each contract document of each contract set.

However, Ozonat discloses the following:

- *data identifying the frequency of occurrence of each data type in each contract document of each contract set [see at least Paragraph 0013 for reference to the frequency estimator detecting the difference between term values for consecutive offers from a buyer; Figure 1 item 26 'Frequency Estimator']*

Before the effective filing date, it would have been obvious to one of ordinary skill in the art to modify the digital contract metadata of Mont to include frequency data of Ozonat. Doing so would provide the frequency of steps for the terms between contract documents within a contract set, as stated in Ozonat (Paragraph 0013). This display would allow visualization of the different viewpoints, in context of negotiation of contract terms and conditions, as stated by Mont (Paragraph 0015).

Claim 24

While the combination of Mont, Noh, Ozonat, and Bach disclose the limitations above, regarding Claim 24, Mont discloses the following:

- *further comprising instructions executed by the system which, when executed, cause: in response to determining that the contract set is not at risk, generating and causing displaying, at a computer associated with the contract administrator, a notification indicating that the contract set is not at risk [see at least Paragraph 0008 for reference to a response from the measures of risk and trust to send to the negotiation agent and returning the response to the negotiation agent; Paragraph 0009 for reference to the negotiation engine being configured to output the response that is dependent on the evaluation of the effect of the contract proposal; Paragraph 0001 for reference to this apparatus and method being conducted in a B2B environment which involves business conducting transactions on the Internet; Figure 1 displaying high-level system architecture including item 8 'negotiation engine' sending a reply to item 15 'remote agent'; Paragraph 0018 for reference to the negotiation engine after conducting the evaluation of the risk level of the proposal outputting a set of suggested actions in which a reply is sent to remote agent containing an acceptance of the contract proposal; Examiner notes acceptance of contract proposal as contract set not at risk]*

15. Claims 6, 15, and 21 is/are rejected under 35 U.S.C. 103 as being unpatentable over Mont (U.S 2003/0177083 A1) in view of Noh (U.S 2014/0019368 A1) in view of Ozonat (U.S 2013/0191238 A1) in view of Bach ('Time Curves: Folding Time to

Visualize Patterns of Temporal Evolution Data'), as applied in claims 1, 10, and 16, in view of Sharma (U.S 2016/0364675 A1).

Claim 6

While the combination of Mont, Noh, Ozonat, and Bach disclose the limitations above, Mont does not disclose the calculation of distance scores.

Regarding Claim 6, Noh discloses the following:

- *calculating the one or more distance scores includes, for each distance score of the one or more distance scores, identifying differences between two contract documents of the contract set [see at least Paragraph 0054 for reference to calculating the distances between the offer made by the opposing party and the candidate counteroffers that are weighted by weights that reflect perceived importance to the opposing party of the issues in the negotiation may include calculating distances between the offer made by the opposing party and the candidate counteroffers; Paragraph 0053 for reference to noting the differences between counteroffers]*

Before the effective filing date, it would have been obvious to one of ordinary skill in the art to modify the computer method of Mont to include the calculation of distance scores of Noh. Doing so would allow the selection of the issue perceived as being the most important to the other party negotiating contract, as stated by Noh (Paragraph 0034). This would assist the negotiation engine in determining the most effective proposal at both claim and contract level, as stated by Mont (Paragraph 0017).

While Noh discloses the limitations above it does not disclose identifying differences between two contract documents using natural language processing.

However, Sharma discloses the following:

- *identifying differences between two contract documents of the contract set using natural language processing* [see at least Page 2 Paragraph 0016 for reference to the host server using natural language processing techniques to parse data including contract data]

Before the effective filing date, it would have been obvious to one of ordinary skill in the art to modify the computer method of Mont with the distance score calculation of Noh to include the natural language processing capability of Sharma. Doing so would, provide the ability to automatically obtain information associated with the development project or in this case contract, as stated in Sharma (Page 2 Paragraph 0016).

Claim 15

While the combination of Mont, Noh, Ozonat, and Bach disclose the limitations above, Mont does not disclose the calculation of distance scores.

Regarding Claim 6, Noh discloses the following:

- *calculating the one or more distance scores includes, for each distance score of the one or more distance scores, identifying differences between two contract documents of the contract set* [see at least Paragraph 0054 for reference to calculating the distances between the offer made by the opposing party and the candidate counteroffers that are weighted by weights that reflect perceived importance to the opposing party of the issues in the negotiation may include calculating distances between the offer made by the opposing party and the

candidate counteroffers; Paragraph 0053 for reference to noting the differences between counteroffers]

Before the effective filing date, it would have been obvious to one of ordinary skill in the art to modify the computer method of Mont to include the calculation of distance scores of Noh. Doing so would allow the selection of the issue perceived as being the most important to the other party negotiating contract, as stated by Noh (Paragraph 0034). This would assist the negotiation engine in determining the most effective proposal at both claim and contract level, as stated by Mont (Paragraph 0017).

While Noh discloses the limitations above it does not disclose identifying differences between two contract documents using natural language processing.

However, Sharma discloses the following:

- *identifying differences between two contract documents of the contract set using natural language processing* [see at least Page 2 Paragraph 0016 for reference to the host server using natural language processing techniques to parse data including contract data]

Before the effective filing date, it would have been obvious to one of ordinary skill in the art to modify the computer method of Mont with the distance score calculation of Noh to include the natural language processing capability of Sharma. Doing so would, provide the ability to automatically obtain information associated with the development project or in this case contract, as stated in Sharma (Page 2 Paragraph 0016).

Claim 21

While the combination of Mont, Noh, Ozonat, and Bach disclose the limitations above, Mont does not disclose the calculation of distance scores.

Regarding Claim 6, Noh discloses the following:

- *calculating the one or more distance scores includes, for each distance score of the one or more distance scores, identifying differences between two contract documents of the contract set [see at least Paragraph 0054 for reference to calculating the distances between the offer made by the opposing party and the candidate counteroffers that are weighted by weights that reflect perceived importance to the opposing party of the issues in the negotiation may include calculating distances between the offer made by the opposing party and the candidate counteroffers; Paragraph 0053 for reference to noting the differences between counteroffers]*

Before the effective filing date, it would have been obvious to one of ordinary skill in the art to modify the computer method of Mont to include the calculation of distance scores of Noh. Doing so would allow the selection of the issue perceived as being the most important to the other party negotiating contract, as stated by Noh (Paragraph 0034). This would assist the negotiation engine in determining the most effective proposal at both claim and contract level, as stated by Mont (Paragraph 0017).

While Noh discloses the limitations above it does not disclose identifying differences between two contract documents using natural language processing.

However, Sharma discloses the following:

- *identifying differences between two contract documents of the contract set using natural language processing* [see at least Page 2 Paragraph 0016 for reference to the host server using natural language processing techniques to parse data including contract data]

Before the effective filing date, it would have been obvious to one of ordinary skill in the art to modify the computer method of Mont with the distance score calculation of Noh to include the natural language processing capability of Sharma. Doing so would, provide the ability to automatically obtain information associated with the development project or in this case contract, as stated in Sharma (Page 2 Paragraph 0016).

Conclusion

16. Any inquiry concerning this communication or earlier communications from the examiner should be directed to KRISTIN ELIZABETH GAVIN whose telephone number is (571)270-7019. The examiner can normally be reached on M-F 7:30-4:30 PM EST.

Examiner interviews are available via telephone, in-person, and video conferencing using a USPTO supplied web-based collaboration tool. To schedule an interview, applicant is encouraged to use the USPTO Automated Interview Request (AIR) at <http://www.uspto.gov/interviewpractice>.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Brian Epstein can be reached on 571-270-5389. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR.

Status information for unpublished applications is available through Private PAIR only.

For more information about the PAIR system, see [https://ppair-](https://ppair-my.uspto.gov/pair/PrivatePair)

[my.uspto.gov/pair/PrivatePair](https://ppair-my.uspto.gov/pair/PrivatePair). Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/SUSANNA M. DIAZ/
Primary Examiner, Art Unit 3683

/K.E.G./
Examiner, Art Unit 3683

The Claims:

1. (Currently Amended) A computer-implemented method comprising:

- storing, in one or more data repositories, digital data representing a contract set of two or more contract documents comprising a template document and one or more contract document versions based on the template document;
- storing, in one or more data repositories, digital contract metadata, the digital contract metadata including data identifying one or more data fields in each contract document of the contract set, data specifying a data type of the one or more data fields in each contract document of the contract set, and weights assigned to each data type;
- identifying differences between data field values of the contract documents of the contract set;
- weighting the identified differences according to weights assigned to each data type of the one or more data fields in each contract document of the contract set;
- using the weighted differences between the data field values of the contract documents of the contract set to calculate ~~calculating~~ one or more distance scores for the one or more data fields ~~based on the weighted differences between each data type of the one or more data fields in each contract document of the contract set;~~
- using the one or more distance scores calculated using the weighted differences between the data field values of the contract documents of the contract set and a temporal ordering of the contract documents in the contract set to generate and cause ~~generating and causing~~ displaying, at a computer associated with a contract administrator, a time curve graph ~~based on the one or more distance scores and a temporal ordering of the contract documents in the contract set,~~ the time curve graph including a geometric shape that graphically indicates one or more time curves between the contract documents of the contract set and a spatial proximity between the contact documents of the contract set;
- wherein a measure of each time curve of the one or more time curves in the time curve graph indicates an amount of time between a creation of two contract documents of the two or more contract documents, and the spatial proximity between the two or more contract document in the time curve graph indicates a metric of similarity between the two or more contract documents;

performing a digital geometric analysis of the time curve graph to identify whether the geometric shape of the time curve graph indicates a lack of convergence over a threshold amount of time;

in response to determining that the geometric shape indicates a lack of convergence over the threshold amount of time, generating and causing displaying, at a computer associated with the contract administrator, a notification indicating that the contract set is at risk.

2. (Original) The method of claim 1, wherein the digital contract metadata further includes temporal data indicating a temporal ordering of the contract documents in the contract set.

3. (Previously Presented) The method of claim 1, wherein the digital contract metadata further includes a contract clause library and data identifying the frequency of occurrence of each data type in each contract document of the contract set.

4-5. (Canceled)

6. (Previously Presented) The method of claim 1, wherein calculating the one or more distance scores includes, for each distance score of the one or more distance scores, identifying differences between two contract documents of the contract set using natural language processing.

7.-8. (Canceled)

9. (Original) The method of claim 1, further comprising: in response to determining that the contract set is not at risk, generating and causing displaying, at a computer associated with the contract administrator, a notification indicating that the contract set is not at risk.

10. (Currently Amended) A computer-implemented method comprising:
storing, in one or more data repositories, digital data representing a first contract set of two or more contract documents, the two or more contract documents comprising a template document and one or more contract document versions based on the template document;

storing, in one or more data repositories, digital data representing a second contract set of two or more contract documents, the two or more contract documents comprising the template document and one or more contract document versions based on the template document;

storing, in one or more data repositories, digital contract metadata, the digital contract metadata including data regarding one or more data fields in each contract document of the first and second contract sets, data specifying a data type of the one or more data fields in each contract document of the first and second contract sets, and weights assigned to each data type;

identifying differences between data field values of the contract documents in the first and second contract sets;

weighting the identified differences according to weights assigned to each data type;

using the weighted differences between the data field values to calculate one or more distance scores for the one or more data fields;

using the distance scores calculated using the weighted differences between the data field values to generate and cause ~~generating and causing~~ displaying, at a computer associated with a contract administrator, a time curve graph ~~based on the first contract set, the second contract set, and the contract metadata,~~ the time curve graph graphically indicating similarities between contract documents in the first contract set, similarities between contract documents in the second contract set, and a temporal ordering of contract documents in each contract set of the first and second contract sets;

determining whether the template document of the contract set needs to be modified by performing a geometric analysis of the time curve graph to identify a geometric trend between the first and second contract sets that indicate that the template document should be modified;

in response to identifying a directional trend between the first and second contract sets that indicate that the template document should be modified, generating and causing displaying, at a computer associated with the contract administrator, a notification indicating that the template document should be modified.

11. (Original) The method of claim 10, wherein the digital contract metadata further includes temporal data indicating a temporal ordering of the contract documents in the contract set.

12. (Previously Presented) The method of claim 10, wherein the digital contract metadata further includes a contract clause library and data identifying the frequency of occurrence of each data type in each contract document of the contract set.

13-14. (Canceled)

15. (Previously Presented) The method of claim 10, wherein calculating the one or more distance scores includes, for each distance score of the one or more distance scores, identifying differences between two contract documents of the contract set using natural language processing.

16. (Currently Amended) A data processing system comprising:
one or more hardware processors;
a non-transitory computer-readable medium having instructions embodied thereon, the instructions, when executed by the one or more processors, cause:

storing, in one or more data repositories, digital data representing a contract set of two or more contract documents comprising a template document and one or more contract document versions based on the template document;

storing, in one or more data repositories, digital contract metadata, the digital contract metadata including data identifying one or more data fields in each contract document of the contract set, data specifying a data type of the one or more data fields in each contract document of the contract set, and weights assigned to each data type;

identifying differences between data field values of the contract documents of the contract set;

weighting the identified differences according to weights assigned to each data type of the one or more data fields in each contract document of the contract set;

using the weighted differences between the data field values of the contract documents of the contract set to calculate ~~calculating~~ one or more distance scores for the one or more data fields ~~based on the weighted differences between each data type of the one or more data fields in each contract document of the contract set;~~

using the one or more distance scores calculated using the weighted differences between the data field values of the contract documents of the contract set and a temporal ordering of the contract documents in the contract set to generate and cause ~~generating and causing~~ displaying, at a computer associated with a contract administrator, a time curve graph ~~based on the one or more distance scores and a temporal ordering of the contract documents in the contract set~~, the time curve graph including a geometric shape that graphically indicates one or more time curves between contract documents of the contract set and a spatial proximity between contact documents of the contract set;

wherein a measure of each time curve of the one or more time curves in the time curve graph indicates an amount of time between a creation of two contract documents of the two or more contract documents, and the spatial proximity between the two or more contract documents in the time curve graph indicates a metric of similarity between the two or more contract documents;

performing a digital geometric analysis of the time curve graph to identify whether the geometric shape of the time curve graph indicates a lack of convergence over a threshold amount of time;

in response to determining that the geometric shape indicates the lack of convergence over the threshold amount of time, generating and causing displaying, at the computer associated with the contract administrator, a notification indicating that the contract set is at risk.

17. (Original) The system of claim 16, wherein the digital contract metadata further includes temporal data indicating a temporal ordering of the contract documents in the contract set.

18. (Previously Presented) The system of claim 16, wherein the digital contract metadata further includes a contract clause library and data identifying the frequency of occurrence of each data type in each contract document of the contract set.

19-20. (Canceled)

21. (Previously Presented) The system of claim 16, wherein calculating the one or more distance scores includes, for each distance score of the one or more distance scores, identifying differences between two contract documents of the contract set using natural language processing.

22-23. (Canceled)

24. (Original) The system of claim 16, further comprising instructions executed by the system which, when executed, cause: in response to determining that the contract set is not at risk, generating and causing displaying, at a computer associated with the contract administrator, a notification indicating that the contract set is not at risk.

REMARKS

STATEMENT OF SUBSTANCE OF INTERVIEW

Applicant's representatives Christopher J. Palermo and Zhigang Ma thank the Examiner for participating in a telephonic interview on 01 December 2020. The parties discussed all the rejections to the claims. Concerning the prior art issues of the Office Action, the general thrust of the Applicant's argument was that the proposed *Mont-Noh-Ozonat-Bach* combination fails to disclose, teach, or suggest each and every limitation of independent Claim 1. The Examiner suggested that Applicant amend the claims to differentiate independent Claim 1 from the cited art. The Examiner agreed that the proposed amendments would advance the case, but indicated that an additional search and consideration would be needed. Concerning eligible subject matter under 35 U.S.C. § 101, Applicant presented the amendments as shown in this paper and provided a summary of reasons why the amended claims integrate any judicial exception into a practical application, and provide significantly more and thus an inventive concept beyond any judicial exception. The Examiner noted that she had consulted with others in the Office and was prepared to withdraw the rejections under 35 U.S.C. § 101 and that action is appreciated.

STATUS OF THE CLAIMS

Claims 1-3, 6, 9-12, 15-18, 21, and 24 were presented for examination and were pending in this application.

To expedite allowance of this Application, Applicant has made clarifying amendments to Claims 1, 10 and 16. Applicant respectfully requests the Examiner to reconsider and allow all pending claims.

ALL CLAIMS RECITE ELIGIBLE SUBJECT MATTER UNDER 35 U.S.C. § 101

Claims 1-3, 6, 9-12, 15-18, 21, and 24 stand rejected under 35 U.S.C. § 101 as allegedly directed to non-statutory or ineligible subject matter. Specifically, the Examiner asserts that the claims are directed to the judicial exception of "a mathematical concept in the form of a

mathematical calculation,” “a certain method of organizing human activity,” and “mental processes.” (Office Action at 8-9). The Examiner further asserts that the additional elements amount to “no more than mere instructions to apply the exception using a generic computer system.” (Office Action at 10.) Applicant respectfully disagrees and provides the following showing that the Office has ample basis to determine that all claims recite eligible subject matter.

Step 1 – Statutory Process

All claims are directed to process, apparatus or machine inventions and the Office appears to have conceded that all claims pass Step 1 of the Alice-Mayo decision framework as set forth in the Office’s 2019 Revised Patent Subject Matter Eligibility Guidance relating to § 101 issues.

Step 2A, Prong One – The Claims Do Not Recite an Abstract Idea

Claims 1-3, 6, 9-12, 15-18, 21, and 24 are not directed to an abstract idea under Prong One of the revised Step 2A analysis. In Prong One, examiners determine whether the claim recites or describes a judicial exception such as an abstract idea, a law of nature, or a natural phenomenon. If the claim does not recite a judicial exception, it is not directed to a judicial exception (Step 2A: NO) and is eligible. This concludes the eligibility analysis. If the claim does recite a judicial exception, then it requires further analysis in Prong Two of Revised Step 2A to determine whether it is directed to the recited exception, as explained in Section III.A.2 of the 2019 Revised Patent Subject Matter Eligibility Guidance.

Applicant respectfully submits that Claims 1-3, 6, 9-12, 15-18, 21, and 24 are not directed to a mathematical concept, a method of organizing human activity, or a mental process and therefore pass Step 2A, Prong One. None of the claims recites or describes a judicial exception when all elements and limitations of the claim are considered. As an example, independent Claim 1 relates to identifying differences between data field values of digital electronic contract documents of a contract set, weighting the identified differences according to weights assigned to each data type of the data fields in each contract document, using the weighted differences between the data field values of the contract documents of the contract set to calculate distance scores for the data fields, using the distance scores calculated using the weighted differences between the data field values and a temporal ordering of the contract documents to generate a time curve graph

and delivering risk notifications upon determining that a geometric shape of the time curve graph indicates a lack of convergence over a threshold amount of time. The time curve graph includes “*a geometric shape that graphically indicates one or more time curves between the contract documents of the contract set and a spatial proximity between the contact documents of the contract set.*” This is not one of the enumerated categories of abstract ideas from the 2019 Guidance. It is not by itself a mathematical concept, a method of organizing human activity, or a mental process. 2019 Guidance at 52-53. This is at least demonstrated by the recitation of limitations reciting identifying differences between data field values of digital electronic contract documents of a contract set, weighting the identified differences according to weights assigned to each data type of the data fields in each contract document, using the weighted differences between the data field values of the contract documents of the contract set to calculate distance scores for the data fields, using the distance scores calculated using the weighted differences between the data field values and a temporal ordering of the contract documents to generate a time curve graph and delivering risk notifications upon determining that a geometric shape of the time curve graph indicates a lack of convergence over a threshold amount of time. These claim recitations have no inherent relationship to a mathematical concept, any method of organizing human activity, or any mental process.

The claims also recite identifying differences between data field values of contract documents of the contract set, weighting the identified differences according to weights assigned to each data type of the one or more data fields in each contract document of the contract set, using the weighted differences between the data field values of the contract documents of the contract set to calculate one or more distance scores for the one or more data fields, using the one or more distance scores calculated using the weighted differences between the data field values of the contract documents of the contract set and a temporal ordering of the contract documents in the contract set to generate and cause displaying, at a computer associated with a contract administrator, a time curve graph. The time curve graph includes a geometric shape that graphically indicates time curves between the contract documents of the contract set and a spatial proximity between the contact documents of the contract set. The claims recite performing a digital geometric analysis of the time curve graph to identify whether the geometric shape of the time curve graph indicates a lack of convergence over a threshold amount of time, in response to

determining that the geometric shape indicates the lack of convergence over the threshold amount of time, generating and causing displaying, at the computer associated with the contract administrator, a notification indicating that the contract set is at risk. All these elements and limitations cover particular arrangements and functions for components of computing systems configured for specialized operations. They are not generic, abstract or non-technical. The fact that the claims bear some relationship to machine analysis of contracts does not automatically make the claims ineligible, because when all elements and limitations are considered, they plainly cover a specific technical process of data analysis.

Therefore, Claim 1, and indeed all pending claims, do not recite a judicial exception. Instead, Claims 1-3, 6, 9-12, 15-18, 21, and 24 merely *involve*, and only in part, what could be argued to be a mathematical concept, a method of organizing human activity, or a mental process, which is insufficient to render an invention patent ineligible. The Office's contention that the claims are directed solely to the high-level concept of "a mathematical concept in the form of a mathematical calculation," "a certain method of organizing human activity," and "mental processes" fails to account for the technical improvements, discussed herein, resulting from the claims as demonstrated in the Specification. That these technical improvements may also result in additional benefits for an entity performing the claims should not be used to undermine the technical nature of the claims. At some level, all inventions, including those that are patent eligible, embody, use, reflect, rest on, or apply abstract ideas. *See Alice Corp.*, 573 U.S. at 217 (citing *Mayo Collaborative Sys. v. Prometheus Labs., Inc.*, 566 U.S. 66, 71 (2012)).

For all these reasons, the Office has ample basis to find that the claims pass Step 2A, Prong One.

Step 2A, Prong Two – The Claims Recite an Integration of Any Alleged Judicial Exception into Practical Application

The claims also recite particular limitations that integrate any judicial exception into a practical application and satisfy Step 2A, Prong Two. Prong Two requires examiners to (a) identify any additional elements beyond the elements that recite or describe a judicial exception, and (b) evaluate the additional elements individually and in combination to determine whether they integrate the exception into a practical application. 2019 Guidance at 54-55. Step 2A specifically

excludes consideration of whether the additional elements represent well-understood, routine, conventional activity. *Id.* at 55. If the recited exception is integrated into a practical application of the exception, then the claim is eligible and analysis ends. *Id.*

Here, the Examiner asserts that “this judicial exception is not integrated into a practical application.” (Office Action at 10.) Applicant respectfully submits that the Office’s approach is excessively negative and appears to overlook important elements and limitations of the claims.

Applicant respectfully submits that at least the following limitations integrate any judicial exception into a practical application of computing technology:

- identifying differences between data field values of the contract documents of the contract set, weighting the identified differences according to weights assigned to each data type of the one or more data fields in each contract document of the contract set,
- using the weighted differences between the data field values of the contract documents of the contract set to calculate one or more distance scores for the one or more data fields,
- using the one or more distance scores calculated using the weighted differences between the data field values of the contract documents of the contract set and a temporal ordering of the contract documents in the contract set to generate and cause displaying, at a computer associated with a contract administrator, a time curve graph, the time curve graph including a geometric shape that graphically indicates one or more time curves between the contract documents of the contract set and a spatial proximity between the contact documents of the contract set,
- performing a digital geometric analysis of the time curve graph to identify whether the geometric shape of the time curve graph indicates a lack of convergence over a threshold amount of time, in response to determining that the geometric shape indicates the lack of convergence over the threshold amount of time,
- generating and causing displaying, at the computer associated with the contract administrator, a notification indicating that the contract set is at risk are more than mere generic computing systems.

The claims provide an improvement in machine analysis of digital electronic contract documents that generates data indicating risk that has not been available before. Applicants are the first to conceive of using time curve graphs for contracts to assess convergence or entropy and result in a machine-generated risk assessment. Stated in a simplified manner, the limitations quoted above construct and use time curve graphs—data structures in memory organized as nodes and edges to represent changes in contracts over time—to determine whether data field values indicate a convergence in contract terms or entropy over time. These determinations then drive notifications indicating risk associated with the contract. The result is to provide an end-user or another system with useful data that was not available before.

These limitations provide particular requirements of components specifically configured to affect the technological advancements described in the Specification and recited in the claims. At a minimum, the limitations above reflect an improvement to effect a transformation or reduction of a particular article to a different state or thing and apply the alleged abstract idea in another meaningful way beyond generally linking the use of the idea to a particular technological environment. 2019 Guidance at 55. Claim 1 and all other independent claims include limitations that reflect improvements to the technical fields of detecting risk in a set of contract documents using techniques that did not exist before, determining the risk of a set of contract documents by batch processing them at once, and computer-aided presentation of data for the set of contract document using a basis other than syntax or semantics.

Thus, the claims represent the practical application of any alleged judicial exception. As such, Step 2A, Prong Two is not satisfied by the Examiner's analysis, and cannot be satisfied, which concludes the eligibility analysis. 2019 Guidance at 54 (“When the exception is so integrated, then the claim is not directed to a judicial exception (Step 2A: NO) and is eligible.”).

The claims may also be considered in comparison to the patent-eligible claim(s) discussed in Examples 41 and 42 of the USPTO Subject Matter Eligibility Examples: Abstract Ideas.

In the claim of Example 41, a limitation expressly recited a mathematical concept, for example the mathematical calculation, $C_A = M_A^e \pmod n$, that is used to encode a word signal M_A to produce a ciphertext word signal C_A . Despite this, the claim was said to be patent-eligible because the combination of additional elements in the claim, including “receiving the plaintext

word signal at the first computer terminal,” “transforming the plaintext word signal to one or message block word signals M_A ” and “transmitting the encoded ciphertext word signal C_A to the second computer terminal over a communication channel,” integrates the exception into a practical application. The example notes that the combination of additional elements in the claim use the mathematical formulas and calculations in a specific manner that sufficiently limits the use of the mathematical concepts to a practical application. The Example specifically notes that “well-understood, routine, conventional subject matter can integrate an abstract idea into a practical application. Thus, even though receiving a signal at a first computer, transforming it and transmitting the transformed signal to a second computer are described in the background as being conventional, Step 2A Prong 2 does not evaluate whether the additional elements are conventional to determine whether the abstract idea is integrated into a practical application.”

Like the claim of Example 41, Claim 1 of this Application integrates the alleged mathematical concept into a practical manner by reciting a specific manner that limits the use of the mathematical concepts to a practical application. For example, the limitations of weighting the identified differences according to weights assigned to each data type of the one or more data fields in each contract document of the contract set, using the weighted differences between the data field values of the contract documents of the contract set to calculate one or more distance scores for the one or more data fields, and using the one or more distance scores calculated using the weighted differences between the data field values of the contract documents of the contract set and a temporal ordering of the contract documents in the contract set to generate and cause displaying, at a computer associated with a contract administrator, a time curve graph, recite similarly detailed applications as the limitations of “receiving the plaintext word signal at the first computer terminal,” “transforming the plaintext word signal to one or message block word signals M_A ” and “transmitting the encoded ciphertext word signal C_A to the second computer terminal over a communication channel,” recited in the claim of Example 41. Thus, Claims 1-3, 6, 9-12, 15-18, 21, and 24 of this Application as amended are directed to patentable subject matter.

Claim 1 of Example 42, when considered as a whole, allegedly recites a method of organizing human activity, a “method of managing interactions between people.” However, the claim is patent-eligible because it recites a combination of additional elements including storing information, providing remote access over a network, converting information that was input by a

user from one, standardized, form to another, non-standardized, form, automatically generating a message whenever the information is stored, and transmitting the message to users. The additional elements, similar to the additional elements recited in the claims of this Application, were found to integrate the method of organizing human activity into a practical application because they recite “a specific improvement over prior art systems by allowing remote users to share information in real time in a standardized format regardless of the format in which the information was input by the user.”

Like Claim 1 of Example 42, the claims of this Application recite limitations that integrate the alleged method of organizing human activity into a practical application because they recite a specific improvement over prior art systems, as discussed herein. Furthermore, like Claim 1 of Example 42, Claim 1 of this Application recites limitations similar to “storing information in a standardized format” (e.g., storing, in one or more data repositories, digital data representing a contract set of two or more contract documents comprising a template document and one or more contract document versions based on the template document, and storing, in one or more data repositories, digital contract metadata, the digital contract metadata including data identifying one or more data fields in each contract document of the contract set, data specifying a data type of the one or more data fields in each contract document of the contract set, and weights assigned to each data type), “converting, by a content server, ... updated information into [a] standardized format” (e.g., using the one or more distance scores calculated using the weighted differences between the data field values of the contract documents of the contract set and a temporal ordering of the contract documents in the contract set to generate and cause displaying, at a computer associated with a contract administrator, a time curve graph, the time curve graph including a geometric shape that graphically indicates one or more time curves between the contract documents of the contract set and a spatial proximity between the contact documents of the contract set), “automatically generating a message” (e.g., performing a digital geometric analysis of the time curve graph to identify whether the geometric shape of the time curve graph indicates a lack of convergence over a threshold amount of time), and “transmitting the message” to the users (e.g., in response to determining that the geometric shape indicates the lack of convergence over the threshold amount of time, generating and causing displaying, at the computer associated with the contract administrator, a notification indicating that the contract set is at risk). These limitations result in a

specific improvement over prior art systems by detecting risk in a set of contract documents using techniques that did not exist before, determining the risk of a set of contract documents by batch processing them at once, and computer-aided presentation of data for the set of contract document using a basis other than syntax or semantics, as described herein. Thus, Claims 1-3, 6, 9-12, 15-18, 21, and 24 of this Application as amended are directed to patentable subject matter.

Step 2B – The Claims Recite Significantly More than the Alleged Judicial Exception

Even if Claims 1-3, 6, 9-12, 15-18, 21, and 24 were properly found to be directed to a judicial exception, the claims provide an “‘inventive concept,’—*i.e.*, an element or combination of elements that is ‘sufficient to ensure that the patent in practice amounts to significantly more than a patent’” upon the alleged abstract idea. *Alice Corp.*, 573 U.S. at 217–218 (quoting *Mayo*, 566 U.S. at 72–73). The Examiner states that the claims do not include anything significantly more than the cited judicial exceptions of “a mathematical concept in the form of a mathematical calculation,” “a certain method of organizing human activity,” and “mental processes.” (Office Action at 8-9.) The Examiner asserts that any additional elements amount to “no more than mere instructions to apply the exception using a generic computer system.” (Office Action at 10.) Applicant respectfully disagrees.

“[I]f a claim has been determined to be directed to a judicial exception under revised Step 2A, examiners should then evaluate the additional elements individually and in combination under Step 2B to determine whether they provide an inventive concept (*i.e.*, whether the additional elements amount to significantly more than the exception itself).” 2019 Guidance at 56. Examiners should consider “whether an additional element or combination of elements ... [a]dds a specific limitation or combination of limitations that are not well-understood, routine, conventional activity in the field, which is indicative that an inventive concept may be present.” *Id.* Limitations that are insufficient include adding the words “apply it” (or an equivalent) with an abstract idea or mere instructions to implement the abstract idea on a generic computer or requiring a generic computer to perform generic computer functions. On the other hand, limitations that may be sufficient include improvements to another technology or technical field (e.g. a mathematical formula applied in a specific rubber-molding process), improvements to the

functioning of the computer itself, and meaningful limitations beyond generally linking the use of an abstract idea to a particular technological environment. *Alice Corp.*, 573 U.S. at 225–226.

Even if an Examiner “had previously concluded under revised Step 2A that, e.g., an additional element was insignificant extra-solution activity, they should reevaluate that conclusion in Step 2B.” *Id.* Similarly, a claim that has been determined not to integrate a judicial exception into a practical application of the exception “may nonetheless include additional subject matter that is unconventional and thus ‘an inventive concept’ at Step 2B.” *Id.*

Applicant submits that the claims includes numerous features that are significantly more than the cited judicial exception of “a mathematical concept in the form of a mathematical calculation”, “a certain method of organizing human activity,” or a mental process. The limitations quoted above provide a specific way of automatic risk management by generating a time curve graph based on contract data and delivering risk notifications upon determining that a geometric shape of the time curve graph indicates a lack of convergence over a threshold amount of time, in which both the time curve graph and risk notifications are presented to a user via a graphical user interface. The combination of the steps in Claim 1, for example, operates in a non-conventional and non-generic way to automatic risk management by generating a time curve graph based on contract data and delivering risk notifications upon determining that a geometric shape of the time curve graph indicates a lack of convergence over a threshold amount of time, in which both the time curve graph and risk notifications are presented to a user via a graphical user interface. Furthermore, the specific shaping of the time curve graph is “significantly more” because time curves have not previously represented both times elapsed between different contract versions or documents and substantive differences in the contract documents (spatial proximity) as claimed. The limitations of Claim 1 relate to particular arrangements and functions for components of computing systems configured for specialized operations for automatically identify risks in contract negotiations using time curves of contract history and convergence. While the claims may result in collecting data, analyzing data, and storing data in a certain way, to assert that the claims are directed solely to the high-level concept of a judicial exception fails to account for the technical improvements resulting from the claims. The claimed approach provides a graphical representation of how contract documents change in substance, in association with time. This is not merely a mathematical calculation or a risk mitigation technique in the sense of the *Alice* case. The courts

have never dealt with this particular graphical display technique and the Office must not expand the holdings of prior case decisions to sweep aside inventions that were not considered in or fairly within the scope of those decisions. In combination, the limitations quoted above are not merely utilized as tools to implement the abstract idea as “apply it” instructions, but instead set up a sequence of events that address unique problems associated with automatic risk management in contract negotiations. Thus, as in *Bascom Global Internet v. AT&T Mobility LLC*, the claimed combination of additional elements presents a specific implementation of the abstract idea. 827 F.3d 1341, 1353 (Fed. Cir. 2016).

For at least these reasons, Applicant respectfully requests the Examiner to withdraw the rejection of Claims 1-3, 6, 9-12, 15-18, 21, and 24 under 35 U.S.C. § 101 and to allow all pending claims.

ISSUES UNDER 35 U.S.C. § 103

Claims 1-3, 9-12, 16-18, and 24 are Allowable over the Proposed Mont-Noh-Ozonat-Bach Combination

The Examiner rejects Claims 1-3, 9-12, 16-18, and 24 under 35 U.S.C. § 103(a) on the grounds that the claimed subject matter would have been obvious to a person having ordinary skill in the art based on U.S. Patent Application Pub. No. 2003/0177083 (“*Mont*”) in view of U.S. Publication No. 2014/0019368 (“*Noh*”) in view of U.S. Publication No. 2013/0191238 (“*Ozonat*”) and in further view of *Time Curve: Folding Time to Visualize Patterns of Temporal Evolution Data* (“*Bach*”). Although Applicant does not necessarily agree with the Examiner, to expedite allowance of this Application, Applicant has made clarifying amendments to Claims 1, 10, and 16 to further clarify the distinction between the claims and the cited art.

Mont merely discloses a method of evaluating risk and trust from different contractual viewpoints during electronic negotiation of contracts. A response is formulated from the measures of risk and trust. The method evaluates the risk and viewpoints for the contract proposal by accessing a risk and trust functions and viewpoints database, a contract template database, a contract context database and contract history repository. (Abstract.)

Noh merely discloses a negotiation involves multiple issues. A counteroffer to an offer made by an opposing party is identified from among a set of candidate counteroffers and presented to the opposing party. (Abstract.)

Ozonat merely discloses a method for negotiating an agreement, including determining a region of acceptable terms for the first party, analyzing offers from a second party to detect values for terms that indicate a change in strategy used by the second party when making the offers, estimating a region of acceptable terms for the second party based on detected locations of changes in strategy, providing terms for a new offer from a first party to the second party in which the terms of the new offer are within the region of acceptable terms for the first party within a threshold distance from the estimated region of acceptable terms for the second party. (Abstract.)

Bach merely discloses time curves as a general approach for visualizing patterns of evolution in temporal data. These patterns can be of interest in a range of domains, such as collaborative document editing, dynamic network analysis, and video analysis. Time curves employ the metaphor of folding a timeline visualization into itself to bring similar time points close to each other. (Abstract.)

In contrast, independent Claim 1 of this Application, as amended, recites:

1. A computer-implemented method comprising:
 - storing, in one or more data repositories, digital data representing a contract set of two or more contract documents comprising a template document and one or more contract document versions based on the template document;
 - storing, in one or more data repositories, digital contract metadata, the digital contract metadata including data identifying one or more data fields in each contract document of the contract set, data specifying a data type of the one or more data fields in each contract document of the contract set, and weights assigned to each data type;
 - identifying differences between data field values of the contract documents of the contract set;
 - weighting the identified differences according to weights assigned to each data type of the one or more data fields in each contract document of the contract set;
 - using the weighted differences between the data field values of the contract documents of the contract set to calculate one or more distance scores for the one or more data fields;
 - using the one or more distance scores calculated using the weighted differences between the data field values of the contract documents of the contract set and a temporal ordering of the contract documents in the contract set to generate and cause displaying, at a computer associated with a contract administrator, a time curve graph, the time curve

graph including a geometric shape that graphically indicates one or more time curves between the contract documents of the contract set and a spatial proximity between the contact documents of the contract set;

wherein a measure of each time curve of the one or more time curves in the time curve graph indicates an amount of time between a creation of two contract documents of the two or more contract documents, and the spatial proximity between the two or more contract document in the time curve graph indicates a metric of similarity between the two or more contract documents;

performing a digital geometric analysis of the time curve graph to identify whether the geometric shape of the time curve graph indicates a lack of convergence over a threshold amount of time;

in response to determining that the geometric shape indicates a lack of convergence over the threshold amount of time, generating and causing displaying, at a computer associated with the contract administrator, a notification indicating that the contract set is at risk.

Independent Claims 10 and 16 recite similar limitations.

The proposed *Mont-Noh-Ozonat-Bach* combination fails to disclose, teach, or suggest ***using the one or more distance scores calculated using the weighted differences between the data field values of the contract documents of the contract set and a temporal ordering of the contract documents in the contract set to generate and cause displaying, at a computer associated with a contract administrator, a time curve graph***, as independent Claim 1 recites. The Examiner concedes that this limitation is not disclosed by *Mont* or *Noh*. (Office Action at 17.) Instead, the Examiner asserts that this limitation is disclosed in paragraphs 0016 and 0023 and figure 5 of *Ozonat*. (Office Action at 17.) Applicant respectfully disagrees.

Ozonat merely discloses estimating the distance from each strategy to the seller's acceptable region of offers. (Paras. 0016 and 0023). *Ozonat* further shows a graph showing offer terms where the distance between the buyer's estimated region of acceptable terms and the seller's region of acceptable terms is within a threshold value. (Fig. 5.) While *Ozonat* mentions calculating distances (Paras. 0016 and 0023) and a graph showing distances (Fig. 5), critically it fails to disclose, tech, or suggest using ***distance scores calculated using the weighted differences between the data field values of the contract documents of the contract set*** together with ***a temporal ordering of the contract documents in the contract set*** to generate a ***time curve*** graph. *Bach* does not make up for the deficiencies of *Ozonat*, either alone or in combination, and the Examiner does not assert otherwise.

Applicant respectfully submits that even if the four references are within the same broad technical field, the Office has not offered sufficient evidence that a person having ordinary skill in the art would have combined the references. First, *Ozonat* does not appear to suggest using the particular claimed technique of Applicant for determining substantive differences between contract contents (as opposed to the strategy of offers in *Ozonat*). Second, there appears to be no reason in the references why a reader of *Ozonat* would know to use the *Ozonat* offer analysis technique specifically in a time curve graph. Just because time curve graphs are mentioned in *Bach* does not mean that the skilled person would automatically learn to adapt them to reflect substantive contract differences based on weighted differences in contract field values, as well as time ordering of successive contract versions, as claimed. Note that the claimed approach calls for a time curve to reflect the spatial difference of contracts and not just a change in offer strategy or the times at which versions have been offered. Thus, Applicant respectfully submits that the present record has insufficient “linking evidence” to show that a skilled person would have combined the references, or that the resulting combination is the same as the claimed combination.

The Examiner may not disregard specific recitations of Applicant’s claims to maintain a rejection under 35 U.S.C. § 103(a). According to the M.P.E.P., “[a]ll words in a claim must be considered in judging the patentability of that claim against the prior art.” M.P.E.P. § 2143.03 (citations omitted). Moreover, “[w]hen evaluating claims for obviousness under 35 U.S.C. 103, all the limitations of the claims must be considered and given weight.” *Id.* (emphasis added). As shown above, even assuming for the sake of argument the proposed *Mont-Noh-Ozonat-Bach* combination were proper, the proposed *Mont-Noh-Ozonat-Bach* combination would still fail to disclose, teach, or suggest all the limitations of independent Claim 1. Therefore, the proposed *Mont-Noh-Ozonat-Bach* combination does not render independent Claim 1 obvious.

For at least these reasons, independent Claims 1, 10, and 16 allowable over the proposed *Mont-Noh-Ozonat-Bach* combination. Applicant respectfully requests the Examiner to reconsider and allow these independent claims and all their dependent claims.

Claims 6, 15, and 21 are Allowable over the Proposed Mont-Noh-Ozonat-Bach-Sharma Combination

The Examiner rejects dependent Claims 6, 15, and 21 under 35 U.S.C. § 103(a) as being rendered obvious by *Mont* in view of *Noh*, *Ozonat*, and *Bach*, and further in view of U.S. Patent Application Pub. No. 2016/0364675 (“*Sharma*”). Applicant respectfully disagrees with the Examiner.

As discussed previously, independent Claims 1, 10, and 16, and all their dependent claims, are allowable over the proposed *Mont-Noh-Ozonat-Bach* combination. *Sharma* does not make up for the deficiencies of any of *Mont*, *Noh*, *Ozonat*, or *Bach*, and the Examiner does not assert otherwise.

For at least these reasons, dependent Claims 6, 15, and 21 are allowable over the proposed *Mont-Noh-Ozonat-Bach-Sharma* combination. Applicant respectfully requests the Examiner to reconsider and allow these dependent claims.

CONCLUSION

For at least the foregoing reasons, Applicant respectfully requests the Examiner to reconsider and allow all pending claims.

If a telephone conference would advance prosecution of this Application, the Examiner may call Zhigang Ma, Agent for Applicant, at 415-291-6239. The Examiner may also communicate with Applicant concerning this Application by electronic mail at kevin.ma@bakerbotts.com, and per MPEP 502.03, Applicant recognizes that Internet communications are not secure and hereby authorizes such communications. **In particular, if the Examiner believes that particular amendments would put the claims in condition for allowance, Applicant would be pleased to discuss any proposed Examiner's Amendments.**

The Commissioner may charge any fee due and credit any overpayment for this Application to Deposit Account No. 02-0384 of Baker Botts L.L.P.

Respectfully submitted,
BAKER BOTTS L.L.P.
Attorneys for Applicant



Zhigang Ma

Reg. No. 76,258

Date: 02 December 2020



UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
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Alexandria, Virginia 22313-1450
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NOTICE OF ALLOWANCE AND FEE(S) DUE

161098 7590 03/01/2021
Baker Botts L.L.P.
1001 Page Mill Road
Building One, Suite 200
Palo Alto, CA 94304-1007

Table with 2 columns: EXAMINER (GAVIN, KRISTIN ELIZABETH), ART UNIT (3683), PAPER NUMBER (1054)

DATE MAILED: 03/01/2021

Table with 5 columns: APPLICATION NO. (15/807,436), FILING DATE (11/08/2017), FIRST NAMED INVENTOR (Dan Dimerman), ATTORNEY DOCKET NO. (088813.0166), CONFIRMATION NO. (1054)

TITLE OF INVENTION: AUTOMATICALLY IDENTIFYING RISK IN CONTRACT NEGOTIATIONS USING GRAPHICAL TIME CURVES OF CONTRACT HISTORY AND DIVERGENCE

Table with 7 columns: APPLN. TYPE (nonprovisional), ENTITY STATUS (SMALL), ISSUE FEE DUE (\$600), PUBLICATION FEE DUE (\$0.00), PREV. PAID ISSUE FEE (\$0.00), TOTAL FEE(S) DUE (\$600), DATE DUE (06/01/2021)

THE APPLICATION IDENTIFIED ABOVE HAS BEEN EXAMINED AND IS ALLOWED FOR ISSUANCE AS A PATENT. PROSECUTION ON THE MERITS IS CLOSED. THIS NOTICE OF ALLOWANCE IS NOT A GRANT OF PATENT RIGHTS. THIS APPLICATION IS SUBJECT TO WITHDRAWAL FROM ISSUE AT THE INITIATIVE OF THE OFFICE OR UPON PETITION BY THE APPLICANT. SEE 37 CFR 1.313 AND MPEP 1308.

THE ISSUE FEE AND PUBLICATION FEE (IF REQUIRED) MUST BE PAID WITHIN THREE MONTHS FROM THE MAILING DATE OF THIS NOTICE OR THIS APPLICATION SHALL BE REGARDED AS ABANDONED. THIS STATUTORY PERIOD CANNOT BE EXTENDED. SEE 35 U.S.C. 151. THE ISSUE FEE DUE INDICATED ABOVE DOES NOT REFLECT A CREDIT FOR ANY PREVIOUSLY PAID ISSUE FEE IN THIS APPLICATION. IF AN ISSUE FEE HAS PREVIOUSLY BEEN PAID IN THIS APPLICATION (AS SHOWN ABOVE), THE RETURN OF PART B OF THIS FORM WILL BE CONSIDERED A REQUEST TO REAPPLY THE PREVIOUSLY PAID ISSUE FEE TOWARD THE ISSUE FEE NOW DUE.

HOW TO REPLY TO THIS NOTICE:

I. Review the ENTITY STATUS shown above. If the ENTITY STATUS is shown as SMALL or MICRO, verify whether entitlement to that entity status still applies.

If the ENTITY STATUS is the same as shown above, pay the TOTAL FEE(S) DUE shown above.

If the ENTITY STATUS is changed from that shown above, on PART B - FEE(S) TRANSMITTAL, complete section number 5 titled "Change in Entity Status (from status indicated above)".

For purposes of this notice, small entity fees are 1/2 the amount of undiscounted fees, and micro entity fees are 1/2 the amount of small entity fees.

II. PART B - FEE(S) TRANSMITTAL, or its equivalent, must be completed and returned to the United States Patent and Trademark Office (USPTO) with your ISSUE FEE and PUBLICATION FEE (if required). If you are charging the fee(s) to your deposit account, section "4b" of Part B - Fee(s) Transmittal should be completed and an extra copy of the form should be submitted. If an equivalent of Part B is filed, a request to reapply a previously paid issue fee must be clearly made, and delays in processing may occur due to the difficulty in recognizing the paper as an equivalent of Part B.

III. All communications regarding this application must give the application number. Please direct all communications prior to issuance to Mail Stop ISSUE FEE unless advised to the contrary.

IMPORTANT REMINDER: Maintenance fees are due in utility patents issuing on applications filed on or after Dec. 12, 1980. It is patentee's responsibility to ensure timely payment of maintenance fees when due. More information is available at www.uspto.gov/PatentMaintenanceFees.

PART B - FEE(S) TRANSMITTAL

Complete and send this form, together with applicable fee(s), by mail or fax, or via EFS-Web.

By mail, send to: Mail Stop ISSUE FEE
 Commissioner for Patents
 P.O. Box 1450
 Alexandria, Virginia 22313-1450

By fax, send to: (571)-273-2885

INSTRUCTIONS: This form should be used for transmitting the ISSUE FEE and PUBLICATION FEE (if required). Blocks 1 through 5 should be completed where appropriate. All further correspondence including the Patent, advance orders and notification of maintenance fees will be mailed to the current correspondence address as indicated unless corrected below or directed otherwise in Block 1, by (a) specifying a new correspondence address; and/or (b) indicating a separate "FEE ADDRESS" for maintenance fee notifications.

CURRENT CORRESPONDENCE ADDRESS (Note: Use Block 1 for any change of address)

Note: A certificate of mailing can only be used for domestic mailings of the Fee(s) Transmittal. This certificate cannot be used for any other accompanying papers. Each additional paper, such as an assignment or formal drawing, must have its own certificate of mailing or transmission.

161098 7590 03/01/2021
Baker Botts L.L.P.
 1001 Page Mill Road
 Building One, Suite 200
 Palo Alto, CA 94304-1007

Certificate of Mailing or Transmission

I hereby certify that this Fee(s) Transmittal is being deposited with the United States Postal Service with sufficient postage for first class mail in an envelope addressed to the Mail Stop ISSUE FEE address above, or being transmitted to the USPTO via EFS-Web or by facsimile to (571) 273-2885, on the date below.

| |
|-------------------------|
| (Typed or printed name) |
| (Signature) |
| (Date) |

| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
|-----------------|-------------|----------------------|---------------------|------------------|
| 15/807,436 | 11/08/2017 | Dan Dimerman | 088813.0166 | 1054 |

TITLE OF INVENTION: AUTOMATICALLY IDENTIFYING RISK IN CONTRACT NEGOTIATIONS USING GRAPHICAL TIME CURVES OF CONTRACT HISTORY AND DIVERGENCE

| APPLN. TYPE | ENTITY STATUS | ISSUE FEE DUE | PUBLICATION FEE DUE | PREV. PAID ISSUE FEE | TOTAL FEE(S) DUE | DATE DUE |
|----------------|---------------|---------------|---------------------|----------------------|------------------|------------|
| nonprovisional | SMALL | \$600 | \$0.00 | \$0.00 | \$600 | 06/01/2021 |

| EXAMINER | ART UNIT | CLASS-SUBCLASS |
|--------------------------|----------|----------------|
| GAVIN, KRISTIN ELIZABETH | 3683 | 705-007280 |

1. Change of correspondence address or indication of "Fee Address" (37 CFR 1.363).

2. For printing on the patent front page, list
 (1) The names of up to 3 registered patent attorneys or agents OR, alternatively, 1 _____
 (2) The name of a single firm (having as a member a registered attorney or agent) and the names of up to 2 registered patent attorneys or agents. If no name is listed, no name will be printed. 2 _____
 3 _____

Change of correspondence address (or Change of Correspondence Address form PTO/SB/122) attached.

"Fee Address" indication (or "Fee Address" Indication form PTO/SB/47; Rev 03-09 or more recent) attached. **Use of a Customer Number is required.**

3. ASSIGNEE NAME AND RESIDENCE DATA TO BE PRINTED ON THE PATENT (print or type)

PLEASE NOTE: Unless an assignee is identified below, no assignee data will appear on the patent. If an assignee is identified below, the document must have been previously recorded, or filed for recordation, as set forth in 37 CFR 3.11 and 37 CFR 3.81(a). Completion of this form is NOT a substitute for filing an assignment.

(A) NAME OF ASSIGNEE _____ (B) RESIDENCE: (CITY and STATE OR COUNTRY) _____

Please check the appropriate assignee category or categories (will not be printed on the patent) : Individual Corporation or other private group entity Government

4a. Fees submitted: Issue Fee Publication Fee (if required) Advance Order - # of Copies _____

4b. Method of Payment: (Please first reapply any previously paid fee shown above)

Electronic Payment via EFS-Web Enclosed check Non-electronic payment by credit card (Attach form PTO-2038)

The Director is hereby authorized to charge the required fee(s), any deficiency, or credit any overpayment to Deposit Account No. _____

5. Change in Entity Status (from status indicated above)

Applicant certifying micro entity status. See 37 CFR 1.29

Applicant asserting small entity status. See 37 CFR 1.27

Applicant changing to regular undiscounted fee status.

NOTE: Absent a valid certification of Micro Entity Status (see forms PTO/SB/15A and 15B), issue fee payment in the micro entity amount will not be accepted at the risk of application abandonment.
NOTE: If the application was previously under micro entity status, checking this box will be taken to be a notification of loss of entitlement to micro entity status.
NOTE: Checking this box will be taken to be a notification of loss of entitlement to small or micro entity status, as applicable.

NOTE: This form must be signed in accordance with 37 CFR 1.31 and 1.33. See 37 CFR 1.4 for signature requirements and certifications.

Authorized Signature _____ Date _____
 Typed or printed name _____ Registration No. _____



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Alexandria, Virginia 22313-1450
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Table with columns: APPLICATION NO., FILING DATE, FIRST NAMED INVENTOR, ATTORNEY DOCKET NO., CONFIRMATION NO., EXAMINER, ART UNIT, PAPER NUMBER. Includes application details for Dan Dimerman and examiner GAVIN, KRISTIN ELIZABETH.

DATE MAILED: 03/01/2021

Determination of Patent Term Adjustment under 35 U.S.C. 154 (b)
(Applications filed on or after May 29, 2000)

The Office has discontinued providing a Patent Term Adjustment (PTA) calculation with the Notice of Allowance.

Section 1(h)(2) of the AIA Technical Corrections Act amended 35 U.S.C. 154(b)(3)(B)(i) to eliminate the requirement that the Office provide a patent term adjustment determination with the notice of allowance. See Revisions to Patent Term Adjustment, 78 Fed. Reg. 19416, 19417 (Apr. 1, 2013). Therefore, the Office is no longer providing an initial patent term adjustment determination with the notice of allowance. The Office will continue to provide a patent term adjustment determination with the Issue Notification Letter that is mailed to applicant approximately three weeks prior to the issue date of the patent, and will include the patent term adjustment on the patent. Any request for reconsideration of the patent term adjustment determination (or reinstatement of patent term adjustment) should follow the process outlined in 37 CFR 1.705.

Any questions regarding the Patent Term Extension or Adjustment determination should be directed to the Office of Patent Legal Administration at (571)-272-7702. Questions relating to issue and publication fee payments should be directed to the Customer Service Center of the Office of Patent Publication at 1-(888)-786-0101 or (571)-272-4200.

OMB Clearance and PRA Burden Statement for PTOL-85 Part B

The Paperwork Reduction Act (PRA) of 1995 requires Federal agencies to obtain Office of Management and Budget approval before requesting most types of information from the public. When OMB approves an agency request to collect information from the public, OMB (i) provides a valid OMB Control Number and expiration date for the agency to display on the instrument that will be used to collect the information and (ii) requires the agency to inform the public about the OMB Control Number's legal significance in accordance with 5 CFR 1320.5(b).

The information collected by PTOL-85 Part B is required by 37 CFR 1.311. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.14. This collection is estimated to take 30 minutes to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, Virginia 22313-1450. **DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, Virginia 22313-1450.** Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it displays a valid OMB control number.

Privacy Act Statement

The Privacy Act of 1974 (P.L. 93-579) requires that you be given certain information in connection with your submission of the attached form related to a patent application or patent. Accordingly, pursuant to the requirements of the Act, please be advised that: (1) the general authority for the collection of this information is 35 U.S.C. 2(b)(2); (2) furnishing of the information solicited is voluntary; and (3) the principal purpose for which the information is used by the U.S. Patent and Trademark Office is to process and/or examine your submission related to a patent application or patent. If you do not furnish the requested information, the U.S. Patent and Trademark Office may not be able to process and/or examine your submission, which may result in termination of proceedings or abandonment of the application or expiration of the patent.

The information provided by you in this form will be subject to the following routine uses:

1. The information on this form will be treated confidentially to the extent allowed under the Freedom of Information Act (5 U.S.C. 552) and the Privacy Act (5 U.S.C. 552a). Records from this system of records may be disclosed to the Department of Justice to determine whether disclosure of these records is required by the Freedom of Information Act.
2. A record from this system of records may be disclosed, as a routine use, in the course of presenting evidence to a court, magistrate, or administrative tribunal, including disclosures to opposing counsel in the course of settlement negotiations.
3. A record in this system of records may be disclosed, as a routine use, to a Member of Congress submitting a request involving an individual, to whom the record pertains, when the individual has requested assistance from the Member with respect to the subject matter of the record.
4. A record in this system of records may be disclosed, as a routine use, to a contractor of the Agency having need for the information in order to perform a contract. Recipients of information shall be required to comply with the requirements of the Privacy Act of 1974, as amended, pursuant to 5 U.S.C. 552a(m).
5. A record related to an International Application filed under the Patent Cooperation Treaty in this system of records may be disclosed, as a routine use, to the International Bureau of the World Intellectual Property Organization, pursuant to the Patent Cooperation Treaty.
6. A record in this system of records may be disclosed, as a routine use, to another federal agency for purposes of National Security review (35 U.S.C. 181) and for review pursuant to the Atomic Energy Act (42 U.S.C. 218(c)).
7. A record from this system of records may be disclosed, as a routine use, to the Administrator, General Services, or his/her designee, during an inspection of records conducted by GSA as part of that agency's responsibility to recommend improvements in records management practices and programs, under authority of 44 U.S.C. 2904 and 2906. Such disclosure shall be made in accordance with the GSA regulations governing inspection of records for this purpose, and any other relevant (i.e., GSA or Commerce) directive. Such disclosure shall not be used to make determinations about individuals.
8. A record from this system of records may be disclosed, as a routine use, to the public after either publication of the application pursuant to 35 U.S.C. 122(b) or issuance of a patent pursuant to 35 U.S.C. 151. Further, a record may be disclosed, subject to the limitations of 37 CFR 1.14, as a routine use, to the public if the record was filed in an application which became abandoned or in which the proceedings were terminated and which application is referenced by either a published application, an application open to public inspection or an issued patent.
9. A record from this system of records may be disclosed, as a routine use, to a Federal, State, or local law enforcement agency, if the USPTO becomes aware of a violation or potential violation of law or regulation.

Notice of Allowability

| | | |
|--------------------------------------|--------------------------------------|---------------------------------|
| Application No. 15/807,436 | Applicant(s) Dimerman, Dan | |
| Examiner KRISTIN E GAVIN | Art Unit 3683 | AIA (FITF) Status Yes |

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

- 1. This communication is responsive to 12/2/20.
 A declaration(s)/affidavit(s) under **37 CFR 1.130(b)** was/were filed on _____.
- 2. An election was made by the applicant in response to a restriction requirement set forth during the interview on _____; the restriction requirement and election have been incorporated into this action.
- 3. The allowed claim(s) is/are See Continuation Sheet. As a result of the allowed claim(s), you may be eligible to benefit from the **Patent Prosecution Highway** program at a participating intellectual property office for the corresponding application. For more information, please see http://www.uspto.gov/patents/init_events/pph/index.jsp or send an inquiry to **PPHfeedback@uspto.gov**.
- 4. Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
Certified copies:
 - a) All b) Some *c) None of the:
 - 1. Certified copies of the priority documents have been received.
 - 2. Certified copies of the priority documents have been received in Application No. _____.
 - 3. Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

* Certified copies not received: _____.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.
THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.

- 5. CORRECTED DRAWINGS (as "replacement sheets") must be submitted.
 including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date _____.
Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).
- 6. DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

Attachment(s)

- 1. Notice of References Cited (PTO-892)
- 2. Information Disclosure Statements (PTO/SB/08),
Paper No./Mail Date _____.
- 3. Examiner's Comment Regarding Requirement for Deposit
of Biological Material _____.
- 4. Interview Summary (PTO-413),
Paper No./Mail Date _____.
- 5. Examiner's Amendment/Comment
- 6. Examiner's Statement of Reasons for Allowance
- 7. Other _____.

/KRISTIN E GAVIN/
Examiner, Art Unit 3683

/BRIAN M EPSTEIN/
Supervisory Patent Examiner, Art Unit 3683

Continuation of 3. The allowed claim(s) is/are: 1-3,6,9-12,15-18,21 and 24

Notice of Pre-AIA or AIA Status

1. The present application, filed on or after March 16, 2013, is being examined under the first inventor to file provisions of the AIA.

Allowable Subject Matter

2. Claims 1-3, 6, 9-12, 15-18, 21, and 24 allowed.

Response to Arguments

3. Applicant's arguments, see pages 8-23 of the provided remarks, have been fully considered and are persuasive. The 35 U.S.C. 101 and 35 U.S.C. 103 rejections of 10/26/20 have been withdrawn.

EXAMINER'S AMENDMENT

4. An examiner's amendment to the record appears below. Should the changes and/or additions be unacceptable to applicant, an amendment may be filed as provided by 37 CFR 1.312. To ensure consideration of such an amendment, it MUST be submitted no later than the payment of the issue fee.

5. Authorization for this examiner's amendment was given in an interview with Agent Kevin Ma and corresponding email confirmation upon discussion with Attorney Christopher Palermo on 2/23/21.

6. The application has been amended as follows:

2. (Currently Amended) The method of claim 1, wherein the digital contract metadata further includes temporal data indicating the temporal ordering of the contract documents in the contract set.

11. (Currently Amended) The method of claim 10, wherein the digital contract metadata further includes temporal data indicating the temporal ordering of the contract documents in the contract set.

17. (Currently Amended) The system of claim 16, wherein the digital contract metadata further includes temporal data indicating the temporal ordering of the contract documents in the contract set.

REASONS FOR ALLOWANCE

7. The following is an examiner's statement of reasons for allowance:

In interpreting the currently amended claims in light of the specification, the Examiner finds the claimed invention to be patentably distinct from the prior art of record. Claims 1-3, 6, 9-12, 15-18, 21, and 24 are allowed for reasons argued by Applicant in the remarks field 12/2/20.

The prior art of record that was found and cited comprised the following reference(s):

U.S Pat. Pub. No. 2003/0177083 A1 'Mont'

U.S Pat. Pub. No. 2014/0019368 A1 'Noh'

U.S Pat. Pub. No. 2013/0191238 A1 'Ozonat'

U.S Pat. Pub. No. 2016/0364675 A1 'Sharma'

'Time Curves: Folding Time to Visualize Patterns of Temporal Evolution Data,'

Bach

Mont was primarily directed to evaluating risk and trust from different contractual viewpoints during electronic negotiations of contracts, preferably e-contracts in a business to business environment. However, Mont is silent to assigning weights to each data type and calculating one or more distance scores based on the weighted differences between each data type of the one or more data fields in each contract document of the contract set. Noh was primarily directed to the weighting of identified differences according to the weights assigned to each data type of the one or more data fields in each contract document of the contract set and calculating one or more distance scores based on the weighted differences between each data type of the one or more data fields in each contract document of the contract set. However, Noh is silent to identifying differences between data field values of contract documents of the contract set or generating a graph by identifying differences between contract documents and distance scores. Ozonat was primarily directed to contract agreement negotiation between parties in which a region of acceptable terms is determined between parties based on changes in strategy. However, Ozonat is silent to a temporal ordering of the contract documents in the contract set; generating and causing displaying, at a computer associated with a contract administrator, a time curve graph, the time curve graph including a geometric shape that graphically indicates one or more time curves between the documents of the set and a spatial proximity between the documents of the set; the measure of each time curve of the one or more time curves in the time curve graph indicates an amount of time between a creation of two documents of the two or more contract documents, and the

spatial proximity between the two or more document in the time curve graph indicates a metric of similarity between the two or more documents; and performing a digital geometric analysis of the time curve graph to identify whether the geometric shape of the time curve graph indicates a lack of convergence over a threshold amount of time and then in response to determining that the geometric shape indicates the lack of convergence over the threshold amount of time indicating that the set is at risk. Bach is primarily directed to using time curves as a general approach to visualizing patterns of evolution in temporal data, for example in the field of collaborative document editing. However, Bach is silent to using the one or more distance scores calculated using the weighted differences between the data field values of the contract documents of the contract set to generate and cause displaying, at a computer associated with a contract administrator, a time curve graph.

On page 20 of the provided remarks, Applicant against the cited reference Ozonat stating "While Ozonat mentions calculating distances (Paras. 0016 and 0023) and a graph showing distances (Fig. 5), critically it fails to disclose, teach, or suggest using distance scores calculated using the weighted differences between the data field values of the contract documents of the contract set together with a temporal ordering of the contract documents in the contract set to generate a time curve graph." The Examiner is persuaded by this argument, and that the limitation overcomes the prior art on record. An updated search yielded no prior art references that would reasonably anticipate or render obvious the claimed invention. None of the prior art recorded, either taken by itself or in combination, would have anticipated or made obvious the invention of the present application at or before the time it was filed.

Foreign reference GB 2529172A, 'Functional Component History Tracking' discloses version history tracking of functional components which enables a user to inspect a document history or to perform a comparison between different versions of a document. However, the reference is silent to weighting the differences between documents, calculating a distance score based on those weighted differences, and using the distance score to generate and display a time curve graph. Non-paten literature, 'Time Curves: Folding Time to Visualize Patterns of Temporal Evolution Data' discloses using time curves as a general approach to visualizing patterns of evolution in temporal data, for example in the field of collaborative document editing. However, Bach is silent to using the one or more distance scores calculated using the weighted differences between the data field values of the contract documents of the contract set to generate and cause displaying, at a computer associated with a contract administrator, a time curve graph.

Regarding Previous 35 U.S.C. 101 Rejection

On pages 16-18 of the provided remarks, Applicant argues that the present application recites significantly more than the alleged judicial exception. Specifically on page 16, "the claims provide an "inventive concept" – i.e. an element or combination of elements that is "sufficient to ensure that the patent in practice amounts to significantly more than a patent" upon the abstract idea." Examiner acknowledges that the computer based analysis required to perform the geometric analysis on the time curve graph to determine risk amongst contracts presents "significantly more" than the abstract idea.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

Conclusion

8. Any inquiry concerning this communication or earlier communications from the examiner should be directed to KRISTIN ELIZABETH GAVIN whose telephone number is (571)270-7019. The examiner can normally be reached on M-F 7:30-4:30 PM EST.

Examiner interviews are available via telephone, in-person, and video conferencing using a USPTO supplied web-based collaboration tool. To schedule an interview, applicant is encouraged to use the USPTO Automated Interview Request (AIR) at <http://www.uspto.gov/interviewpractice>.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Brian Epstein can be reached on 571-270-5389. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <https://ppair-my.uspto.gov/pair/PrivatePair>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer

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Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/K.E.G./
Examiner, Art Unit 3683

/BRIAN M EPSTEIN/
Supervisory Patent Examiner, Art Unit 3683