United States Patent and Trademark Office
Office of the Commissioner for Patents

MEMORANDUM

DATE: December 5, 2025

TO: Patent Examining Corps

FROM: Charles Kim
Deputy Commissioner for Patents

SUBJECT: Advance notice of change to the MPEP in light of *Ex Parte Desjardins*

On September 26, 2025, the United States Patent and Trademark Office (USPTO) issued an Appeals Review Panel decision in *Ex Parte Desjardins*, Appeal No. 2024-000567 (PTAB September 26, 2025, Appeals Review Panel Decision) vacating the Board's new ground of rejection under 35 U.S.C. § 101. The decision was designated precedential on November 4, 2025.

This advance notice revises the Ninth Edition, Revision 01.2024, November 2024 publication of the Manual of Patent Examining Procedure (MPEP) to include *Ex Parte Desjardins*, as indicated below. These updates are not intended to announce any new USPTO practice or procedure and are meant to be consistent with existing USPTO guidance. Indeed, the *Ex Parte Desjardins* decision analyzed eligibility in terms of whether the claims were directed to an improvement in the functioning of a computer, or an improvement to other technology or technical field under longstanding Federal Circuit precedent in *Enfish, LLC v. Microsoft Corp*., 822 F.3d 1327 (Fed. Cir. 2016) and *McRO, Inc. v. Bandai Namco Games Am. Inc*., 837 F.3d 1299 (Fed. Cir. 2016). See also MPEP §§ 2106.04(d)(l) and 2106.05(a).

Specifically, *Ex Parte Desjardins* explained the following:

> *Enfish* ranks among the Federal Circuit's leading cases on the eligibility of technological improvements. In particular, *Enfish* recognized that "[m]uch of the advancement made in computer technology consists of improvements to software that, by their very nature, may not be defined by particular physical features but rather by logical structures and processes." 822 F.3d at 1339. Moreover, because "[s]oftware can make non-abstract improvements to computer technology, just as hardware improvements can," the Federal Circuit held that the eligibility determinations should turn on whether "the claims are directed to an improvement to computer functionality versus being directed to an abstract idea." *Id*. at 1336. (*Desjardins*, page 8).

As such, Examiners are expected to consider existing precedent like *Enfish*, as discussed in MPEP § 2106, in addition to these updates when assessing eligibility under 35 U.S.C. § 101, particularly when evaluating claims related to machine learning or artificial intelligence.

Accordingly,

- The following paragraph is added to the end of MPEP § 2106.04(d), subsection III:

  In *Ex Parte Desjardins*, Appeal No. 2024-000567 (PTAB September 26, 2025, Appeals Review Panel Decision) (precedential), the claimed invention was a method of training a machine learning model on a series of tasks. The Appeals Review Panel (ARP) overall credited benefits including reduced storage, reduced system complexity and streamlining, and preservation of performance attributes associated with earlier tasks during subsequent computational tasks as technological improvements that were disclosed in the patent application specification. Specifically, the ARP upheld the Step 2A Prong One finding that the claims recited an abstract idea (i.e., mathematical concept). In Step 2A Prong Two, the ARP then determined that the specification identified improvements as to how the machine learning model itself operates, including training a machine learning model to learn new tasks while protecting knowledge about previous tasks to overcome the problem of "catastrophic forgetting" encountered in continual learning systems. Importantly, the ARP evaluated the claims as a whole in discerning at least the limitation "adjust the first values of the plurality of parameters to optimize performance of the machine learning model on the second machine learning task while protecting performance of the machine learning model on the first machine learning task" reflected the improvement disclosed in the specification. Accordingly, the claims as a whole integrated what would otherwise be a judicial exception instead into a practical application at Step 2A Prong Two, and therefore the claims were deemed to be outside any specific, enumerated judicial exception (Step 2A: NO).

- The second and last paragraphs of MPEP § 2106.04(d)(1) are revised to read:

  The courts have not provided an explicit test for this consideration, but have instead illustrated how it is evaluated in numerous decisions. These decisions, and a detailed explanation of how examiners should evaluate this consideration are provided in MPEP § 2106.05(a). In short, first the specification should be evaluated to determine if the disclosure provides sufficient details such that one of ordinary skill in the art would recognize the claimed invention as providing an improvement in the functioning of a computer, or an improvement to other technology or a technical field. The specification need not explicitly set forth the improvement, but it must describe the invention such that the improvement would be apparent to one of ordinary skill in the art. Conversely, if the specification explicitly sets forth an improvement ~~but~~ only in a conclusory manner (i.e., a bare assertion of an improvement without the detail necessary to be apparent to a person of ordinary skill in the art), the examiner should not determine that the claim improves technology or a technical field. Second, if the specification sets forth an improvement in technology or a technical field, the claim must be evaluated to ensure that the claim itself reflects the disclosed improvement, i.e., ~~T~~that ~~is,~~ the claim includes the components or steps of the invention that provide the improvement described in the specification. The claim itself does not need to explicitly recite the improvement described in the specification (e.g., "thereby increasing the bandwidth of the channel"). See, e.g., *Ex Parte Desjardins*, Appeal No. 2024-000567 (PTAB September 26, 2025, Appeals Review Panel Decision) (precedential), in which the specification identified the improvement to machine learning technology by explaining how the machine learning model is trained to learn new tasks while protecting knowledge about

previous tasks to overcome the problem of "catastrophic forgetting," and that the claims reflected the improvement identified in the specification. Indeed, enumerated improvements identified in the *Desjardins* specification included disclosures of the effective learning of new tasks in succession in connection with specifically protecting knowledge concerning previously accomplished tasks; allowing the system to reduce use of storage capacity; and the enablement of reduced complexity in the system. Such improvements were tantamount to how the machine learning model itself would function in operation and therefore not subsumed in the identified mathematical calculation.

*****

Examples of claims that improve technology or a technical field and are not directed to a judicial exception include: *Enfish, LLC v. Microsoft Corp.*, 822 F.3d 1327, 1339, 118 USPQ2d 1684, 1691-92 (Fed. Cir. 2016) (data structure claims to a self-referential table for a computer database were directed to an improvement in computer capabilities and not directed to an abstract idea); *McRO, Inc. v. Bandai Namco Games Am. Inc.*, 837 F.3d 1299, 1315, 120 USPQ2d 1091, 1102-03 (Fed. Cir. 2016) (claims to automatic lip synchronization and facial expression animation were directed to an improvement in computer-related technology and not directed to an abstract idea); *Visual Memory LLC v. NVIDIA Corp.*, 867 F.3d 1253, 1259-60, 123 USPQ2d 1712, 1717 (Fed. Cir. 2017) (claims to an enhanced computer memory system were directed to an improvement in computer capabilities and not an abstract idea); *Finjan Inc. v. Blue Coat Systems, Inc.*, 879 F.3d 1299, 125 USPQ2d 1282 (Fed. Cir. 2018) (claims to virus scanning were found to be an improvement in computer technology and not directed to an abstract idea); *SRI Int'l, Inc. v. Cisco Systems, Inc.,* 930 F.3d 1295, 1303 (Fed. Cir. 2019) (claims to detecting suspicious activity by using network monitors and analyzing network packets were found to be an improvement in computer network technology and not directed to an abstract idea); *Ex Parte Desjardins* (claims to a method of training a machine learning model were directed to improvements in the machine learning technology itself and additionally included data structure elements reciting adjustments in values to plurality of performance parameters while preserving prior values). Additional examples are provided in MPEP § 2106.05(a).

- The fourth and fifth paragraphs of MPEP § 2106.05(a) are revised to read:

  After the examiner has consulted the specification and determined that the disclosed invention improves technology or a technical field, the claim must be evaluated to ensure the claim itself reflects the disclosed improvement in technology. *Intellectual Ventures I LLC v. Symantec Corp.*,838 F.3d 1307, 1316, 120 USPQ2d 1353, 1359 (Fed. Cir. 2016) (patent owner argued that the claimed email filtering system improved technology by shrinking the protection gap and mooting the volume problem, but the court disagreed because the claims themselves did not have any limitations that addressed these issues). That is, the claim must include the components or steps of the invention that provide the improvement described in the specification. However, the claim itself does not need to explicitly recite the improvement described in the specification (*e.g.*, "thereby increasing the bandwidth of the channel"). The full scope of the claim under the BRI should be considered to determine if the claim reflects an improvement in technology or a technical field (*e.g.*, the improvement described in the specification). In making this determination, it is critical that examiners look

at the claim "as a whole," in other words, the claim should be evaluated "as an ordered combination, without ignoring the requirements of the individual steps." When performing this evaluation, examiners should be "careful to avoid oversimplifying the claims" by looking at them generally and failing to account for the specific requirements of the claims. *McRO,* 837 F.3d at 1313, 120 USPQ2d at 1100. See also *Ex Parte Desjardins*, Appeal No. 2024-000567 (PTAB September 26, 2025, Appeals Review Panel Decision) (precedential) ("Examiners and panels should not evaluate claims at such a high level of generality" that potentially meaningful technical limitations are dismissed without adequate explanation).

An important consideration in determining whether a claim improves technology is the extent to which the claim covers a particular solution to a problem or a particular way to achieve a desired outcome, as opposed to merely claiming the idea of a solution or outcome. *McRO,* 837 F.3d at 1314-15, 120 USPQ2d at 1102-03; *DDR Holdings,* 773 F.3d at 1259, 113 USPQ2d at 1107. In this respect, the improvement consideration overlaps with other considerations, specifically the particular machine consideration (see MPEP § 2106.05(b)), and the mere instructions to apply an exception consideration (see MPEP § 2106.05(f)). Thus, evaluation of those other considerations may assist examiners in making a determination of whether a claim satisfies the improvement consideration. When evaluating a claim as a whole, examiners should not dismiss additional elements as mere "generic computer components" without considering whether such elements confer a technological improvement to a technical problem, especially as to improvements to computer components or the computer system. See, e.g., *Ex Parte Desjardins,* Appeal No. 2024-000567 (PTAB September 26, 2025) (Appeals Review Panel Decision).

- The second paragraph of MPEP § 2106.05(a), subsection I, is revised to add new examples xiii and xiv to the list of examples that may show an improvement in computer functionality:

  xiii. An improved way of training a machine learning model that protected the model's knowledge about previous tasks while allowing it to effectively learn new tasks; *Ex Parte Desjardins*, Appeal No. 2024-000567 (PTAB September 26, 2025, Appeals Review Panel Decision) (precedential); and

  xiv. Improvements to computer component or system performance based upon adjustments to parameters of a machine learning model associated with tasks or workstreams; *Ex Parte Desjardins*, Appeal No. 2024-000567 (PTAB September 26, 2025, Appeals Review Panel Decision) (precedential).

- The ninth paragraph of MPEP § 2106.05(f) is revised to read:

  In contrast, other cases have found that additional elements are more than "apply it" or are not "mere instructions" when the claim recites a technological solution to a technological problem. In *DDR Holdings,* the court found that the additional elements did amount to more than merely instructing that the abstract idea should be applied on the Internet. *DDR Holdings, LLC v. Hotels.com, L.P.*, 773 F.3d 1245, 1259, 113 USPQ2d 1097, 1107 (Fed. Cir. 2014). The claims at issue specified how interactions with the Internet were manipulated to yield a desired result—a result that overrode the routine and conventional sequence of events ordinarily triggered by the click of a hyperlink. 773 F.3d at 1258; 113 USPQ2d at 1106.

In *BASCOM*, the court determined that the claimed combination of limitations did not simply recite an instruction to apply the abstract idea of filtering content on the Internet. *BASCOM Global Internet Servs. v. AT&T Mobility, LLC*, 827 F.3d 1341, 1350, 119 USPQ2d 1236, 1243 (Fed. Cir. 2016). Instead, the claim recited a "technology based solution" of filtering content on the Internet that overcome the disadvantages of prior art filtering systems. 827 F.3d at 1350-51, 119 USPQ2d at 1243. In ~~Finally, in~~ *Thales Visionix*, the particular configuration of inertial sensors and the particular method of using the raw data from the sensors was more than simply applying a law of nature. *Thales Visionix, Inc. v. United States*, 850 F.3d 1343, 1348-49, 121 USPQ2d 1898, 1902 (Fed. Cir. 2017). The court found that the claims provided a system and method that "eliminate[d] many 'complications' inherent in previous solutions for determining position and orientation of an object on a moving platform." In other words, the claim recited a technological solution to a technological problem. *Id.* Finally, in *Ex Parte Desjardins*, the claims reflected a specific improvement that addressed the technical problem of "catastrophic forgetting" in continual learning systems, while allowing artificial intelligence systems to variously optimize system performance, use less storage capacity and reduce system complexity. *Ex Parte Desjardins*, Appeal No. 2024-000567 (PTAB September 26, 2025, Appeals Review Panel Decision) (precedential).

These changes to the MPEP are effective upon issuance of this memorandum and supersede the Ninth Edition, Revision 01.2024, November 2024 publication of the MPEP. The MPEP will be revised to reflect these changes in due course.