May 13, 2024

The Honorable Katherine Vidal
Under Secretary of Commerce for Intellectual Property and Director of the U.S. Patent and
Trademark Office
600 Dulany Street
Alexandria, Virginia 22314

**RE: Comments of ACT | The App Association on the U.S. Patent and Trademark
Office's Request for Comments on Inventorship Guidance for AI-Assisted Inventions**

I. **Statement of Interest**

ACT | The App Association is a global policy trade association for the small business technology
developer community. Our members are entrepreneurs, innovators, and independent
developers within the global app ecosystem that engage with verticals across every industry.
We work with and for our members to promote a policy environment that rewards and inspires
innovation while providing resources that help them raise capital, create jobs, and continue to
build incredible technology. App developers like our members also play a critical role in
developing entertainment products such as streaming video platforms, video games, and other
content portals that rely on intellectual property protections. The value of the ecosystem the App
Association represents—which we call the app economy—is approximately $1.8 trillion and is
responsible for 6.1 million American jobs, while serving as a key driver of the $8 trillion internet
of things (IoT) revolution.[1]

The app ecosystem's success, reliant on continued innovation and investment in connected
devices and interfaces, hinges on the sufficiency of key legal and regulatory frameworks,
including those surrounding the question of patent inventorship for artificial intelligence (AI)
assisted inventions. Patents allow small business innovators to protect their investments in
innovation, attract venture capital, and establish and maintain a competitive position in the
marketplace. As more devices throughout the consumer and enterprise spheres become
connected to the internet—often referred to as IoT—App Association members' innovations will
remain the interface for communicating with these devices.

II. **General Comments**

The App Association has been active in providing the United States Patent Office (USPTO or
the Office) our membership's perspective on the patentability of inventions developed with the
assistance of AI through formal consultations and public listening sessions. Unless and until the
Supreme Court of the United States or the United States Congress addresses the question
further, the law is clear that only a human being can be the inventor of a patent because

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[1] ACT | The App Association, State of the App Economy (2022), https://actonline.org/wp-content/uploads/APP-Economy-Report-FINAL.pdf.

innovation requires human intervention.[2] It is our position that this judicial interpretation preserves the constitutionally grounded incentive-based patent system that continues to advance public good in the United States.[3]

While human inventorship is required for a U.S. patent, the use of AI as a tool in technology development is increasingly critical to support patentable inventions. The U.S. patent system should encourage the use of AI systems to function primarily as tools for the creation of an invention to sustain an incentive-based IP system. Therefore, we agree with the Office's position that "AI-assisted inventions are not categorically unpatentable" and the inventorship analysis for such inventions must rely on "human contributions."[4]

To analyze human contribution against AI assistance, it is imperative to understand AI's role in the development of an invention. AI systems only differ from other technical tools in that they are self-learning and self-directed. However, these features do not amount to the "conception" needed to satisfy inventorship for purposes of the United States Patent Act.[5] The advancement of AI systems over time does not change this fact. Since "conception" is defined in relation to the inventor,[6] and an inventor has been interpreted by courts to be a "natural person," AI cannot be considered an entity that can "conceive" of an invention for purposes of patent inventorship. AI solely remains an efficient tool in the invention process. For example, an AI-powered developer tool may be necessary to reduce wasted resources (i.e., cost and time), streamline repeatable tasks, and optimize solutions, and ultimately build the end product. But if the invention could not be completed without a natural person's "conception," or "the complete performance of the mental part of the inventive act,"[7] then such AI assistance should not prevent a finding of patentability.

While we are confident that existing laws in coordination with specific guidance integrated into the Manual of Patent Examining Procedures (MPEP) will support the Office's guidance for AI-assisted inventions, we urge the USPTO to refrain from narrow evaluations of broadly defined terms, such as "significant contribution." As it stands, the Office's Guidance for AI-assisted inventions utilizes the factors set forth in *Pannu v. Iolab Corp.*, 155 F.3d 1344, 1351 (Fed. Cir. 1998) (the "*Pannu* factors") to evaluate the "significant contribution" of a human for purposes of joint inventorship. We urge the USPTO omit this stringent requirement and focus on a case-by-case analysis of the "conception" of the invention. The *Pannu* factors are based on competing claims under a post-grant challenge of inventorship and would not be appropriate for initial review of the conception attributed to patentable invention. We urge USPTO to ensure that such an assessment is made with conclusions based on concrete examples as opposed to edge use cases that can form non-exhaustive guiding principles.

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[2] *See Thaler v. Vidal*, No. 21-2347 (Fed. Cir. 2022).

[3] U.S. CONST. art. 1,§ 8, cl. 8.

[4] "Inventorship Guidance for AI-Assisted Inventions," 89 Fed. Reg. 10043, 10044 (Feb. 13, 2024).

[5] The Manual of Patent Examining Procedure, Ninth Edition, Revision 07.2022, Chapter 2100, Section 2138.04, https://mpep.uspto.gov/RDMS/MPEP/e8r9#/e8r9/d0e207607.html (February 2023).

[6] *Supra* note 5 (citing *Townsend v. Smith*, 36 F.2d 292, 295, 4 USPQ 269, 271 (CCPA 1930) ("Conception has been defined as 'the complete performance of the mental part of the inventive act' and it is 'the formation in the mind of the inventor of the definite and permanent idea...").

[7] *Supra* note 5.

We appreciate the USPTO's guidance on AI-assisted inventions re-iterating specific duties of patent applicants including the duty of disclosure and the duty of reasonable inquiry. Disclosures and reasonable inquiries are helpful so long as they are pertinent to examination and not unduly burdensome on the patent applicant without public benefit. App Association members are small and medium-sized inventors that often operate with minimal resources and go through the patent application process without professional or legal assistance. We do not believe that additional disclosure is a solution to strengthening the examination around inventorship of AI-assisted inventions, as some level of an automated tool is used routinely in most all technology development today (e.g., even basic spreadsheets enable automated calculations, and we question the public benefit of requiring an explanation of such a use as AI contributing to an invention). Rather, we believe that the USPTO should make clear that U.S. jurisprudence only contemplates humans as the inventors of patents. Unless the courts or Congress decide to address this issue by allowing AI systems to be named patent inventors, additional disclosures seem unnecessary and a barrier to small innovators.

III.   Examination Procedure

We appreciate the USPTO's commitment to coordinating specific guidance, such as for AI-assisted inventions within the MPEP. As AI-assisted tools become more prevalent, the USPTO should equip patent examiners with specific training and detailed examples of patentable and unpatentable inventions created with the use of AI. The more specificity that examiners have, the less room there is for issuing bad patents that can be used to antagonize the U.S. patent system.

We similarly believe that the USPTO should clarify the Office's treatment of AI-enabled inventions beyond the issue of inventorship to incent such innovations. One area where USPTO could clarify the use of AI systems in the invention creation process is with regards to Section 101 patent subject matter eligibility. Clarifying Section 101 enables innovation and plays a critical role in weeding out low-quality patents that are routinely asserted against accused infringers, including startups and small businesses. The lack of definition on key terms in Section 101 has led to the current judicial framework retaining ambiguity around both the ability to get a valid patent on AI-enabled inventions and the threat of lawsuits from issued but potentially invalid patents on various aspects of AI.

The MPEP must address the unique nature of AI when applying the *Alice/Mayo* framework for improvements to the functioning of a computer, technology, or technical field. A variety of elements should be incorporated into the MPEP when evaluating and determining an AI invention's patent eligibility. Elements that deserve consideration during the patentability process include (1) the database structure that will train the AI; (2) the algorithm; (3) the method of training the algorithm; and (4) the outputs produced from the AI application. USPTO should use the existing requirements for software patentability as a starting point to identify necessary elements of patentable AI inventions and applications. AI patent examiners may face greater obstacles when looking at claim and disclosure requirements. Generally, applicants with complex AI inventions should seek alternative ways of describing their invention to meet relevant patent eligibility requirements. After producing an AI invention there may be multiple applications of the AI within the sector. Inventors may find alternative uses to solve a different problem or to build from the AI to create a different invention. As such, technological advancements using AI applications should be evaluated for their patentable characteristics and purpose as opposed to recognizing a former AI invention claim. When the *Alice/Mayo*

framework is applied to AI inventions, an examiner should evaluate the practical application of AI in a claim by determining if the AI amounts to a "particular machine"[8] that integrates a judicial exception or adds significantly more. We note our support for the USPTO's appropriate clarification that an AI machine does not qualify as an inventor under the Patent Act, which has now been reinforced by the U.S. Court of Appeals for the Federal Circuit in *Thaler v. Vidal*.[9] We encourage USPTO to align its patent eligibility guidance accordingly.

The App Association appreciates USPTO's efforts to engage with stakeholders on issues that affect AI and IP, and encourages its further developing on all relevant areas, including obviousness, disclosure, and data protection. USPTO should also consider the threat of perpetual patenting machines on the U.S. patent system's application and examination procedures. Laws, policies, and processes surrounding the use of AI systems are better positioned for purposes of analyzing invention creation than patent prosecution. AI algorithms, including large language models (LLMs) have the capabilities of learning how to efficiently undergo the patent application and examination process. While this process will reduce the friction between invention and receiving a patent for patent applicants, the use of LLMs in the patent application and examination process will surely lead to increased filings of patent applications at USPTO. Perpetual patenting machine-enabled bad actors may use LLMs to provide the Office with patent applications that are seemingly issuable but may include overbroad claims or otherwise provide for low-quality patents. Such low-quality patents can then be asserted against alleged infringers for profit, crippling U.S. innovation. As such, USPTO should be prepared to deal with an increased load of applications due to AI-driven perpetual patenting machines.

IV.   Conclusion

The App Association appreciates the continued opportunity to provide comments to the USPTO on the inventorship analysis of AI-assisted inventions. We encourage the Office to continue evaluating how the U.S. patent system can encourage the use of AI to advance U.S.-based innovation while maintaining a human-centric inventorship landscape.

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[8] The Manual of Patent Examining Procedure, Ninth Edition, Revision 10.2019, Chapter 2100, Section 2106.05(b), https://www.uspto.gov/web/offices/pac/mpep/mpep-2100.html (June 2020).

[9] *Supra* note 7.

Sincerely,

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