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UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

Ex parte CHRISTOS KARANICOLAS¹

Appeal 2018-004557
Application 13/704,915
Technology Center 3600

Before JOSEPH A. FISCHETTI, BRUCE T. WIEDER, and
AMEE A. SHAH, *Administrative Patent Judges*.

FISCHETTI, *Administrative Patent Judge*.

DECISION ON APPEAL

STATEMENT OF THE CASE

Appellant seek our review under 35 U.S.C. § 134 of the Examiner's final rejection of claims 21–32 and 35–41. We have jurisdiction under 35 U.S.C. § 6(b).

¹ We use the word “Appellant” to refer to “Applicant” as defined in 37 C.F.R. § 1.42(a). Appellant identifies the real party in interest as Clever Devices Ltd. Appeal Br. 2.

SUMMARY OF DECISION

We affirm.

THE INVENTION

Appellant states, “[t]he present invention relates generally to the enhancement of a transit schedule, and more particularly, to a method for generating an enhanced transit schedule using an existing transit schedule and a history of variance.” Spec. ¶ 3.²

Claim 21, reproduced below, is representative of the subject matter on appeal.

21. A system for generating an enhanced transit schedule, the system comprising:

a plurality of GPS devices operationally linked to communications devices, and

an enhanced transit schedule generator, the enhanced transit schedule generator comprising a user input device, a display, a processor and a memory, the memory containing instructions that, when executed by the processor, cause the processor to execute the following steps:

retrieving, using the processor and from the memory, an existing transit schedule, the existing transit schedule comprising a plurality of entries, each of the plurality of entries comprising a plurality of schedule parameters, the plurality of schedule parameters including at least a route number, a direction, a stop, and scheduled passing time information;

receiving, from the plurality of GPS devices, arrival time data comprising a plurality of historical passing times;

calculating, with the processor and using the existing transit schedule and the arrival time data, schedule adherence data comprising a plurality of

² “Spec.” refers to the Substitute Specification filed December 22, 2016.

schedule deviations, each of the plurality of schedule deviations corresponding to a specific entry in the plurality of entries;

storing the plurality of schedule deviations in the memory;

grouping, with the processor, the plurality of schedule deviations into a plurality of groups, wherein grouping the plurality of schedule deviations into a plurality of groups comprises separating each of the plurality of schedule deviations into a group based on the numerical value of said schedule deviation, and wherein the plurality of groups comprises an on-time group of schedule deviations comprising schedule deviations that are substantially zero, an early group of schedule deviations comprising schedule deviations that are substantially negative, and a late group of schedule deviations comprising schedule deviations that are substantially positive;

computing, with the processor, a plurality of group average deviations, each of the plurality of group average deviations corresponding to one of the plurality of groups of schedule deviations;

computing, with the processor, a plurality of exponential weighted average deviations, each exponential weighted average deviation being computed from a plurality of group average deviations;

generating, with a processor, a plurality of adjusted entries by adjusting the scheduled passing time information of each entry in the plurality of entries by said corresponding exponential weighted average distribution;

generating, using the processor, an enhanced transit schedule comprising a plurality of adjusted entries, and further comprising variance data, the enhanced transit schedule being fixed in value for one or more days; and

displaying, with the processor and on the display, one or more elements of the enhanced transit schedule.

THE REJECTION

The Examiner relies upon the following as evidence of unpatentability:

Name	Reference	Date
Beinhaker	US 2006/0161335 A1	July 20, 2006
Chapman	US 2008/0071465 A1	March 20, 2008
Schmier	US 2002/0099500 A1	July 25, 2002

The following rejections are before us for review.

Claims 21–32 and 35–41 are rejected under §101 as being directed to non-statutory subject matter.

Claims 21–23, 26–32 and 35–41 are rejected under §103(a) as being patentable under Schmier and Chapman.

Claims 24 and 25 are rejected under §103(a) as being patentable under Schmier, Chapman, and Beinhaker.

FINDINGS OF FACT

We adopt the Examiner’s findings as set forth on pages 2–8 in the Final Office Action³ and on pages 4–8 in the Examiner’s Answer, concerning only the 35 U.S.C. § 101 rejection.

³ All references to the Final Office Action refer to the Final Office Action mailed on July 6, 2017. All references to the Specification refer to the Specification amended on December 22, 2012.

ANALYSIS

35 U.S.C. § 101 REJECTION

We will affirm the rejection of claims 21–32 and 35–41 under 35 U.S.C. § 101.

The Appellant argues claims 21–32 and 35–41 as a group. We select claim 21 as the representative claim for this group (App. Br. 17–19), and so the remaining claims stand or fall with claim 21. *See* 37 C.F.R. § 41.37(c)(1)(iv) (2015).

An invention is patent-eligible if it claims a “new and useful process, machine, manufacture, or composition of matter.” 35 U.S.C. § 101. However, the Supreme Court has long interpreted 35 U.S.C. § 101 to include implicit exceptions: “[l]aws of nature, natural phenomena, and abstract ideas” are not patentable. *E.g.*, *Alice Corp. v. CLS Bank Int’l*, 573 U.S. 208, 216 (2014).

In determining whether a claim falls within an excluded category, we are guided by the Supreme Court’s two-step framework, described in *Mayo* and *Alice*. *Id.* at 217–18 (citing *Mayo Collaborative Servs. v. Prometheus Labs., Inc.*, 566 U.S. 66, 75–77 (2012)). In accordance with that framework, we first determine what concept the claim is “directed to.” *See id.* at 219 (“On their face, the claims before us are drawn to the concept of intermediated settlement, *i.e.*, the use of a third party to mitigate settlement risk.”); *see also Bilski v. Kappos*, 561 U.S. 593, 611 (2010) (“Claims 1 and 4 in petitioners’ application explain the basic concept of hedging, or protecting against risk.”).

Concepts determined to be abstract ideas, and thus patent ineligible, include certain methods of organizing human activity, such as fundamental

economic practices (*Alice*, 573 U.S. at 219–20; *Bilski*, 561 U.S. at 611); mathematical formulas (*Parker v. Flook*, 437 U.S. 584, 594–95 (1978)); and mental processes (*Gottschalk v. Benson*, 409 U.S. 63, 67 (1972)). Concepts determined to be patent eligible include physical and chemical processes, such as “molding rubber products” (*Diamond v. Diehr*, 450 U.S. 175, 191 (1981)); “tanning, dyeing, making water-proof cloth, vulcanizing India rubber, smelting ores” (*id.* at 182 n.7 (quoting *Corning v. Burden*, 56 U.S. 252, 267–68 (1854))); and manufacturing flour (*Benson*, 409 U.S. at 69 (citing *Cochrane v. Deener*, 94 U.S. 780, 785 (1876))).

In *Diehr*, the claim at issue recited a mathematical formula, but the Supreme Court held that “[a] claim drawn to subject matter otherwise statutory does not become nonstatutory simply because it uses a mathematical formula.” *Diehr*, 450 U.S. at 176; *see also id.* at 191 (“We view respondents’ claims as nothing more than a process for molding rubber products and not as an attempt to patent a mathematical formula.”). Having said that, the Supreme Court also indicated that a claim “seeking patent protection for that formula in the abstract . . . is not accorded the protection of our patent laws, . . . and this principle cannot be circumvented by attempting to limit the use of the formula to a particular technological environment.” *Id.* (citing *Benson* and *Flook*); *see, e.g., id.* at 187 (“It is now commonplace that an *application* of a law of nature or mathematical formula to a known structure or process may well be deserving of patent protection.”).

If the claim is “directed to” an abstract idea, we turn to the second step of the *Alice* and *Mayo* framework, where “we must examine the elements of the claim to determine whether it contains an ‘inventive

concept’ sufficient to ‘transform’ the claimed abstract idea into a patent-eligible application.” *Alice*, 573 U.S. at 221 (quotation marks omitted). “A claim that recites an abstract idea must include ‘additional features’ to ensure ‘that the [claim] is more than a drafting effort designed to monopolize the [abstract idea].’” *Id.* (alterations in original) (quoting *Mayo*, 566 U.S. at 77). “[M]erely requir[ing] generic computer implementation[] fail[s] to transform that abstract idea into a patent-eligible invention.” *Id.*

The PTO recently published revised guidance on the application of § 101. 2019 Revised Patent Subject Matter Eligibility Guidance, 84 Fed. Reg. 50 (Jan. 7, 2019) (“Guidance”). Under the Guidance, we first look to whether the claim recites:

- (1) any judicial exceptions, including certain groupings of abstract ideas (i.e., mathematical concepts, certain methods of organizing human activity such as a fundamental economic practice, or mental processes); and
- (2) additional elements that integrate the judicial exception into a practical application (*see* Manual of Patent Examining Procedure (“MPEP”) § 2106.05(a)–(c), (e)–(h)).

Only if a claim (1) recites a judicial exception and (2) does not integrate that exception into a practical application, do we then look to whether the claim:

- (3) adds a specific limitation beyond the judicial exception that is not “well-understood, routine, conventional” in the field (*see* MPEP § 2106.05(d)); or
- (4) simply appends well-understood, routine, conventional activities previously known to the industry, specified at a high level of generality, to the judicial exception.

See Guidance.

The U.S. Court of Appeals for the Federal Circuit has explained that “the ‘directed to’ inquiry applies a stage-one filter to claims, considered in

light of the [S]pecification, 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)). It asks whether the focus of the claims is on a specific improvement in relevant technology or on a process that itself qualifies as an “abstract idea” for which computers are invoked merely as a tool. *See id.* at 1335–36.

In so doing, as indicated above, we apply a “directed to” two prong test: 1) evaluate whether the claim recites a judicial exception, and 2) if the claim recites a judicial exception, evaluate whether the claim “appl[ies], rel[ies] on, or use[s] the judicial exception in a manner that imposes a meaningful limit on the judicial exception, such that the claim is more than a drafting effort designed to monopolize the judicial exception.” Guidance at 53; *see also* MPEP § 2106.05(a)–(c), (e)–(h).

The Specification states:

Public transit is a part of every-day life in many parts of the world and, in particular, urban environments. Commuters rely on transit schedules to plan their trips. Most commuters rely on published, existing, predetermined transit schedules, which do not take into account conditions that may affect the transit schedule such as road work, weather, transit system repair work, street closures, vehicle malfunctions, strikes, and the like. For this reason, such published, static, transit schedules may be considered unreliable.

Specification ¶ 5.

The preamble says the claim is “for generating an enhanced transit schedule.” Claim 21. Understood in light of the Specification, claim 21, recites, in pertinent part,

retrieving, ..., an existing transit schedule, the existing transit schedule comprising a plurality of entries, each of the plurality of entries comprising a plurality of schedule parameters, the plurality of schedule parameters including at least a route number, a direction, a stop, and scheduled passing time information; receiving, ...arrival time data comprising a plurality of historical passing times; calculating, ...using the existing transit schedule and the arrival time data, schedule adherence data comprising a plurality of schedule deviations, each of the plurality of schedule deviations corresponding to a specific entry in the plurality of entries; storing the plurality of schedule deviations...; grouping, ...the plurality of schedule deviations into a plurality of groups, wherein grouping the plurality of schedule deviations into a plurality of groups comprises separating each of the plurality of schedule deviations into a group based on the numerical value of said schedule deviation, and wherein the plurality of groups comprises an on-time group of schedule deviations comprising schedule deviations that are substantially zero, an early group of schedule deviations comprising schedule deviations that are substantially negative, and a late group of schedule deviations comprising schedule deviations that are substantially positive; computing, ...a plurality of group average deviations, each of the plurality of group average deviations corresponding to one of the plurality of groups of schedule deviations; computing, ...a plurality of exponential weighted average deviations, each exponential weighted average deviation being computed from a plurality of group average deviations; generating, ... a plurality of adjusted entries by adjusting the scheduled passing time information of each entry in the plurality of entries by said corresponding exponential weighted average distribution; generating, ...an enhanced transit schedule comprising a plurality of adjusted entries, and further comprising variance data, the enhanced transit schedule being fixed in value for one or more days; and displaying, ...one or more elements of the enhanced transit schedule.

Accordingly, the Examiner found that the claims are “directed to enhancing an existing transit schedule by grouping schedule deviations,

computing average deviations, and updating the existing transit schedule based on the computation which is analogous to collecting information, analyzing it, and displaying certain results of the collection and analysis.” (Final Act. 3).

Based on the Examiner’s finding, and the intrinsic evidence listed above, we find that claim 21 is directed to a way of generating an enhanced transit schedule using an existing transit schedule and a history of variance. Relevant to this determination are the recitations in claim 21 reciting,

generating, ... a plurality of adjusted entries by adjusting the scheduled passing time information of each entry in the plurality of entries by said corresponding exponential weighted average distribution; generating, ... an enhanced transit schedule comprising a plurality of adjusted entries, and further comprising variance data, the enhanced transit schedule being fixed in value for one or more days.

These are concepts performed in the human mind as mental processes because the steps of calculating, grouping, and computing data mimic human thought processes of observation, evaluation, judgment, and opinion, perhaps with paper and pencil, where the data interpretation is perceptible only in the human mind. *See In re TLI Commc’ns LLC Patent Litig.*, 823 F.3d 607, 611 (Fed. Cir. 2016); *FairWarning IP, LLC v. Iatric Sys., Inc.*, 839 F.3d 1089, 1093–94 (Fed. Cir. 2016). Accordingly we find claim 21 is directed to a mental process. The patent-ineligible end of the spectrum includes mental processes. Guidance at 52, citing *Mayo*, 566 U.S. at 71.

Turning to the second prong of the “directed to” test, claim 21 only generically requires “an input device,” “a processor,” “a memory,” “a plurality of GPS devices,” “communications devices,” and “a display.” These components are described in the Specification at a high level of

generality. *See* Spec. ¶¶ 30, 31, Fig. 6. We fail to see how the generic recitations of these most basic computer components and/or of a system so integrates the judicial exception as to “impose[] a meaningful limit on the judicial exception, such that the claim is more than a drafting effort designed to monopolize the judicial exception.” Guidance at 53. We also find no indication in the Specification that the claimed invention effects a transformation or reduction of a particular article to a different state or thing.

That the claims do not preempt all forms of the abstraction or may be limited to transit schedules, does not make them any less abstract. *See OIP Techs., Inc. v. Amazon.com, Inc.*, 788 F.3d 1359, 1362–63 (Fed. Cir. 2015) (“And that the claims do not preempt all price optimization or may be limited to price optimization in the e-commerce setting do not make them any less abstract.”).

Turning to the second step of the *Alice* analysis, because we find that the claims are directed to abstract ideas/judicial exceptions, the claims must include an “inventive concept” in order to be patent-eligible, i.e., there must be an element or combination of elements sufficient to ensure that the claim in practice amounts to significantly more than the abstract idea itself. *See Alice*, 573 U.S. at 217–18 (quoting *Mayo Collaborative Servs.*, 566 U.S. at 72–73).

Concerning this step, the Examiner found the following: “the elements of the instant process, when taken in combination, together do not recite significantly more than the abstract idea itself.” (Final Act. 5).

We agree with the Examiner. “[T]he relevant question is whether the claims here do more than simply instruct the practitioner to implement the

abstract idea . . . on a generic computer.” *Alice*, 573 U.S. at 225. They do not.

Taking the claim elements separately, the function performed by the computer at each step of the process is purely conventional. Using a computer to effect retrieving, calculating, storing, grouping, computing, and applying decision criteria to data as a result amounts to electronic data query and retrieval—one of the most basic functions of a computer. All of these computer functions are well-understood, routine, conventional activities previously known to the industry. *See Elec. Power Grp., LLC v. Alstom S.A.*, 830 F.3d 1350, 1354 (Fed. Cir. 2016); *see also In re Katz Interactive Call Processing Patent Litig.*, 639 F.3d 1303, 1316 (Fed. Cir. 2011) (“Absent a possible narrower construction of the terms ‘processing,’ ‘receiving,’ and ‘storing,’ . . . those functions can be achieved by any general purpose computer without special programming”). In short, each step does no more than require a generic computer to perform generic computer functions. The claims do not, for example, purport to improve the functioning of the computer itself. In addition, as we stated above, the claims do not affect an improvement in any other technology or technical field. The Specification spells out different generic equipment and parameters that might be applied using this concept and the particular steps such conventional processing would entail based on the concept of information access under different scenarios (*see, e.g.,* Spec. ¶ 30–31). Thus, the claims at issue amount to nothing significantly more than instructions to apply the abstract idea using some unspecified, generic computer. Under our precedents, that is not enough to transform an abstract idea into a patent-eligible invention. *See Alice*, 573 U.S. at 225–226.

Considered as an ordered combination, the computer components of Appellant's claims add nothing that is not already present when the steps are considered separately. The sequence of data reception-analysis (calculating, grouping, retrieving, storing, and computing) is equally generic and conventional or otherwise held to be abstract. *See Ultramercial, Inc. v. Hulu, LLC*, 772 F.3d 709, 715 (Fed. Cir. 2014) (sequence of receiving, selecting, offering for exchange, displaying, allowing access, and receiving payment recited an abstraction), *Inventor Holdings, LLC v. Bed Bath & Beyond, Inc.*, 876 F.3d 1372, 1378 (Fed. Cir. 2017) (holding that sequence of data retrieval, analysis, modification, generation, display, and transmission was abstract), *Two-Way Media Ltd. v. Comcast Cable Commc'ns, LLC*, 874 F.3d 1329, 1339 (Fed. Cir. 2017) (holding sequence of processing, routing, controlling, and monitoring was abstract). The ordering of the steps is, therefore, ordinary and conventional.

We have reviewed all the arguments Appellant has submitted concerning the patent eligibility of the claims before us that stand rejected under 35 U.S.C. § 101. (App. Br. 7–12, Reply Br. 3–8). We find that our analysis above substantially covers the substance of all the arguments, which have been made. But, for purposes of completeness, we will address various arguments in order to make individual rebuttals of same.

Appellant argues:

The claims of the present invention can be analogized to the claims at issue in *Enfish, LLC v. Microsoft Corporation*,^[4] which dealt with the patentability of claims having to do with a logical model for a computer database. The Federal Circuit determined that this data structure — which had no physical

⁴ *Enfish, LLC v. Microsoft Corp.*, 822 F.3d 1327 (Fed. Cir. 2016).

inputs and outputs, and existed entirely on a computer — was “not directed to an abstract idea within the meaning of *Alice*.” App. Br. 9.

We disagree with Appellant that under the holding in *Enfish* our decision would be different. Appellant’s claims are not directed to an improvement in computer technology like that of claim 17 in *Enfish* and therefore were patent eligible. In *Enfish*, the invention at issue was directed at a wholly new type of logical model for a computer database: a self-referential table that allowed the computer to store many different types of data in a single table and index that data by column and row information. *Enfish*, 822 F.3d at 1330–32. In finding the claims “not directed to an abstract idea,” but “to a specific improvement to the way computers operate,” the Federal Circuit noted that “the claims are not simply directed to *any* form of storing tabular data, but instead are specifically directed to a *self-referential* table for a computer database.” *Enfish*, 822 F.3d at 1336–37 (emphasis in original). We find nothing in the claims before us arising to this level of technical improvement in the generically claimed, “an input device,” “a processor,” “a memory,” “a plurality of GPS devices,” “communications devices,” and “a display,” which arises to the level of technical proficiency as found in *Enfish*. Instead, we find the claims are focused on “economic or other tasks for which a computer is used in its ordinary capacity.” *Enfish, LLC v. Microsoft Corp.*, 822 F.3d 1336.

Likewise unpersuasive are Appellant’s analogies of the appealed claims to those in *Amdocs (Israel) Limited v. Openet Telecom Inc.*, 841 F.3d 1288. (Appeal Br. 10). In *Amdocs*, the court adopted the district court’s interpretation of the claim term “enhance,” stating, it approved “reading the ‘in a distributed fashion’ and the ‘close to the source’ of network

information requirements into the term ‘enhance.’” *Id.* at 1300. The court then went on to find the claim’s “enhancing” limitation necessarily requires that these generic components operate in an unconventional manner to achieve an improvement in computer functionality. *See id.* at 1300–1301. No such evidence of unconventional operation of the claimed generic devices is made of record in the appeal before us here.

Appellant also argues, “the limitations are meaningful because they integrate the abstract idea into a particular application that performs a useful function.” (Appeal Br. 12).

We disagree with Appellant because as found *supra*, the plain focus of the claims is on economic or other tasks for which a computer is used in its ordinary capacity and not on an improvement to computer functionality. *See Enfish* 822 F.3d 1327 at 1335–1336 citing *Alice* 573 U.S. 208 at 225. The alleged improvement lies in the abstract idea itself, not to any technological improvement. *See BSG Tech LLC v. Buyseasons, Inc.*, 899 F.3d 1281, 1287–88 (Fed. Cir. 2018). “A claim for a new abstract idea is still an abstract idea.” *Synopsys, Inc. v. Mentor Graphics Corp.*, 839 F.3d 1138, 1151 (citing *Mayo*, 566 U.S. at 90).

Although we agree with Appellant that the claims must be read as a whole, we nevertheless find, on balance, that claim 21 is directed to an opt-in method of managing billed transactions for the reasons specified above with respect to our “directed to” findings. As found *supra*, claim 21 only includes the following generically recited device limitations: “an input device,” “a processor,” “a memory,” “a plurality of GPS devices,” “communications devices,” and “a display.” As discussed *supra*, claim 21 recites abstractions, i.e.,

generating, ...a plurality of adjusted entries by adjusting the scheduled passing time information of each entry in the plurality of entries by said corresponding exponential weighted average distribution; generating... an enhanced transit schedule comprising a plurality of adjusted entries, and further comprising variance data, the enhanced transit schedule being fixed in value for one or more days.

“A claim for a new abstract idea is still an abstract idea.” *Synopsys, Inc. v. Mentor Graphics Corp.*, 839 F.3d 1138, 1151 (Fed. Cir. 2016) (citing *Mayo*, 566 U.S. at 90). To the extent Appellant is arguing that these are additional elements constituting an inventive concept, such features cannot constitute the “inventive concept.” *Berkheimer v. HP, Inc.*, 890 F.3d 1369, 1374 (Fed. Cir. 2018) (Moore, J., concurring) (“It is clear from *Mayo* that the ‘inventive concept’ cannot be the abstract idea itself, and *Berkheimer* . . . leave[s] untouched the numerous cases from this court which have held claims ineligible because the only alleged ‘inventive concept’ is the abstract idea.”); *see also BSG Tech. LLC v. BuySeasons, Inc.*, 899 F.3d 1281, 1290 (Fed. Cir. 2018) (“It has been clear since *Alice* that a claimed invention’s use of the ineligible concept to which it is directed cannot supply the inventive concept that renders the invention ‘significantly more’ than that ineligible concept.”).

Finally, we note Appellant’s other arguments, directed to now-superseded USPTO guidance (Appeal Br. 12), have been considered but are not persuasive of error. (*See* Guidance at 51 (“Eligibility-related guidance issued prior to the Ninth Edition, R–08.2017, of the MPEP (published Jan. 2018) should not be relied upon.”)).

35 U.S.C. § 103(a) REJECTION

Each of independent claims 21, 37, and 38 requires, “... generating, using the processor, an enhanced transit schedule comprising a plurality of

adjusted entries, and further comprising variance data, the enhanced transit schedule being fixed in value for one or more days.”

The Examiner found concerning this limitation that:

Chapman teaches fixing data and updating data on larger and more regular intervals such as a single day or longer as contemplated by the claims as described in the following paragraphs: Paragraph Number [0042] teaches the types of input data used to generate predictions of future traffic conditions may include a variety of current, past, and expected future conditions, and outputs from the prediction process include the generated predictions of the expected traffic conditions on each of multiple target road segments of interest for each of multiple future times (e.g., every 5, 15 or 60 minutes in the future) within a pre-determined time interval (e.g., three hours, or one day). Paragraph Number [0146] teaches such other actions may include, for example, periodically (e.g., once per day, once per week, etc.) recalculating historical data reading distributions (e.g., for the last 120 days) for each of one or more time categories for each of multiple traffic sensors.

(Final Act. 22).

Appellant argues,

As such, the present rejection of the claim on the grounds that this limitation is taught by Schmier as modified by Chapman, and on the grounds that a person of ordinary skill in the art would be motivated to make this combination on the grounds that Schmier ‘teach[es] updating and fixing times in the schedule as quickly as is possible’ amounts not just to the Office reading the limitation of a fixed schedule out of the claims, but the Office reading the *converse* of the limitation (i.e. an intentionally highly variable schedule) into the claims.

Looking next at the Chapman reference, Chapman is alleged to teach or suggest ‘fixing and updating data on larger or more regular intervals’, such that its combination with the Schmier reference would allegedly teach or suggest all of the

limitations of the present independent claims. However, looking at the cited portion of Chapman, Chapman does not disclose producing an enhanced transit schedule. Paragraph [0042] of Chapman teaches that the prediction of expected traffic conditions for each of multiple road segments of interest may take place for a grouping of set future times (such as 5, 15, or 60 minutes into the future) within a pre-determined time interval (such as 3 hours or one day). Likewise, paragraph [0146] teaches that sensor data distributions may be periodically recalculated for each of multiple traffic sensors, in order to properly characterize the health of each traffic sensor in the face of changing conditions such as the initiation or completion of road construction projects.

(Appeal Br. 15).

We agree with Appellant. We begin by construing the meaning of the claim term, “the enhanced transit schedule being fixed in value for one or more days.” The Specification states that the “schedule enhancer 918 may then develop a new schedule for a number of days based on a number of days of historical data 914.” Specification ¶ 35. The Specification does not lexicographically define “fixed.” The term “fixed” means “not subject to change or fluctuation.”⁵ Thus, we construe the claimed “enhanced transit schedule” to be not subject to change or fluctuation for one or more days.

Chapman at paragraph 42 discloses a process in which types of input data are used to generate predictions. More specifically, Chapman discloses at paragraph 42:

the prediction of future traffic conditions may be initiated for various reasons and at various times, such as in a periodic manner (e.g., every five minutes), when any or sufficient new input data is received, in response to a request from a user, etc.

Thus, the prediction process of the expected traffic conditions can be

⁵ <https://www.merriam-webster.com/dictionary/fixed> (APPENDIX A).

updated in a periodic manner (e.g., every five minutes), but is less than the claim requirement of one day. In other words, we agree that Chapman at paragraph 42 teaches updating the prediction of future traffic conditions on a regular, periodic, interval, but we fail to find where paragraph 42 teaches “being fixed in value for one or more days.” It is not apparent and the Examiner does not show how the selected time interval is for example, a matter of design choice or otherwise would have been obvious.

Chapman at paragraph 146 discloses that data from traffic sensors (sensor health) can be recalculated “periodically (e.g., once per day, once per week, etc.) recalculating historical data reading distributions (e.g., for the last 120 days) for each of one or more time categories for each of multiple traffic sensors.” While the periodic recalculation of the data associated with the traffic sensors of once per day meets the claim requirement of being fixed for one or more days, it is again unclear, and the Examiner does not explain how, the sensor health periodic recalculation drives the updating of the overall scheduling which is analogous to the claimed “enhanced transit schedule.”

Therefore, we do not sustain the obviousness rejection of independent claims 21, 37, and 38. Because claims 22–32, 35, 36, 39–41 depend from one of claims 21, 37, and 38 and because we cannot sustain the Examiner’s obviousness rejection of claims 21, 37, and 38, the Examiner’s obviousness rejection of claims 22–32, 35, 36, 39–41 likewise cannot be sustained.

CONCLUSION

Claims	35 U.S.C. §	Basis	Affirmed	Reversed
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Rejected				
21–32, 35–41	101	Eligibility	21–32, 35–41	
21–23, 26–32, 35–41	103	Schmier, Chapman		21–23, 26– 32, 35–41
24, 25	103	Schmier, Chapman, Beinhaker		24, 25
Overall Outcome			21–32, 35–41	

DECISION

Because we have affirmed at least one ground of rejection with respect to each claim on appeal, the Examiner’s decision is affirmed. *See* 37 C.F.R. § 41.50(a)(1).

No time period for taking any subsequent action in connection with this appeal may be extended under 37 C.F.R. § 1.136(a). *See* 37 C.F.R. § 1.136(a)(1)(iv).

AFFIRMED

Notice of References Cited	Application/Control No.	Applicant(s)/Patent Under Patent Appeal No.	
	Examiner	Art Unit	Page 1 of 1

U.S. PATENT DOCUMENTS

*	Document Number Country Code-Number-Kind Code	Date MM-YYYY	Name	Classification
	A US-			
	B US-			
	C US-			
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APPENDIX A



fixed adjective

\ 'fikst \

Definition of *fixed*

- 1 **a** : securely placed or fastened : STATIONARY
 - b** (1) : NONVOLATILE
(2) : formed into a chemical compound
 - c** (1) : not subject to change or fluctuation
// a fixed income
(2) : firmly set in the mind
// a fixed idea
(3) : having a final or crystallized form or character
(4) : recurring on the same date from year to year
// fixed holidays
 - d** : IMMOBILE, CONCENTRATED
// a fixed stare
- 2 : supplied with something (such as money) needed
// comfortably fixed