<table>
<thead>
<tr>
<th>APPLICATION NO.</th>
<th>FILING DATE</th>
<th>FIRST NAMED INVENTOR</th>
<th>ATTORNEY DOCKET NO.</th>
<th>CONFIRMATION NO.</th>
</tr>
</thead>
<tbody>
<tr>
<td>13/242,611</td>
<td>09/29/2011</td>
<td>Matthew Brian BEHR</td>
<td>0069-0128</td>
<td>4464</td>
</tr>
</tbody>
</table>

**EXAMINER**

THANGAVELU, KANDASAMY

**ART UNIT** | **PAPER NUMBER** |
-------------|------------------|
2123         |                  |

**NOTIFICATION DATE** | **DELIVERY MODE** |
-----------------------|-------------------|
02/02/2017           | ELECTRONIC        |

**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):

docket@harrityllp.com
mpick@harrityllp.com
ptomail@harrityllp.com
This is an appeal under 35 U.S.C. § 134(a) from the Examiner’s Final Rejection of claims 1–15 and 17–30. Claim 16 is cancelled. We have jurisdiction under 35 U.S.C. § 6(b).

We affirm.

1 The real party in interest is The Math Works, Inc. App. Br. 3.
STATEMENT OF THE CASE

Appellants’ invention is directed to:

A computing device [] configured to receive a design. The computing device may further receive a requirement object that represents a requirement for the design. The requirement object may include a first functionality and a second functionality. The computing device may interact with the design using the requirement object. When interacting with the design, the computing device may invoke the first functionality to determine whether the design satisfies the requirement and invoke the second functionality to provide a result of invoking the first functionality.

Abstract.

Claim 1 is illustrative and is reproduced below:

1. A method comprising:
   instantiating a requirement element, for a requirement, within a requirements framework associated with a computing environment, the instantiating being performed by a computing device;
   receiving information associated with components, the receiving being performed by the computing device;
   identifying, using the received information and based on the requirement element, one or more components, of the components, that satisfy the requirement, the identifying being performed by the computing device;
   creating, based on the identified one or more components, a design, the creating being performed by the computing device;
   interacting with the design using the requirement element, the interacting comprising invoking a functionality of the requirement element, the functionality initiating the interacting, and the interacting being performed by the computing device;
   testing, based on interacting with the design, the design, the testing being performed by the computing device, and the testing including:
   invoking a first functionality associated with the requirement element to determine that the requirement element is applicable to the design;
and invoking, based on determining that the requirement element is applicable to the design, a second functionality associated with the requirement element, the first functionality being different than the second functionality; and

interacting, based on testing the design, with a representation of the design to provide, for presentation, information associated with one or more portions of the design that satisfy the requirement, the interacting with the representation of the design being performed by the computing device.

THE REJECTIONS


Claim 6 is rejected under 35 U.S.C. § 103(a) as unpatentable over Goodman, Hongchao Ji et al. (A Model Driven Approach for Requirements Engineering of Industrial Automation Systems, 4th Int’l Workshop on Equation-Based Object-Oriented Modeling Languages and Tools 9, 9–18 (2011) (“Hongchao”)) and R. Mukkamala Adavi et al. (HADL: HUMS
ANALYSIS

THE ANTICIPATION REJECTION BASED ON GOODMAN

Claims 1, 3, 7, 11–13, 15, and 17–22

As an initial matter, we note that in the event of further prosecution of this application, we direct the Examiner's attention to the question of whether the claims are patent-eligible under 35 U.S.C. § 101 in light of the preliminary examination instructions on patent eligible subject matter. See 2014 Interim Guidance on Patent Subject Matter Eligibility, USPTO (Dec. 16, 2014). Abstract ideas have been identified by the courts by way of example, including fundamental economic practices, certain methods of organizing human activities, an idea “of itself,” and mathematical relationships/formulas. Alice Corp. Pty. Ltd. v. CLS Bank Int'l, 134 S. Ct. 2347, 2355–56 (2014).

Although “computing device” is nominally recited in claim 1, a question arises as to whether a person would also be capable of performing the acts of the claimed method as mental steps, or with the aid of pen and
paper. See CyberSource Corp. v. Retail Decisions, Inc., 654 F.3d 1366, 1375 (Fed. Cir. 2011) (“That purely mental processes can be unpatentable, even when performed by a computer, was precisely the holding of the Supreme Court in Gottschalk v. Benson.”). Our reviewing court further guides that “a method that can be performed by human thought alone is merely an abstract idea and is not patent-eligible under § 101.” CyberSource, 654 F.3d at 1373. We leave further consideration of this § 101 issue to the Examiner. Although the Board is authorized to reject claims under 37 C.F.R. § 41.50(b), no inference should be drawn when the Board elects not to do so. See Manual of Patent Examining Procedure (MPEP) 1213.02.

Turning to the rejections before us, we are not persuaded that the Examiner erred in rejecting claims 1, 3, 7, 11, 13, 15, and 17–22.

Appellants first contend Goodman does not disclose “creating, based on the identified one or more components, a design” where the one or more components is identified, using the received information, as satisfying a requirement. App. Br. 9–13. Appellants follow a particular format for presenting this argument. Namely, Appellants reference or quote a particular paragraph of Goodman relied upon by the Examiner and then present conclusory assertions that the cited paragraph fails to disclose the recited limitation. See, e.g., App. Br. 9–10. For example, Appellants generally discuss the disclosure of paragraphs 80 and 81 and then conclude:

While these passages of GOODMAN et al. mention using applications “designed to handle the business needs of the organization” and “satisfy the needs of a business enterprise’s data handling requirements in terms of entities and relationships,” there is no teaching or suggestion in these passages of GOODMAN et al. of creating any “design,” much
less creating a “design” based on “one or more components” that “satisfy the requirement” and are identified “using the received information and based on the requirement element.” No design is created in these passages of GOODMAN et al.


Appellants present similar conclusory arguments with respect to the remaining cited paragraphs of Goodman. See, e.g., App. 11 (contesting that paragraph’s 241 mentioning validating a design is not creating a design), App. Br. 13 (asserting that the mere disclosure a design in paragraph 367 of Goodman does not teach the recited design claim limitation); see also Reply Br. 3–4. We find these arguments unpersuasive.

Moreover, Appellants’ arguments with respect to creating a design are unavailing given the broad scope of design, requirement, and components disclosed in the Specification. For example, the Specification describes:

A design may include a representation of a system and/or software. A type of a design may refer to a purpose of a design and/or to a type of a representation of the design. In one example, when referring to the purpose of the design, the design may include one or more of: a conceptual design, a high-level design, a detailed design, a functional design, an architectural design, a structural design, or a behavioral design.

In another example, when referring to the type of the representation of the design, the design may include one or more of: a graphical model, a textual model, a time-based modeling diagram, a class diagram, an object diagram, a state transition
diagram, a unified modeling language (UML) diagram, a system modeling language (SysML) diagram, an architecture description language (ADL) diagram, hardware code, software code, differential equations, difference equations, algebraic equations, assignments, a dynamically typed language, an array-based language, an action language, a collection of data, etc. In yet another example, a type of the design may be associated with a particular modeling tool or a particular source code language used to create the design.

Spec. ¶¶ 16–17. Further, the Specification states “[a] component may represent a portion of the design” and “[a] requirement may represent/specify, for example, an attribute, a capability, a characteristic, and/or a quality that a design is required to possess.” Spec. ¶¶ 21–22; see also Fig 1 (depicting example components of a device as a bus 110, a processor 120, a memory 130, a storage 140, an input device 150, an output device 160, and/or a communication interface 170).

These broad descriptions support the Examiner’s findings with respect to Goodman. In particular, Goodman, as the Examiner finds, at least discloses, for example, using analysis and design tools to create a design to achieve certain functional and technical specifications or requirements based on key components of the system. Final Act. 4–5 (citing Goodman ¶¶ 228, 241, 367). As such, for the reasons discussed above and identified by the Examiner, we are not persuaded that the Examiner erred in finding that Goodman teaches the disputed creating a design limitation.

Appellants also use the same conclusory approach to argue that Goodman fails to disclose the testing limitation of claim 1. See App. Br. 14–29. For example, Appellants allege:

While these passages of GOODMAN et al. mentions a “product test” to test an “application” and a “functionality of the solution,” the mere disclosure of testing an “application” and a
“functionality of the solution” does not teach or suggest a “first functionality” and a different, “second functionality.” Moreover, there is no teaching or suggestion that any design is tested by “invoking a first functionality associated with the requirement element to determine that the requirement element is applicable to the design” and “invoking, based on determining that the requirement element is applicable to the design, a second functionality associated with the requirement element.” This passage of GOODMAN et al. does not invoke a “first functionality” to “determine that the requirement element is applicable to the design” and invoke a “second functionality” that is “associated with the requirement element.”

App. Br. 26–27; see also, e.g., App. Br. 15–28 (repeating arguments that paragraphs 92, 95, 228, 241, 258, 259, 261, 264, 265, 266, 270, 271, 379, not teach or suggest the recited first or second functionality); Reply Br. 5–6.

These conclusory assertions are unavailing.

Specifically, Appellants fail to persuasively address the Examiner’s findings. For example, the Examiner finds that Goodman discloses

the design deals with how the system will be constructed; validating (testing) ensures that the design actually meets the requirements for functionality, performance, reliability and usability is essential; after detailed design is done, the design data is stored in the repository; then the data from the repository is retrieved (identify a position of relevant data in the stored data; trace to the relevant data) and testing is done to ensure that the design actually meets the requirements.

Ans. 5–6 (citing, for example, Goodman ¶¶ 241, 265, 266); Final Act. 7–8.

In other words, Goodman tests whether a component meets the requirements (such to determine that the requirement is applicable to the design) by invoking a functionality of the component. See, e.g., Goodman ¶¶ 241, 265, 266.
With respect to the recited second functionality, the Examiner finds that Goodman discloses testing the interaction of related components. Final Act. 7–8. As such, once the functionality of a component is determined to meet the design requirement (and thus is determined to be applicable to the design), interaction with a related component will also be tested, by invoking a second functionality, data communication. Final Act. 7–8; see also Ans. 5–6.

Appellants similarly do not persuasively respond to these findings. Rather, as discussed above, Appellants merely assert that the Examiner has not explained how any of the above passages of GOODMAN et al. can reasonably be construed to disclose the requirement element that is associated with a “first functionality... to determine that the requirement element is applicable to the design” and a “second functionality” that is different than the “first functionality.” Reply Br. 6. As such, we are not persuaded that the Examiner erred in finding that Goodman discloses the recited testing limitation.

Finally, Appellants allege “that the Examiner is improperly locating individual words in several disparate paragraphs of GOODMAN et al. and asserting that these words support a § 102 rejection.” Reply Br. 4–5. This argument, however, was raised for the first time in the Reply Brief and is, therefore, waived as untimely. See also Ex parte Borden, 93 USPQ2d 1473, 1474 (BPAI 2010) (informative) (“[The reply brief [is not] an opportunity to make arguments that could have been made in the principal brief on appeal to rebut the Examiner’s rejections, but were not.”). Moreover, Appellants does not persuasively explain how the Examiner is relying on disparate embodiments of Goodman in the rejection.
Appellants again present conclusory arguments with respect to dependent claims 12, 21, and 22 without persuasively responding to the Examiner’s findings. See App. Br. 30–36: Reply Br. 7–17. For example, with respect to claim 12, Appellants, in discussing paragraph 95 cited by the Examiner, assert that

While this passage of GOODMAN et al. discloses a “repository” of “information management tools 56” that “share a common repository,” there is no teaching or suggestion in this passage of GOODMAN et al. that these tools are associated, in any way, with “invoking a first functionality associated with the requirement element to determine that the requirement element is applicable to the design.”

Moreover, this passage of GOODMAN et al. is silent regarding “identify[ing] a position of relevant data in the stored data based on at least one of the type of the design or the representation of the design” and “trac[ing] to the relevant data” when “invoking the first functionality.” In contrast, this passage of GOODMAN et al. is merely directed to a “repository” of “tools” with no disclosure of identifying any “position of relevant data” and tracing “to the relevant data” when “invoking the first functionality,” as required by claim 12.

App. Br. 35. See also App. Br. 30–32 (presenting conclusory arguments with respect to claim 12 and failing to address the Examiner’s reliance on paragraph 241 of Goodman).

Notably, these blanket assertions fail to consider the Examiner’s finding that Goodman’s common data repository is used for both design and testing and the Examiner’s finding that Goodman’s verifies or tests by invoking the functionality of a component to determine the component meets the specification or requirement. See, e.g., Ans. 5–7 (citing Goodman ¶¶ 95, 193, 241, 265, 266); see also Goodman ¶ 193 (noting processes “must
be documented in a centralized database that allows quick and easy reference.”). As such, we find Appellants arguments unpersuasive.

Likewise unavailing is Appellants arguments with respect to claims 21 and 22. See App. Br. 32–35; Reply Br. 12–17. As the Examiner finds, for example, Goodman validates that the design meets functionality requirements and performs test runs where the actual test results are compared with expected results. Final Act. 10, 30–31. See also, e.g., Goodman ¶263 (noting that well defined standards and procedures for testing “ensures that the outputs from each test activity are documented at the right level of detail and fed back to the design and construction teams”). As such, we are not persuaded that the Examiner erred in finding that Goodman discloses the verifying and reporting functionality limitations of claims 21 and 22.

Accordingly, we sustain the rejection of claims 1, 12, 21, and 22, as well as claims 3, 7, 11, 13, 15, and 17–20 not argued separately (see App. Br. 30; Reply Br. 6), as anticipated by Goodman.

THE OBVIOUSNESS REJECTION BASED ON GOODMAN AND MAKLHOUF

Claims 23 and 24

Based on the record before us, we are not persuaded that the Examiner erred in rejecting claims 23 and 24 as unpatentable over Goodman and Makhlouf under § 103.

Appellants first repeat arguments presented with respect to claim 12. See App. Br. 39–42. As discussed above, we find these arguments unpersuasive. Also, similarly to arguments discussed above, Appellants make blanket assertions that the cited combination fails to satisfy the recited
Appellants assert:

While these passages of MAKHLOUF disclose “rules and tools used to construct M models” and “bind component objects of a real system into an integrated architecture,” there is no teaching or suggestion in these passages of MAKHLOUF of determining that any data satisfies the “rules,” much less determining “whether the relevant data [a position of which is specified by the requirement element] satisfies the rule,” as required by claim 23.

App. Br. 42; see also Reply Br. 20–22.

We disagree. First, we note that the Specification broadly describes that a verification rule may merely define characteristics (e.g., of an element, a data set, connected elements, a configuration, etc.) necessary to satisfy the requirement. Spec. ¶ 67. Makhlouf teaches using expert rules to ensure a system of particular functional and performance requirements. See, e.g., Makhlouf col. 4, ll. 33–36, 51–52, col. 5, ll. 18–26; Ans. 11–12; Final Act. 42; see also Goodman ¶ 241; Final Act. 41. As such, we are not persuaded that the combination of Goodman and Makhlouf, which together teach using a rule and verifying a design, including certain data, based on satisfying the rule or requirement.

Accordingly, we sustain the Examiner’s rejection of claims 23 and 24 as unpatentable over Goodman and Makhlouf.

**Obviousness Rejection Based on Goodman, Makhlouf, and Wilcock**

**Claim 26**

Appellants present similar arguments for claim 26 as presented for claims 23 and 24. See App. Br. 43–45. For the reasons discussed above, we find these arguments unpersuasive. Accordingly, we sustain the Examiner’s
rejection of claim 26 as unpatentable over Goodman, Makhlouf and Wilcock.

THE OBVIOUSNESS REJECTION BASED ON GOODMAN AND HEIN

Claims 27–30

Based on the record before us, we are not persuaded the Examiner erred in rejecting claims 23 and 24 as unpatentable over Goodman and Makhlouf.

Appellants argue Goodman fails to teach or suggest the limitations with respect to a modified design. See App. Br. 46; Reply Br. 25–26. The Examiner, however, relies on Hein as teaching a modified design and the combination of Goodman and Hein to teach the recited limitations. See, e.g., Ans. 14–16; Final Act. 46–52. Appellants’ arguments, thus, are unpersuasive as they challenge the references individually. One cannot show nonobviousness by attacking references individually where the rejections are based on combinations of references. See In re Keller, 642 F.2d 413, 426 (CCPA 1981); In re Merck & Co., Inc., 800 F.2d 1091, 1097 (Fed. Cir. 1986).

Accordingly, we sustain the Examiner’s rejection of claims 27–30 as unpatentable over Goodman and Hein.

THE REMAINING OBVIOUSNESS REJECTIONS

Claims 2, 4–6, 8, 9, 10, 14, and 25

Appellants do not present separate arguments for the patentability of claims 2, 4–6, 8, 9, 10, 14, and 25. Namely, Appellants assert that the additionally cited prior art does not cure the deficiencies of Goodman. See,
e.g., Reply Br. 18–20. Accordingly, as we sustain the rejection of independent claims 1, 11, and 15, we likewise sustain the Examiner’s rejection of claims 2, 4–6, 8, 9, 10, 14, and 25 as unpatentable over the cited combinations of prior art.

DECISION

We affirm the Examiner’s decision rejecting claims 1–15 and 17–30. No time period for taking any subsequent action in connection with this appeal may be extended under 37 C.F.R. § 1.136(a)(1)(iv).

AFFIRMED