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- (81) **Designated States** (*unless otherwise indicated, for every kind of national protection available*): AE, AG, AL, AM, AO, AT, AU, AZ, BA, BB, BG, BH, BN, BR, BW, BY, BZ, CA, CH, CL, CN, CO, CR, CU, CZ, DE, DK, DM, DO, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, GT, HN, HR, HU, ID, IL, IN, IS, JP, KE, KG, KM, KN, KP, KR, KZ, LA, LC, LK, LR, LS, LT, LU, LY, MA, MD, ME, MG, MK, MN, MW, MX, MY, MZ, NA, NG, NI, NO, NZ, OM, PA, PE, PG, PH, PL, PT, QA, RO, RS, RU, RW, SC, SD, SE, SG, SK, SL, SM, ST, SV, SY, TH, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, ZA, ZM, ZW.
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[Continued on next page]

(54) **Title:** INTEGRATED MANUFACTURING AND TEST PROCESS PLATFORM

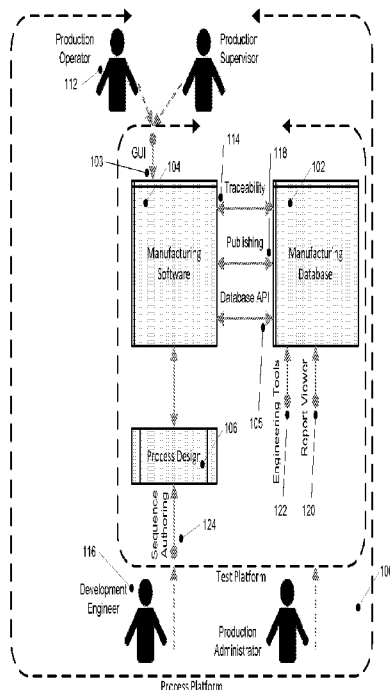


FIG. 1

(57) **Abstract:** The present specification provides a novel process platform that replaces paper-based work instructions and data collection used for manufacturing products. Specifically, the present specification provides a method and platform for performing automated testing of a product being manufactured. The process platform of the present invention may be deployed at multiple locations and be integrated with existing quality control systems. The process platform includes a plurality of pre-defined instructions and is programmed to execute these instructions automatically at different stages for performing desired quality checks on the product being manufactured at multiple manufacturing stages.

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INTERNATIONAL SEARCH REPORT

INTERNATIONAL APPLICATION NO.

PCT/US13/41247

A. CLASSIFICATION OF SUBJECT MATTER

IPC(8) - G06F 19/00 (2013.01)

USPC - 700/108, 109

According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)

IPC(8): G06F 9/44, 19/00 (2013.01)

USPC: 700/95, 96, 97, 103, 108, 109, 115, 116, 117; 707/E17.005; 717/168

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practicable, search terms used)

MicroPatent (US-G, US-A, EP-A, EP-B, WO, JP-bib, DE-C,B, DE-A, DE-T, DE-U, GB-A, FR-A); DialogPRO; IEEE; Google/Google Scholar; integrating*, manufacturing*, test*, platforms*, manufacturing*, software*, subsystem*, database*, controlling*, collecting*, housing*, driving*, design*, sequences*, instructions*, stages*, electronic*, work*, environment*, technical user interface, display*

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X --- Y	US 2008/0154909 A1 (DAM, T et al.) 26 June 2008, Figures 1, 2a-2c, Paragraphs [0033], [0040], [0042], [0043], [0045], [0048], [0049], [0052], [0054], [0055], [0062]-[0064], [0070]	1, 2, 4-14, 16-28 3, 15
Y	US 2005/0038821 A1 (WALLEN, T et al.) 17 February 2005, Paragraphs [0072], [0101]	3, 15
A	US 2006/0004475 A1 (BRACKETT, P et al.) 05 January 2006, Abstract, Figures 1, 2, Paragraphs [0017], [0018], [0023], [0030], [0035], [0040], [0042], [0043], [0045], [0047], [0052]	1-28
A	EP 0 686 900 A2 (WANG, D et al.) 13 December 1995, entire document	1-28

☐ Further documents are listed in the continuation of Box C.

* Special categories of cited documents:

"A" document defining the general state of the art which is not considered to be of particular relevance

"E" earlier application or patent but published on or after the international filing date

"L" document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)

"O" document referring to an oral disclosure, use, exhibition or other means

"P" document published prior to the international filing date but later than the priority date claimed

"T" later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention

"X" document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone

"Y" document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art

"&" document member of the same patent family

Date of the actual completion of the international search

30 October 2013 (30.10.2013)

Date of mailing of the international search report

10 JAN 2014

Name and mailing address of the ISA/US

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INTERNATIONAL SEARCH REPORT

PCT/US13/41247

Box No. II Observations where certain claims were found unsearchable (Continuation of item 2 of first sheet)

This international search report has not been established in respect of certain claims under Article 17(2)(a) for the following reasons:

1. ☐ Claims Nos.:
because they relate to subject matter not required to be searched by this Authority, namely:

2. ☐ Claims Nos.:
because they relate to parts of the international application that do not comply with the prescribed requirements to such an extent that no meaningful international search can be carried out, specifically:

3. ☐ Claims Nos.:
because they are dependent claims and are not drafted in accordance with the second and third sentences of Rule 6.4(a).

Box No. III Observations where unity of invention is lacking (Continuation of item 3 of first sheet)

This International Searching Authority found multiple inventions in this international application, as follows:

Group I: Claims 1-28; Group II: Claims 29 and 30

-Please see Supplemental Page-

1. ☐ As all required additional search fees were timely paid by the applicant, this international search report covers all searchable claims.
2. ☐ As all searchable claims could be searched without effort justifying additional fees, this Authority did not invite payment of additional fees.
3. ☐ As only some of the required additional search fees were timely paid by the applicant, this international search report covers only those claims for which fees were paid, specifically claims Nos.:
4. ☒ No required additional search fees were timely paid by the applicant. Consequently, this international search report is restricted to the invention first mentioned in the claims; it is covered by claims Nos.:
1-28

Remark on Protest

- ☐ The additional search fees were accompanied by the applicant's protest and, where applicable, the payment of a protest fee.
- ☐ The additional search fees were accompanied by the applicant's protest but the applicable protest fee was not paid within the time limit specified in the invitation.
- ☐ No protest accompanied the payment of additional search fees.

-***-Continued from Box No. III - Observations where unity of invention is lacking-***-

This application contains the following inventions or groups of inventions which are not so linked as to form a single general inventive concept under PCT Rule 13.1. In order for all inventions to be examined, the appropriate additional examination fee must be paid.

Group I: Claims 1-28 are directed toward a process platform and method for integrating manufacturing and test process platforms.

Group II: Claims 29 and 30 are directed toward a system for managing a quality control process.

The inventions listed as Groups I and II do not relate to a single general inventive concept under PCT Rule 13.1 because, under PCT Rule 13.2, they lack the same or corresponding special technical features for the following reasons: The special technical features of Group I include a manufacturing subsystem; a manufacturing database; and a process design subsystem, which are not present in Group II. The special technical features of Group II include determining if a quality level meets a threshold level; displaying a second graphical user interface comprising a rework option; and disassembling said component based upon a selection of said rework option, which are not present in Group I.

The common technical feature shared by Groups I and II is a system comprising: execution of quality control processes using a graphical user interface. However, this common feature is previously disclosed by US 2008/0097804 A1 (Soltero). Soltero discloses a system comprising: execution of quality control processes (a quality assurance system may be associated with a manufacturing process; Abstract) using a graphical user interface (presenting a graphical user interface; Abstract).

Since the common technical feature is previously disclosed by the Soltero reference, this common feature is not special and so Groups I and II lack unity.