Before the
United States Patent and Trademark Office
Alexandria, VA

In re REQUEST FOR COMMENT ON EXPANDING ADMISSION CRITERIA FOR REGISTRATION PRACTICE IN PATENT CASES	Docket No. PTO-P-2022-0027

COMMENTS OF
COMPUTER & COMMUNICATIONS INDUSTRY ASSOCIATION

The Computer & Communications Industry (CCIA)[1] submits the following comments in response to the U.S. Patent and Trademark Office's Request for Comments on Expanding Admission Criteria for Registration to Practice in Patent Cases.[2]

CCIA is an international, not-for-profit trade association representing a broad cross section of communications and technology firms. For over fifty years, CCIA has promoted open markets, open systems, and open networks. CCIA members employ more than 1.6 million workers, invest more than $100 billion in research and development, and contribute trillions of dollars in productivity to the global economy.

CCIA members are at the forefront of research and development in technological fields such as artificial intelligence and machine learning[3], quantum computing[4], and other computer-related inventions. CCIA members are also active participants in the patent system, holding approximately 5% of all active U.S. patents and significant patent holdings in other jurisdictions such as the EU and China.

I. Summary

CCIA appreciates the opportunity to respond to the Office's Request for Comments regarding the criteria for the patent practitioner bar. CCIA's position is that the Office should continue to require registration and examination for U.S. patent practitioners. However, the current technical degree requirement cannot be justified and should be eliminated entirely for patent attorneys because it does not ensure an attorney is qualified for prosecute patents in a specific subject matter. For patent agents, the Office should disregard whether a university computer science program is ABET accredited because it is not recognized as a quality standard by academia or industry. Additionally, the Office should offer a separate design patent

[1] A list of CCIA members is available online at https://www.ccianet.org/about/members.
[2] https://www.regulations.gov/document/PTO-P-2022-0027-0001 (hereinafter "Request").
[3] USPTO, *Inventing AI*, Fig. 6 (Oct. 2020), https://www.uspto.gov/sites/default/files/documents/OCE-DH-AI.pdf.
[4] *See* Elliott Mason, *Trends in quantum computing patents* (May 24, 2021), https://quantumconsortium.org/blog/trends-in-quantum-computing-patents/.

practitioner bar or at the very least create and incorporate a design patent subsection into the current patent practitioner bar. A separate design patent practitioner bar would enable attorneys with relevant backgrounds to prosecute design patents and remedy the current gender gap among patent prosecutors.

II. Modification of the Accreditation Requirement for Computer Science Degrees

The Request asks "Should the Office accept Bachelor of Science degrees in computer science under Category A from an accredited United States college or university regardless of whether the degree program is ABET accredited?"

CCIA's position is that the Office should disregard whether a university computer science program is ABET accredited. Several top-tier universities do not have ABET accredited computer science programs.[5] In fact, of the universities ranked in US News top 10 for computer science, 7 do not have ABET accreditation for their computer science programs.[6] In addition, a degree from an ABET accredited program is often not a requirement for employers.[7] For example, Google states on its careers page that a degree in Computer Science is not required for most of its software engineering roles.[8]

From a university perspective, ABET accreditation offers little to no value for educators, students, and future employers.[9] According to Stanford University, "[w]hile such accreditation is useful in certain disciplines such as civil engineering, it has no practical significance whatsoever in computer science."[10] In 2017, Stanford University and California Institute of Technology

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[5] *See* Hannon, Mary T., *The Patent Bar Gender Gap: Expanding the Eligibility Requirements to Foster Inclusion and Innovation in the U.S. Patent System,* 10 IP Theory 1 (2020); available at https://www.repository.law.indiana.edu/cgi/viewcontent.cgi?article=1056&context=ipt("While many schools have such an accreditation, it cannot go unstated that the computer science programs at each of Carnegie Mellon University, Stanford University, the University of California-Berkeley, California Institute of Technology, and all of the Ivy League schools (other than the University of Pennsylvania) are not accredited by these agencies."); Undergraduate Computer Science Information, STANFORD UNIVERSITY, https://cs.stanford.edu/degrees/ug/Considering.shtml (last visited Jan. 23, 2022) ("Like the [Computer Science] department, the [Electrical Engineering] department is no longer ABET accredited"). *See generally Accredited Programs, ABET, https://amspub.abet.org/aps/name-search?searchType=institution.* https://dl.acm.org/doi/pdf/10.5555/374824.374850 ("Many top institutions have favorable reputations anyway and choose not to pursue [accreditation by CSAC]").

[6] *See* U.S. News & World Report, *Best Computer Science Schools* (2022), https://www.usnews.com/best-graduate-schools/top-science-schools/computer-science-rankings?_sort=rank-asc; *see generally* ABET, *Accredited Programs*, https://amspub.abet.org/aps/name-search.

[7] *See also* 2023 Software Engineer Program – Full-Time Opportunity, J.P. MORGAN CHASE & CO, https://jpmc.fa.oraclecloud.com/hcmUI/CandidateExperience/en/sites/CX_1001/job/210321358 (last visited Jan. 23, 2023) (job posting for software engineer position that does not contain a requirement for computer science degree from an ABET accredited program).

[8] Frequently Asked Questions for Google Careers, GOOGLE, INC., https://careers.google.com/how-we-hire/#step-your-resume (last visited Jan. 23, 2023).

[9] Fisher, Gene, *Rethinking ABET Accreditation of Computer Science Degree Programs,* AMERICAN SOCIETY FOR ENGINEERING EDUCATION, 2017; available at https://peer.asee.org/rethinking-abet-accreditation-of-computer-science-degree-programs.pdf (survey responses from 18 faculty members of the computer science department at the California Polytechnical State University revealed that "[m]ore than half of the faculty think that ABET is of little or no value to employers and it is little or no importance for students to have an accredited degree").

[10] *See* Stanford University Undergraduate Computer Science Information, *supra*.

(Caltech) dropped their ABET accreditation for chemical engineering undergraduate degrees.[11] Stanford and Caltech cited several reasons for this decision including loss of control over the curriculum and exorbitant maintenance costs reaching almost "six figures in terms of personnel time and direct costs."[12]

Because the technology industry does not restrict hiring to applicants with degrees from ABET accredited programs, the Office should not require it for the patent practitioner bar. Major employers like Spotify, Apple, and Amazon have hired applicants with a professional certificate in computer programming, cybersecurity, or data science.[13] These non-degree programs like The Flatiron School offer "bootcamps" that span the course of weeks and have no accreditation or even recognition from a higher education institution.[14]

Lastly, Category B applicants require review and approval from the OED director which is an expensive process for both the applicant and the Office. Considering the demand for patent attorneys with a computer science background, it would be beneficial for the Office to streamline the eligibility process for such applicants by eliminating the ABET accreditation requirement.[15]

III. Creation of a Design Patent Bar

The Request asks "Should the Office create a separate design patent practitioner bar, and if so, which option(s) and what criteria should be implemented for its creation?" CCIA suggests that the Office should offer a separate design patent practitioner bar or at the very least create and incorporate a design patent subsection into the current patent practitioner bar. Such a separate bar should not be a "patent bar lite" but rather would recognize the distinct knowledge bases required between utility and design patent prosecution.

The existing technical degree requirement cannot be justified for practitioners prosecuting design patents. Such patents cover a product design, rather than its overall functionality, and the product design does not require a technical background to comprehend. Requiring a technical degree unreasonably restricts eligibility to prosecute design patents to attorneys with degrees in science or engineering rather than fashion, product or industrial design.[16] A degree in electrical engineering or biology without any experience in industrial design does not make the degree-holder any more qualified than someone with a history or English degree to prosecute design patents. Indeed, if any degree should be required for prosecution of design patents, it should be a degree related to design. While CCIA's position is that the technical degree requirement should be eliminated for the patent attorneys, the Office

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[11] Arnaud, Celia Henry, *Is it Time to Leave Behind Chemical Engineering Accreditation,* CHEMICAL & ENGINEERING NEWS, Vol. 95. Issue 48, available at https://cen.acs.org/articles/95/i48/time-leave-behind-chemical-engineering.html.

[12] *Id*.

[13] *See* THE FLATIRON SCHOOL, https://flatironschool.com/ (last visited Jan. 23, 2023); GENERAL ASSEMBLY, https://generalassemb.ly/ (last visited Jan. 23, 2023).

[14] Software Engineering Course Overview, THE FLATIRON SCHOOL, https://flatironschool.com/courses/coding-bootcamp/ (last visited Jan. 23, 2023).

[15] Christopher Buccafusco & Jeanne Curtis, *The Design Patent Bar: An Occupational Licensing Failure*, 37 CARDOZO ARTS & ENT. L. J. 263, 275 (2019) ("With decreasing law school enrollments since 2010, it also seems likely that the number of new patent attorneys may not be able to keep pace with retirements, meaning that the overall number of practitioners will shrink.").

[16] See Buccafusco, *supra* at 265.

should at a minimum expand Category A to include degrees that are relevant to prosecuting design patents.

CCIA also suggests that, particularly if the technical degree requirement is maintained, the USPTO should create a separate design practitioner bar.[17] This bar would be available to practitioners with appropriate design degrees. The separate bar should not automatically include utility patent practitioners. If the related degree requirement has a meaningful relationship to the quality of attorney work, then a degree unrelated to design should not qualify a practitioner to prosecute design patents.

Additionally, a separate design patent practitioner bar could help remedy the gender disparity among patent prosecutors.[18] The technical degree requirement for the patent practitioner bar "unnecessarily excludes women by failing to acknowledge the degrees in which women are statistically more likely to obtain."[19] Because women are underrepresented in STEM education[20], they are consequently underrepresented among patent prosecutors. While a technical background might provide some added value for prosecuting patents in complex science or technology, design patents generally do not deal with such subjects.

IV. Additional General Requests on Updating Admissions Criteria

The Request asks "Should the Office implement any additional updates to the scientific and technical requirements for admission to practice in patent matters, and if so, what should those include?"

CCIA's position is that the Office should continue to require registration and examination for U.S. patent practitioners. However, the current degree requirement cannot be justified and should be eliminated for attorneys. One way in which this could be achieved is by adding a law degree to the list of approved degrees in the General Requirements Bulletin. This would permit attorneys, who undertake specific professional responsibilities and have specific ethical obligations, to prosecute patents if they pass the patent bar registration examination, while maintaining the technical degree requirement for patent agents.

The elimination of the technical degree requirement for attorneys would also bring the Office in line with practice in other areas of government and the realities of modern patent work. The Office is the only government agency that imposes an educational requirement other than a law degree on attorneys.[21] Patent prosecutors "are continuously challenged to expand the breadths of their practice" and prosecute patents in areas in which they have no formal training.[22] Because of the growing number of technology patents, it is inevitable that prosecutors may work on patents in fields of technology that may have little to no relationship to their background.

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[17] If the Office were to eliminate the technical degree requirement, then there would be no need to have a separate design bar, as would-be design prosecutors could simply enroll in the patent bar.
[18] *See* Hannon, *supra* at 12. *See generally* Senators Mazie K. Hirono, Thom Tillis & Christopher A. Coons, *Letter to USPTO Director Andrei Iancu* (Dec. 11, 2020).
[19] *See* Hannon, *supra* at 13.
[20] *See id* at 6 (In 2016, only 21% of bachelors earned by women were awarded in engineering, and only 19% were awarded in physical sciences like chemistry or physics).
[21] *See* Buccafusco, *supra* at 274.
[22] *See* Hannon, *supra* at 13.

The requirement of a technical undergraduate degree for taking the patent practitioner bar is also misplaced because it does not actually do anything to ensure an adequate scientific background to prosecute a specific patent. The patent bar exam does not test any scientific or technical knowledge. Rather it focuses on patent law and procedures. And because the technical degree requirement permits anyone with a technical degree to prosecute any type of patent, it does not limit them to prosecuting patents in the technologies they have a degree in. Electrical engineers can prosecute patents on new pharmaceuticals, and biologists can prosecute patents on new battery technologies, despite there being no reason to think the technical degree would actually help educate them on the technology at issue in the application.

Instead, an attorney would rely on the knowledge they obtain from the client in order to sufficiently understand the technology at stake—and to assess whether they are the appropriate counsel for that client.[23] And as the inventor is by far the best expert on the technology they invented, and the prosecuting attorney will generally have the ability to obtain information from the inventor, it is unlikely that an attorney would be unable to truly understand the technology while still being employed by the inventor—inventors are unlikely to employ attorneys who they cannot explain their invention to. The presence or absence of a technical degree does not affect this and thus does not help ensure the correct background for prosecuting a patent.

Further, the technical degree requirement does little to protect the public from ineffective counsel. Clients and employers are generally inclined to work with attorneys with backgrounds relevant to the patent subject matter. However, they may choose for various reasons to work with counsel they already know, regardless of background. There is no evidence that counsel lacking a technical degree would be unable to successfully complete this work. In fact, in the closest analogies available—patent litigation in the courts and in AIA proceedings—many well-respected patent litigators lack a technical degree. This in and of itself is a strong suggestion that the degree requirement is unnecessary, but at a minimum should provide the Office with comfort that attorneys without a technical degree who passed the patent bar would be as effective as attorneys who possess a technical degree.

V. Conclusion

The technical degree requirement does not provide any real benefit, and creates very real costs by reducing the pool of potential attorneys. It also operates to reinforce structural barriers that may limit the accessibility of accredited programs to underrepresented groups. CCIA thus strongly suggests eliminating the technical degree requirement entirely for attorneys, for example by adding a post-graduate law degree to the list of approved degrees. If the technical degree requirement is maintained, it should be expanded significantly, including by adding design-related degrees to the list of approved degrees and eliminating the ABET accreditation requirement for computer science degrees.

CCIA also suggests that, if a technical degree requirement is maintained, permitting utility practitioners to prosecute design patents makes little sense. In this circumstance, the Office should consider creating a separate design patent bar and requiring a design-related degree to enroll in that bar.

[23] *See* ABA, Model Rules of Professional Conduct, Rule 1.1 note 1.

CCIA appreciates the opportunity to provide these comments to the USPTO and would be happy to further discuss any aspect of our comments.

Respectfully submitted,

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