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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.

-- 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 *9/4/2013*.

  ☐ 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  5a) Of the above claim(s) _____ is/are withdrawn from consideration.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 <u>allowable</u>, 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)

2)☒ Information Disclosure Statement(s) (PTO/SB/08a and/or PTO/SB/08b) Paper No(s)/Mail Date *9/5/2013*.

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 **9/4/2013** for

application number **11/542,281**. Claims **36-56** are presented for examination.

2.   The present application is being examined under the pre-AIA first to invent provisions.

Information Disclosure Statement

3.   The information disclosure statement (IDS) submitted on 9/5/2013 was filed after the mailing date

of the first office action, but before the final action and with the fee set forth in 37 C.F.R. § 1.17(p). 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 § 112

4.   The following is a quotation of the first paragraph 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 the first paragraph of pre-AIA 35 U.S.C. 112:

> 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.

5.   **Claims 36-56** 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. Independent claims 36, 46, and 52 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. The only error correction in the non-technical user interface that is disclosed is error

correction with respect to blocks and connectors that are disconnected, such as in paragraph 30.

Claim Rejections - 35 USC § 103

6.   The following is a quotation of pre-AIA 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.

7.   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 pre-AIA 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.

8.   **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).

9.   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 <u>said</u> 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.

10.   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).

11.   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).

12.   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).

13.   In reference to **claim 43**, Dunn further teaches **identifying a<u>n additional</u> element, wherein said <u>additional</u> element is a non-executable element; and identifying a<u>n additional</u> connector, wherein said <u>additional</u> 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 <u>additional</u> information, wherein said <u>additional</u> 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.

14.   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).

15.   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.

16.   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.

17.   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.

18.   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).

19.   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).

20.   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).

21.   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).

22.   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).

23.   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).

24.   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.

25.   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.

26.   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.

27.   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.

28.   **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).**

29.   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).

30.   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.

31.   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

32.   Applicant's arguments, filed 9/4/2013, with respect to the 35 U.S.C. § 101 rejection of claims 46-

51 have been fully considered and are persuasive. The rejection has been withdrawn.

33.   Applicant's arguments with respect to the 35 U.S.C. § 112, first paragraph rejection of claims 36,

46, and 52 have been fully considered but they are not persuasive. Applicant argues that paragraphs 30

and 48-63 provide support for, "… using a non-technical user interface … identifying an element, wherein

said element is an insufficiently-defined element, identifying a connector, wherein said connector is an

insufficiently-defined connector, and receiving information, wherein said information is configured to allow

said insufficiently- defined element and said insufficiently-defined connector to be completed."

The term "insufficiently-defined" appears nowhere in the specification. However, paragraph 33

describes, after transferring to the technical user interface, flagging elements and connectors, "that

requires work for implementation ... For example, a flag may indicate that insufficient detail has been

provided for executable meaning. Alternatively, a flag may indicate that a particular communication needs

to be defined." Paragraph 44-45 also describes

> *If the user checked in the process, the sequence continues to block 240. At block 240, the*
> *sequence identifies and flags connectors and steps that are non-executable, or not sufficiently*
> *defined. At block 245, the implementer, or technical user, is prompted to complete each flagged*
> *item. Note that the implementer generally checks out the process from the collection of processes*
> *in progress. The flags prompt the implementer to complete the process, and for one embodiment*
> *identify the type of work that needs to be done for completion.*

All of the activity described in paragraphs 33 and 44-45 take place in the technical user interface, not in

the non-technical user interface.

The paragraphs cited by applicant describe, in the non-technical user interface, "verify[ing] that

each element is connected to at least one other element," and, "verify[ing] that there are no connectors

that have no defined end-points." In other words, the error checking and receiving of information that

takes place in the non-technical user interface concerns elements and connectors that are not connected,

not elements and connectors that are insufficiently defined. Consequently, claims 36, 46, and 52 contain

subject matter which was not described in the specification in such a way as to reasonably convey to one

skilled in the art that the inventor at the time the application was filed, had possession of the claimed

invention.

34.   Applicant's arguments with respect to the 35 U.S.C. § 103(a) rejection of claims 36, 46, and 52

have been fully considered but they are not persuasive.

Applicant first argues that Lovell does not teach a non-technical and technical interface and

transferring access from the non-technical to the technical interface. Examiner does not agree. The

graphical design surface in Lovell a non-technical model because it is higher-level model separate from

the technical source code, col. 6, lines 12-51, and thus a person using that interface does not need to

know how to write in a programming language. The source code editor 210 is the technical user interface,

col. 8, lines 51-64, because it requires knowledge of a programming language. The business process is

passed from the graphical design surface to the source code editor where the business process can be

further refined, col. 8, lines 16-34 and col. 8, lines 51-64, which is transferring access of the business

process. It is not clear what applicant's interpretation of "transferring access" is, or why Lovell's

transferring of access is not "transferring access."

Applicant further argues that Dunn cannot teach receiving information to complete and

insufficiently-defined element and connector, because Dunn was used to teach in both the technical and

non-technical user interface. Examiner again does not agree. Flagging errors then receiving input to

correct in software development was a very basic function of IDEs and common knowledge at the time of

invention, as is shown by Iborra and Dunn. In particular, Dunn discloses correcting errors for insufficiently-

defined elements and connectors in a non-technical user interface. It would have been obvious to one of

ordinary skill in the art at the time of invention that Dunn's error correction would be applicable to

technical user interfaces, with the clear advantage of allowing users to correct and debug errors in

whichever interface the user happens to be using at the time.

Conclusion

35.   **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth

in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from

the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date

of this final action and the advisory action is not mailed until after the end of the THREE-MONTH

shortened statutory period, then the shortened statutory period will expire on the date the advisory action

is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of

the advisory action. In no event, however, will the statutory period for reply expire later than SIX

MONTHS from the mailing date of this final action.

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/
Examiner, Art Unit 2174

/DOON CHOW/
Supervisory Patent Examiner, Art Unit 2174