UNITED STATES PATENT AND TRADEMARK OFFICE

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NORTON ROSE FULBRIGHT US LLP
2200 ROSS AVENUE
SUITE 3600
DALLAS, TX 75201-7932

EXAMINER
SHERR, MARIA CRISTI OWEN

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UNITED STATES PATENT AND TRADEMARK OFFICE

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BEFORE THE PATENT TRIAL AND APPEAL BOARD

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Ex parte ANDREW KNIGHT SIMPSON

_____

Appeal 2016-006110
Application 12/306,474
Technology Center 3600

_____

Before ERIC S. FRAHM, JUSTIN BUSCH, and JASON M. REPKO,
Administrative Patent Judges.

BUSCH, *Administrative Patent Judge*.

DECISION ON APPEAL

This is a decision on appeal under 35 U.S.C. § 134(a) of the rejection
of claims 1, 2, 4, 8–12, 14, 18–23. We have jurisdiction under 35 U.S.C.
§ 6(b).

We affirm.

CLAIMED SUBJECT MATTER

Claims 1 and 11 are independent claims. The claims relate to
methods for evaluating the value of a company. Spec. ¶ 2. Appellant
describes the invention as "using online game technology to enable
companies and investors to more accurately value company debt and equity
securities." *Id.*; *see also id.* ¶ 18 ("This system mounts corporate
classification, strategy and finance analysis on a game-like web-based

dashboard that may be manipulated by individuals or groups, over the Web."). Claim 11 is reproduced below:

> 11. A computer readable medium storing a program for a computer implemented method for evaluating a company which when implemented by a computer causes the computer to:
>
> identify, based on a binary classification system, a category of the company as an end user company or a commodity company;
>
> display subcategories, for selection as being applicable to the company, in response to identifying the company category as either an end user company or a commodity company;
>
> calculate an estimated value of the company based on the identified company category and subcategories selected, wherein calculating the estimated value uses an algorithm implementing a risk component expressed in bond yield, a return component expressed in stock price, and at least one underlying assumption regarding the company;
>
> graphically display an icon that an end user moves to vary the at least one underlying assumption of the estimated value; and
>
> graphically display, in real time, a representation of the estimated value of the company based upon the end user varying the at least one underlying assumption of the estimated value.

REJECTIONS

Claims 1, 2, 4, 8–12, 14, and 18–23 stand rejected under 35 U.S.C. § 101 as directed to patent-ineligible subject matter because the claims recite an abstract idea without significantly more. Non-Final Act. 3–5.

Claims 11, 12, 14, and 18–20 stand rejected under 35 U.S.C. § 101 as directed to non-statutory subject matter because the claims recite a medium that encompasses transitory media. Non-Final Act. 5.

Claims 1, 2, 4, 8–12, 14, and 18–23 stand rejected under 35 U.S.C. § 112, first paragraph, as failing to comply with the enablement requirement. Non-Final Act. 6–7.

Claims 9 and 19 stand rejected under 35 U.S.C. § 112, second paragraph, as indefinite for failing to particularly point out and distinctly claim the subject matter regarded as the invention. Non-Final Act. 7–8.

Claims 1, 2, 4, 8–12, 14, and 18–23 stand rejected under 35 U.S.C. § 103(a) as obvious in view of Sundstrom (US 7,311,600 B2; Dec. 25, 2007), Sant (US 2005/0187851 A1; Aug. 25, 2005), and Vaid (US 7,912,761 B1; March 22, 2011). Non-Final Act. 8–11.

ANALYSIS

REJECTIONS UNDER 35 U.S.C. § 101

We will address the Examiner's two rejections under 35 U.S.C. § 101 in reverse order. First, we will address the rejection of claims 11, 12, 14, and 18–20 under § 101 as directed to non-statutory subject matter. Then, we will address the Examiner's rejection of all pending claims under § 101 for reciting patent-ineligible subject matter because they are directed to merely an abstract idea, without adding significantly more.

The Rejection of Claims as Non-Statutory Subject Matter

The Examiner rejects claims 11, 12, 14, and 18–20 under 35 U.S.C. § 101 as directed to non-statutory subject matter because the claims encompass a tangible computer readable medium storing a program, but do not limit the computer readable medium that stores the program to non-transitory media. Non-Final Act. 5 (citing MANUAL OF PATENT EXAMINING PROCEDURE (MPEP) § 2106; *In re Nuijten*, 500 F.3d 1346 (Fed. Cir. 2007); *Ex parte Mewherter*, 107 USPQ2d 1857 (PTAB 2013) (precedential)).

Appellant argues that a computer readable medium *storing* a program because "[i]t is unclear how a transitory signal could 'store' the computer program as required by the claim." Br. 7. Appellant's argument is unpersuasive. The Board has addressed this issue and concluded that a computer readable medium that stores a program may include transitory signals. *Ex parte Mewherter*, 107 USPQ2d 1857, 1859 (PTAB 2013) (precedential) (addressing whether "the insertion of the word 'storage' . . . necessarily excludes transitory media from the scope of the term"). The Board in *Mewherter* also looked to extrinsic evidence and concluded "that those of ordinary skill in the art would understand the claim term 'machine-readable storage medium' would include signals per se." *Mewherter*, 107 USPQ2d at 1862.

The only portion of Appellant's Specification providing potential insight regarding the claimed computer readable medium states "that the software implementations of the present invention as described herein are *optionally* stored on a *tangible* storage medium." Spec. ¶ 67 (emphasis added). Notably, there is no reference to the specific recited phrase of a "computer readable medium storing a program," or a variation thereof. The Specification does indicate that "software implementations" are "optionally stored on a tangible storage medium." *Id.* (emphasis added). That language, however, is permissive because the Specification does not limit software implementations to being stored on a tangible storage medium. Furthermore, a "tangible storage medium" is merely one type of potential computer readable medium. More importantly, to the extent an ordinarily skilled artisan would understand claim 11 to be limited to a "tangible" medium, recitation that "media are 'physical' or tangible' will not

overcome" a presumption that the media encompass signals or carrier waves.
Mewherter, 107 USPQ2d at 1862 (citing U.S. Patent & Trademark Office,
Evaluating Subject Matter Eligibility Under 35 USC § 101 (August 2012
Update) (pp. 11–14), *available at*
http://www.uspto.gov/patents/law/exam/101_training_aug2012.pdf).

 For the above reasons, we are not persuaded Appellant's claims and
Specification would have indicated sufficiently to one of ordinary skill in the
art, an express and unambiguous intent to exclude transitory or propagation
signals from the claim term "computer readable medium storing a program."
As such, Appellant's contentions do not persuade us of error in the
Examiner's conclusion or persuade us to reach a conclusion contrary to that
reached in the precedential opinion of *Mewherter*. Accordingly, we sustain
the Examiner's rejection of claims 11, 12, 14, and 18–20 under 35 U.S.C.
§ 101 as encompassing non-statutory subject matter.

 The Rejection of Claims as Judicially Excepted Subject Matter

 We now address the Examiner's rejection of the pending claims as
ineligible subject matter under 35 U.S.C. § 101 because they merely recite
abstract ideas without adding significantly more. Non-Final Act. 3–5;
Ans. 9–11. As Appellant notes, in *Mayo Collaborative Services v.
Prometheus Laboratories, Inc.*, 566 U.S. 66, 71–73 (2012), the Supreme
Court established an analytical framework under § 101 to distinguish patents
that claim patent-ineligible laws of nature, natural phenomena, and abstract
ideas—or add too little to such underlying ineligible subject matter—from
those that claim patent-eligible applications of those concepts. To determine
whether claims are patent eligible under § 101, we apply the Supreme

Court's two-step test as articulated in *Alice Corp. Pty. Ltd. v. CLS Bank International*, 134 S. Ct. 2347, 2355 (2014).

According to *Alice* step one, "[w]e must first determine whether the claims at issue are *directed to* a patent-ineligible concept," such as an abstract idea. *Alice*, 134 S. Ct. at 2355 (emphasis added). "[T]he 'directed to' inquiry applies a stage-one filter to claims, considered in light of the specification, based on whether 'their character as a whole is directed to excluded subject matter.'" *Enfish, LLC v. Microsoft Corp.*, 822 F.3d 1327, 1335 (Fed. Cir. 2016) (quoting *Internet Patents Corp. v. Active Network, Inc.*, 790 F.3d 1343, 1346 (Fed. Cir. 2015)).

The Examiner finds the claims are simply "directed towards the computation and display of the future estimated value of the company." Non-Final Act. 4; Ans. 10. The Examiner finds the claims are thus "directed towards an abstract idea of organizing information through mathematical correlations." Non-Final Act. 4; Ans. 9.

Appellant argues the claims are not directed to an abstract idea because the graphically displaying an estimated value step "cannot be implemented purely through fundamental economic practices, certain methods of organizing human activities, an idea of itself, or mathematical relationships/formulas, and requires a computer implementation in order to be realized," which "provides significant advantages discussed at paragraphs [0062] and [0063] of the originally filed specification." Br. 6. Appellant further contends the claims recite features that are more than the abstract idea itself because the graphically displaying steps improve "underlying user interface functionality of the computer processor" by providing corporate analysis using a web-based game-like interface. *Id.*

Appellant's claims recite steps relating to calculating and displaying data relating to an estimated value of a company according to an algorithm. Paragraph 62 explains that the invention provides an alleged advantage of a single application bridging corporate finance and business strategy, "roll[ing] up and appl[ying] all significant quantitative information in a major enterprise to the problems of corporate governance by showing the likely risk and return consequences of decisions expressed in bond yield and stock price]." Spec. ¶ 62. Paragraph 63 explains that the invention provides the alleged advantage of "uniquely enable[ing] strategic dialog in real time among board members and C-level execs who may be looking at a common web screen from geographically disparate locations and discussing the same telephonically." Spec. ¶ 63.

Paragraphs 62 and 63 of Appellant's Specification support the Examiner's findings that the claims are directed towards computing and displaying an estimated value of a company, which is merely an abstract idea involving organizing information through mathematical correlations. Moreover, we are unpersuaded by Appellant's argument that the claims are not directed to an abstract idea merely because the claims may not be implemented purely through abstract ideas. As discussed above, step 1 of the *Alice* test asks whether the claims' character, *as a whole*, is directed to abstract subject matter. *Enfish*, 822 F.3d at 1335. The Examiner has articulated what the claims are directed to and determined that the character of the claims, as a whole, is an abstract idea. Non-Final Act. 3–4; Ans. 9–10. The Federal Circuit has "recognized that merely presenting the results of abstract processes of collecting and analyzing information, without more (such as identifying a particular tool for presentation), is abstract as an

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ancillary part of such collection and analysis." *Elec. Power Grp., LLC v. Alstom S.A.*, 830 F.3d 1350, 1354 (Fed. Cir. 2016); *see also Digitech Image Techs., LLC v. Electronics for Imaging, Inc.*, 758 F.3d 1344, 1350 (Fed. Cir. 2014) (finding a process of organizing information through mathematical correlations to be an abstract idea); *Apple, Inc. v. Ameranth, Inc.*, 842 F.3d 1229, 1240–43 (Fed. Cir. 2016) (finding claims that generate specific graphical user interfaces were directed to an abstract idea).

Appellant has not presented argument or evidence sufficient to persuade us the Examiner's findings are erroneous. Accordingly, we agree that the claims are directed to an abstract idea and move on to step 2 of *Alice* to determine whether the claims recite significantly more than the abstract idea itself.

In step 2, we "consider the elements of each claim both individually and 'as an ordered combination' to determine whether the additional elements 'transform the nature of the claim' into a patent-eligible application." *Alice*, 134 S. Ct. at 2355 (quoting *Mayo*, 566 U.S. at 78). The Supreme Court describes the second step "of this analysis as a search for 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 [ineligible concept] itself." *Id.* (brackets in original) (internal quotations omitted).

The Examiner also finds "claim 1 does not add substantially more to the abstract idea as the claim recites nothing more than generic computer functionality involving lookup of a category from a database, displaying subcategories, performing calculations and using the display to perform modifications on the calculated results." Non-Final Act. 4. The Examiner

further finds the claims do not improve the functioning of a computer or any other technology or technical field and "do not move beyond a general link of the use of an abstract idea to a particular technological environment." Ans. 10.

Appellant contends the claims include "improvements to the functioning of the computer processor" because the claims require a computer, provide "significant advantages discussed at paragraphs [0062] and [0063] of the originally filed specification," and recite features that are not routine or conventional computer functionality. *Id.* at 7. Appellant's arguments with respect to step 2 are not persuasive. The claims here do not improve the functioning of a computer processor or recite unconventional computer functionality.

On the contrary, Appellant's claims merely recite executing an algorithm to estimate a value of a company and provide an interface to allow manipulation of the variables that affect the estimate while graphically displaying the results of the estimate. Rather than improving computer functionality, the claims simply recite using conventional graphical user interfaces to compute and display a value. Appellant describes the invention as applying game-like interfaces to company valuations. *See* Spec. ¶¶ 2 ("The present invention relates to . . . using online game technology to enable companies and investors to more accurately value company debt and equity securities."), 18 ("This system mounts corporate classification, strategy and finance analysis on a game-like web-based dashboard"), 50 ("The ability to interactively estimate both debt and equity valuation outcomes in a game-like dashboard mounted on the Web is without precedent in the U.S. and global capital markets").

For the reasons discussed above, we agree with the Examiner that the claims are directed to an abstract idea without adding something more amounting to an inventive concept. Accordingly, we affirm the Examiner's rejection of claims 1, 2, 4, 8–12, 14, and 18–23.

REJECTIONS UNDER 35 U.S.C. § 112, FIRST PARAGRAPH

The Examiner rejects all pending claims under 35 U.S.C. § 112, first paragraph, for lack of enablement. Non-Final Act. 6–7. In particular, the Examiner finds the graphically displaying an icon step is supported by paragraph 48 of the Specification, which discloses using "proprietary data and algorithms the user might not otherwise be able to access." Non-Final Act. 6 (quoting Spec. ¶ 48). The Examiner, therefore, finds "the limitation requires the implementation of an undisclosed algorithm in order to perform the limitation those skilled in the art would be unable to perform the invention as claimed without undue experimentation." Non-Final Act. 7. The Examiner finds claims 10 and 20–23 are not enabled for the additional reason that the Specification does not disclose actual databases of various terms recited in those claims. *Id.*

Appellant contends paragraph 48 of the Specification simply indicates that an end user cannot see proprietary data and algorithms, but that the Specification provides an enabling disclosure for an ordinarily skilled artisan to implement the claims, including disclosing "public sources of data, example algorithms, and procedures for employing experts to [perform determinations] to arrive at such data and formulae," as well as particular examples of estimating a company's value. Br. 8 (citing Spec. ¶ 24, 37–42, 45, 46, 48, 51–54, 57). Appellant also argues the Specification discloses

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various sources of information for the terms recited in claims 10 and 20–23.
Br. 9.

The enablement requirement provides an established standard for the propriety of the written description offered to support a set of claims. *Ariad Pharms., Inc. v. Eli Lilly & Co.*, 598 F.3d 1336, 1367 (Fed. Cir. 2010) (citing *In re Wands*, 858 F.2d 731, 737 (Fed. Cir. 1988)). When determining whether a disclosure requires undue experimentation, we consider the following factors:

> (1) the quantity of experimentation necessary, (2) the amount of direction or guidance presented, (3) the presence or absence of working examples, (4) the nature of the invention, (5) the state of the prior art, (6) the relative skill of those in the art, (7) the predictability or unpredictability of the art, and (8) the breadth of the claims.

Wands, 858 F.2d at 737.

The Examiner has provided no findings with respect to any of these factors. *See* Non-Final Act. 6–7. The Examiner's finding that the graphically displaying an icon step is not enabled merely because the Specification discloses that certain algorithms and data may be proprietary—i.e., unknown to an end user—is unfounded. *See id.* Assuming a person of ordinary skill in the art is capable of programming a method of estimating a company's value based on various inputs and displaying an interface for at least one of the inputs and the output, it is unclear why Appellant's Specification would not enable that person to use algorithms or data that would not be known by or available to the end user of the interface. Similarly, the Examiner has not explained why an ordinarily skilled artisan designing the claimed invention would be incapable of linking the variables

to the appropriate sources of data without the Specification disclosing a specific database for each type of data.

Because the Examiner has not sufficiently explained why the claimed invention would require undue experimentation in light of Appellant's Specification, we reverse the rejection of claims 1, 2, 4, 8–12, 14, and 18–23 under 35 U.S.C. § 112, first paragraph.

REJECTIONS UNDER 35 U.S.C. § 112, SECOND PARAGRAPH

The Examiner rejects claims 9 and 19 as indefinite under 35 U.S.C. § 112 for failing to particularly point out and distinctly claim the subject matter Appellant regards as the invention. Non-Final Act. 8. In particular, the Examiner finds "claims 9 and 19 recite algorithms where the X and Y are not defined, thereby rendering the claims vague and unclear." *Id.* Appellant responds that a person of ordinary skill in the art would have understood, from reviewing Appellant's Specification, that X is a company's Benchmark Score and Y is a company's bond yield. Br. 9–10 (citing Spec. ¶ 60).

We agree with Appellant. As Appellant states, the Specification provides an understanding of what X and Y represent. Spec. ¶ 60 ("An ordinary regression analysis is performed on the Y variables (company bond yields converted to logarithms) and on the X variables (company Benchmark Scores converted to logarithms)."). Accordingly, we are persuaded the Examiner erred in rejecting claims 9 and 19 as indefinite, and we reverse the Examiner's rejection of claims 9 and 19 under 35 U.S.C. § 112, second paragraph.

REJECTIONS UNDER 35 U.S.C. § 103

Claims 1, 2, 4, 10–12, 14, 20, and 21

The Examiner rejects all pending claims as obvious in view of Sundstrom, Sant, and Vaid. Non-Final Act. 8–11. In particular, with respect to independent claims 1 and 11, the Examiner finds the combination of Sundstrom and Vaid teach or suggest the identifying and displaying subcategories, and the Examiner provides a rationale for combining the identified teachings of Sundstrom and Vaid. *Id.* at 8–9. The Examiner finds the combination of Sundstrom and Sant teaches or suggests the calculating step and provides a rationale for combining the identified teachings of Sundstrom and Sant. *Id.* at 9–10. Of particular note, the Examiner finds Sant teaches or suggests the graphically displaying an icon and graphically displaying the estimated value steps. *Id.* (citing Sant ¶¶ 161, 418, 444, 474–477, 528–549, Figs. 15–17, 37–40, 78, 79); Ans. 13 (citing the same paragraphs in Sant).

Appellant contends Sant does not teach the two graphically displaying steps because, in Sant, "the user does not move an icon, but merely clicks arrows, to adjust inputs 1603-1607, and consequent effect on stock price is neither calculated nor displayed in real time." Br. 11 (citing Sant ¶¶ 283–290, Fig 16). Appellant further argues the user must complete all inputs, which cannot be altered once the stock price is displayed, and click a button to generate and display the stock price. *Id.* Thus, Appellant asserts Sant does not teach or suggest either an icon that a user moves to vary an input or a real-time display of the company's estimated value based on that varied input. *Id.*

Sant discloses various graphical user interface (GUI) screens. *See* Figs. 2, 4–8, 10–13, 15–17, 20–25. Although Figure 16 depicts an arrow that a user can click, which is not a graphically displayed icon that a user can move, the Examiner also cites paragraph 161 of Sant, which relates to the GUI depicted in Figure 2. *See* Non-Final Act. 9; Ans. 13. Figure 2 depicts a slider bar (i.e., a graphically displayed icon that a user can move to affect an underlying assumption). Sant Fig. 2; *see also, e.g.*, Figs. 20–23 (similarly depicting GUIs with slider bars with which a user can adjust an underlying value or assumption). Paragraph 161 also discusses, and Figure 2 also depicts, displaying the results of varying the slider bar in real-time. Sant ¶ 161 ("Users can change inputs (such as, interest rate, payment amount, time period) by moving a slider bar and visually see the present and future value graphs update in real time as they are changing the inputs on a slider control."), Fig. 2. Moreover, an ordinarily skilled artisan review Sant would have understood that the slider bars depicted in Figure 2 and the arrow and entry boxes depicted in Figure 16 would have been interchangeable depending on the specific user interface desired. Accordingly, we are not persuaded the Examiner erred in finding Sant teaches or suggests the two graphically displaying steps recited in claims 1 and 11.

For the reasons discussed above, we sustain the Examiner's rejection of claims 1 and 11 under 35 U.S.C. § 103(a) as obvious in view of Sundstrom, Sant, and Vaid. Appellant does not substantively argue for the separate patentability of dependent claims 2, 4, 10, 12, 14, 20, and 21. Br. 12. Accordingly, we sustain the Examiner's rejection of those claims as obvious in view of Sundstrom, Sant, and Vaid for the same reasons.

Claims 8, 9, 18, 22, and 23

Appellant argues the Examiner "provides no grounds of rejection, nor any articulated reasoning, in support of the rejection of claims 8 and 18." Br. 12. With respect to claims 8 and 18, the Examiner finds "Sundstrom does not specifically disclose that the estimated price . . . is based on proprietary data, [but] Sundstrom discloses that the estimated price comprises a stock price." Non-Final Act. 10–11 (citing Sundstrom 5:10–15); Ans. 13–14. We agree with Appellant.

The Examiner has neither made a finding that the prior art references teach or suggest basing the estimate on proprietary data nor articulated any rationale for modifying the proposed combination. Rather the Examiner explicitly states Sundstrom does not disclose the estimated price is based on proprietary data, but discloses that the estimate comprises a stock price. The Examiner, however, offers no explanation why a person of ordinary skill in the art would have understood Sundstrom's disclosure as teaching or suggesting basing the estimate on proprietary data and provides no rationale for modifying Sundstrom to base the estimated price on proprietary data. Therefore, constrained by this record, we must reverse the Examiner's rejection of claims 8 and 18 as obvious in view of Sundstrom, Sant, and Vaid.

The Examiner finds aspects of each of claims 9, 19, 22, and 23 are not taught or suggested by the proposed combination of Sundstrom, Sant, and Vaid. Non-Final Act. 10–11.

Specifically, the Examiner finds the algorithm recited in claims 9 and 19 is not disclosed, but concludes it would have been obvious "to substitute one algorithm for another in order to achieve a more challenging game." *Id.*

at 11. Appellant's Application is titled "Web Based Valuation Game," and the Specification includes various references to game technology and game-like interfaces or formats and indicates that the invention relates to computer games or valuing companies in a game context. Spec. ¶¶ 2, 3, 5, 22, 50. However, claims 1 and 11 are directed to methods for evaluating a company. Thus, it is unclear how "achiev[ing] a more challenging game," Ans. 8, would have provide an ordinarily skilled artisan the motivation to implement the recited algorithm. Accordingly, the Examiner has not articulated a sufficient rationale explaining why it would have been obvious to modify the teachings of Sundstrom, Sant, and Vaid to include the recited algorithm.

The Examiner takes Official Notice that the missing elements of claims 22 (valuing call options on the company's *end user bases*) and 23 (determining a benchmark score based on *credit scoring*) are old and well-known. Non-Final Act. 11. However, even assuming that end user bases and credit scoring are well known, the Examiner provides no rationale for modifying the combined teachings of Sundstrom, Sant, and Vaid to perform the specific steps of "valuing call options on said company's end user bases," as recited in claim 22, or "determin[ing] a benchmark score of said company's debt cost based on credit scoring by industry experts," as recited in claim 23. *See id.*

For the reasons discussed above, we do not sustain the Examiner's rejection of claims 8, 9, 18, 19, 22, and 23 under 35 U.S.C. § 103(a) as obvious in view of Sundstrom, Sant, and Vaid.

CONCLUSION

In reaching this decision, we consider all evidence presented and all arguments Appellant actually made. We do not consider arguments

Appellant could have made but chose not to make in, and we deem any such arguments waived. 37 C.F.R. § 41.37(c)(1)(iv). For the reasons discussed above, we: sustain the Examiner's rejection of all pending claims under 35 U.S.C. § 101; reverse the Examiner's rejection of all pending claims as not enabled under 35 U.S.C. § 112, first paragraph; reverse the Examiner's rejection of claims 9 and 19 as indefinite under 35 U.S.C. § 112, second paragraph; and sustain the Examiner's rejection of all pending claims under 35 U.S.C. § 103(a) as obvious in view of Sundstrom, Sant, and Vaid.

DECISION

We affirm the Examiner's decision to reject claims 1, 2, 4, 8–12, 14, and 18–23.

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