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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.

Office Action Summary	Application No. 11/542,281	Applicant(s) LEVIN ET AL.	
	Examiner ANDREW T. CHIUSANO	Art Unit 2174	AIA (First Inventor to File) Status No

-- 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* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, 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 *25 February 2010*.

☐ 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) *36-56* 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5a) Of the above claim(s) _____ is/are withdrawn from consideration.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) *36-56* 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.

Interim copies:

a)☐ All b)☐ Some c)☐ None of the: Interim copies of the priority documents have been received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)

2) ☒ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date *3/8/2010*.

3) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .

4) ☐ Other: _____.

DETAILED ACTION

1. This Office Action is sent in response to Applicant's Communication received **2/25/2010** for application number **11/542,281**. Claims **36-56** are presented for examination.

Information Disclosure Statement

2. The information disclosure statement (IDS) submitted on 3/8/2010 was submitted after filing an RCE and before the mailing date of the first office action. The submission is in compliance with the provisions of 37 CFR 1.97. Accordingly, the information disclosure statement is being considered by the examiner.

Claim Rejections - 35 USC § 101

3. 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.

4. **Claims 46-51** are rejected under 35 U.S.C. § 101 because the claimed invention is directed to non-statutory subject matter. During examination, the claims must be interpreted as broadly as their terms reasonably allow. *In re American Academy of Science Tech Center*, 367 F.3d 1359, 1369, 70 U.S.P.Q.2d 1827, 1834 (Fed. Cir. 2004). Independent claim 46 recites "A computer program product … and a computer readable storage medium, wherein said instructions are encoded in said computer readable storage medium" which is not comprehensively defined by the specification. The broadest reasonable interpretation of a claim drawn to a computer readable medium covers forms of transitory propagating signals *per se* in view of the ordinary and customary meaning of computer readable media, particularly when the specification is silent. Transitory propagating signals are non-statutory subject matter. *In re*

Nuijten, 500 F.3d 1346, 1356-57, 84 U.S.P.Q.2d 1495, 1502 (Fed. Cir. 2007) (transitory embodiments are not directed to statutory subject matter). See also *Subject Matter Eligibility of Computer Readable Media*, 1351 Off. Gaz. Pat. Office 212 (Feb. 23, 2010). Examiner suggests amending the claim to read "A non-transitory computer program product…"

Claim Rejections - 35 USC § 112

5. The following is a quotation of 35 U.S.C. 112(a):
(a) IN GENERAL.—The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same, and shall set forth the best mode contemplated by the inventor or joint inventor of carrying out the invention.

The following is a quotation of 35 U.S.C. 112 (pre-AIA), first paragraph:
The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

6. **Claims 36, 46, and 52** are rejected under 35 U.S.C. 112(a) or 35 U.S.C. 112 (pre-AIA), first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor or a joint inventor, or for pre-AIA the inventor(s), at the time the application was filed, had possession of the claimed invention. Claims 36, 46, and 52 have been amended to claim that the non-technical user interface identifies elements and connectors that are not sufficiently defined and receiving input to complete the element and connector. The specification, for instance at paragraphs 44-45, only discloses completing insufficiently defined connectors and elements *after* sending the model to the technical user interface. The specification does not describe the identifying or

receiving information on insufficiently defined connectors and elements during the non-technical designing stage.

Claim Rejections - 35 USC § 103

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

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

8. The factual inquiries set forth in *Graham* v. *John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

9. Claims 36-39, 43-44, 46-47, 52-53, and 56 are rejected under 35 U.S.C. 103(a) as being unpatentable over Lovell et al. (Pat. No. 7,370,315) in view of Dunn (Pat. No. 4,656,603).

10. In reference to **claim 36**, Lovell teaches **a method comprising: modeling a business process** (modeling software, col. 2, lines 21-34; the software is the business process), **wherein said modeling comprises designing a process** (modeling comprises designing a software application, col. 5, line 57-62; col. 6, lines 27-51, and software applications are processes),

wherein said process represents a non-technical model of said business process (the model is a non-technical model because it is higher-level model separate from the technical source code, col. 6, lines 12-51), **said designing is performed using a non-technical user interface** (graphical design surface 205 is a non-technical UI), **designing further comprises identifying an element, wherein said element is an insufficiently-defined element** (classes that require connections but are not yet connected are identified are identified with red x, col. 10, line 62 to col. 11, line 4), **and receiving information, wherein said information is configured to allow said insufficiently-defined element to be completed** (user can connect to providers, col. 10, lines 41-66); **and, in response to an indication that said process is complete, transferring access to said process from said non-technical user interface to a technical user interface** (once programmer has defined initial graphical model and bound objects to compilers, which is an indication the process is complete, col. 8, lines 16-34, the code is accessible through the source code editor 210, or technical UI, col. 8, lines 51-64), **and implementing said process, wherein said implementing implements said process as a technical model of said business process, and said implementing is performed using a technical user interface** (program is then refined, or implemented, by directly modifying the source code via the source code editor 210, col. 8, lines 51-54, 61-64).

Lovell does not explicitly teach said designing further comprises identifying a connector, wherein said connector is an insufficiently-defined connector, and receiving information, wherein said information is configured to allow said insufficiently-defined connector to be completed.

Dunn teaches **designing further comprises identifying an element, wherein said element is an insufficiently-defined element, identifying a connector, wherein said connector is an insufficiently-defined connector** (open ended connectors and their associated function icons are identified, col. 4, line 58 to col. 5, line 35), **and receiving**

information, wherein said information is configured to allow said insufficiently-defined element and said insufficiently-defined connector to be completed (user must input information in order to complete open ended connectors, see fig. 9 and col. 17, line 34 to col. 18, line 35).

It would have been obvious to one of ordinary skill in art, having the teachings of Lovell and Dunn before him at the time of invention was made, to modify the non-technical programming environment as disclosed by Lovell to include completing insufficiently defined connectors and elements as taught by Dunn.

One of ordinary skill in the art would be motivated to modify the non-technical programming environment of Dunn to include the completion of insufficiently defined connectors and elements of Dunn because the teachings of Dunn would enable the users of Lovell to check for errors and un-executable components in their designs, enabling more robust and error-free software design.

11. In reference to **claim 37**, Lovell further teaches **editing said process, wherein said editing is performed using said non-technical user interface** (users can further edit the process in the graphical design surface, see col. 8, lines 51-64).

12. In reference to **claim 38,** Lovell further teaches **said process is an existing process** (user may edit a template, or existing process, in the design surface 205, col. 12, lines 23-58).

13. In reference to **claim 39**, Lovell further teaches **selecting said existing process from a plurality of existing processes, wherein a business process library comprises said existing processes** (template is selected from a set of template files, col. 12, lines 44-47).

14. In reference to **claim 43**, Dunn further teaches **identifying an element, wherein said element is a non-executable element; and identifying a connector, wherein said connector is a non-executable connector** (open ended connectors and their associated

function icons are identified, col. 4, line 58 to col. 5, line 35; the open ended connectors and function icons are non-executable because they require more information to complete their associated rules); **and receiving information, wherein said information is configured to allow said non-executable element and said non-executable connector to be completed** (user must input information in order to complete open ended connectors, see fig. 9 and col. 17, line 34 to col. 18, line 35). Motivation to combine with Lovell is the same as that for claim 36.

15. In reference to **claim 44**, Lovell further teaches **integrating said process with an external service** (Lovell teaches binding the process to a database, which is an external service, col. 9, lines 27-51).

16. In reference to **claim 46**, this claim is directed to a computer program product associated with the method claimed in claim 36. Claim 46 is similar in scope to claim 36, and is therefore rejected under similar rationale.

17. In reference to **claim 47**, this claim is directed to a computer program product associated with the method claimed in claim 39. Claim 47 is similar in scope to claim 39, and is therefore rejected under similar rationale.

18. In reference to **claim 52**, this claim is directed to a system associated with the method claimed in claim 36. Claim 52 is similar in scope to claim 36, and is therefore rejected under similar rationale.

19. In reference to **claim 53**, Lovell further teaches **check-in logic** (binding to a compiler is the check-in logic because it enables the technical code view, col. 8, lines 16-64), **wherein said check-in logic and said non-technical interface module are coupled to one another** (binding done in design surface 205, col. 8, lines 16-34, so the modules are coupled), **and said**

check-in logic is configured to generate said indication, upon said process being complete (binding generates the indication because it allows the technical mode to be accessed afterwards, col. 8, lines 51-64).

20. In reference to **claim 56**, Lovell further teaches **drilling down to a sub-process and to steps of the sub-process wherein said drilling down enables displaying and editing the steps of the sub-process** (user can expand packages to see individual components, col. 15, lines 15-34).

21. Claims 40-42, 48-50, and 54 are rejected under 35 U.S.C. 103(a) as being unpatentable over Lovell et al. (Pat. No. 7,370,315) in view of Dunn (Pat. No. 4,656,603) as applied to claim 36 above, and in further view of Iborra et al. (Pat. No. 7,137,100).

22. In reference to **claim 40**, Lovell teaches **analyzing said process** (changes are tracked, which is an analysis, col. 11, lines 55-61), **wherein said analyzing is performed in response to said process being checked-in from said non-technical user interface** (changes are checked-in, col. 12, lines 1-5); **if said process comprises a new element, identifying said new element; and if said process comprises a new connection, identifying said new connection** (changed elements are highlighted, col. 11, lines 62-67).

Neither Lovell nor Dunn explicitly teaches that if a step is missing from said process, identifying said step as a missing step.

Iborra teaches **checking if a step is missing from a process** (Iborra validates to see if there are missing elements in a model. In Iborra, it detects a floating point number being added to an alphanumeric string as missing a step because adding the two values is not semantically

correct, col. 5, lines 24-36, that is to say, another element or step is necessary before adding the two values, such as converting the number to a string and then concatenating the two strings, or converting the string to a numeric value and adding the values), and **identifying said step as a missing step** (validator flags errors, col. 24, lines 49-51).

It would have been obvious to one of ordinary skill in art, having the teachings of Lovell, Dunn, and Iborra before him at the time of invention was made, to modify the non-technical programming environment as disclosed by Lovell and Dunn to include checking for missing steps as taught by Iborra.

One of ordinary skill in the art would be motivated to modify the non-technical programming environment of Lovell and Dunn to include checking for missing steps as taught by Iborra because it would help better check and validate for errors (Iborra, col. 5, lines 24-36).

23. In reference to **claim 41**, Lovell further teaches **if said new element is identified, flagging said new element; and if said new connection is identified, flagging said new connection** (Lovell teaches flagging changes, col. 11, lines 62-67).

Iborra further teaches **if said missing step is identified, flagging said missing step** (validator finds errors like missing steps, col. 5, lines 24-36, and validator flags errors, col. 24, lines 49-51).

24. In reference to **claim 42**, Lovell further teaches **displaying a systems view of said process** (design surface 205 may be a systems view because it can identify different systems, like databases, col. 9, lines 34-51 and fig. 5).

Lovell does not explicitly teach determining whether an element needs to be added to said process; and if said element needs to be added to said process, indicating said element needs to be added to said process.

Iborra teaches **determining whether an element needs to be added to said process** (Iborra validates to see if there are missing elements in a model. In Iborra, it detects a floating point number being added to an alphanumeric string as missing a step because adding the two values is not semantically correct, col. 5, lines 24-36, that is to say, another element or step is necessary before adding the two values, such as converting the number to a string and then concatenating the two strings, or converting the string to a numeric value and adding the values); **and if said element needs to be added to said process, indicating said element needs to be added to said process** (validator flags errors, col. 24, lines 49-51).

It would have been obvious to one of ordinary skill in art, having the teachings of Lovell, Dunn, and Iborra before him at the time of invention was made, to modify the non-technical programming environment as disclosed by Lovell and Dunn to include checking for missing steps as taught by Iborra.

One of ordinary skill in the art would be motivated to modify the non-technical programming environment of Lovell and Dunn to include checking for missing steps as taught by Iborra because it would help better check and validate for errors (Iborra, col. 5, lines 24-36).

25. In reference to **claim 48**, this claim is directed to a computer program product associated with the method claimed in claim 40. Claim 48 is similar in scope to claim 40, and is therefore rejected under similar rationale.

26. In reference to **claim 49**, this claim is directed to a computer program product associated with the method claimed in claim 41. Claim 49 is similar in scope to claim 41, and is therefore rejected under similar rationale.

27. In reference to **claim 50**, this claim is directed to a computer program product associated with the method claimed in claim 42. Claim 50 is similar in scope to claim 42, and is therefore rejected under similar rationale.

28. In reference to **claim 54**, this claim is directed to a system associated with the method claimed in claim 41. Claim 54 is similar in scope to claim 41, and is therefore rejected under similar rationale.

29. Claims 45, 51, and 55 are rejected under 35 U.S.C. 103(a) as being unpatentable over Lovell et al. (Pat. No. 7,370,315) in view of Dunn (Pat. No. 4,656,603) as applied to claim 36 above, and in further view of Nwabueze (Pub. No. 2002/0144174).

30. In reference to **claim 45**, neither Lovell nor Dunn explicitly teaches defining a source, wherein said source defines a location of said external service, and said source further defines an access mode for said external service; defining a format, wherein said format defines a first format for addressing said external service, and said format further defines a second format to be used to transfer data from said external service; and defining a transform, wherein said transform defines a transformation between said first format and said second format.

Nwabueze teaches **defining a source, wherein said source defines a location of said external service** (data sources are identified, para. 0014, and are external services because they may be on the Internet, para. 0049), **and said source further defines an access mode for said external service** (inherent: a person having ordinary skill in the art would understand accessing an internet server like APACHE as stated in para. 0049 wound necessarily imply an HTTP access mode); **defining a format, wherein said format defines a**

first format for addressing said external service (COP contains rules for the data acquisition engine to access external service, para. 0050), **and said format further defines a second format to be used to transfer data from said external service** (COP contains rules for the data acquisition engine to acquire data, para. 0050); **and defining a transform, wherein said transform defines a transformation between said first format and said second format** (data is transformed, para. 0052-54).

It would have been obvious to one of ordinary skill in art, having the teachings of Lovell, Dunn, and Nwabueze before him at the time of invention was made, to modify the non-technical programming environment as disclosed by Lovell and Dunn to include external data sources as taught by Nwabueze.

One of ordinary skill in the art would be motivated to modify the non-technical programming environment of Lovell and Dunn to include the external data sources of Nwabueze because it would allow users to integrate data in their programs from different sources (Nwabueze, para. 0011-0012).

31. In reference to **claim 51**, this claim is directed to a computer program product associated with the method claimed in claim 45. Claim 51 is similar in scope to claim 45, and is therefore rejected under similar rationale.

32. In reference to **claim 55**, this claim is directed to a system associated with the method claimed in claim 45. Claim 55 is similar in scope to claim 45, and is therefore rejected under similar rationale.

Response to Arguments

33. Applicant's arguments with respect to claim 36, 46, and 52 have been considered but are moot because the arguments do not apply to any of the references being used in the current rejection. Lovell teaches a technical and non-technical user interface. To the extent that applicants' arguments rely on the technical and non-technical users, examiner notes that these limitations are not recited in the rejected claims. Although the claims are interpreted in light of the specification, limitations from the specification are not read into the claims. See *In re Van Geuns*, 988 F.2d 1181, 26 USPQ2d 1057 (Fed. Cir. 1993).

Conclusion

34. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Mashita et al. (Pat. No. 5,729,253) which teaches a non-technical user creating a procedure without writing code, then passing the procedure and specification onto an engineer.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to ANDREW T. CHIUSANO whose telephone number is (571)272-5231. The examiner can normally be reached on Monday - Thursday, 9:00 a.m. - 6:30 p.m..

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Dennis Chow can be reached on 571-272-7767. 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 http://pair-direct.uspto.gov. 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.

/ANDREW T CHIUSANO/
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