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Think While You Are Using AI Coding

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July 23, 2025

Vibe coding is revolutionizing software development. The integration of generative AI tools into software development, such as ChatGPT's Agen, GitHub Copilot, Coursiv, and similar platforms, is revolutionizing how code is written. This innovation, however, brings significant legal uncertainty, especially regarding the copyrightability of AI-assisted code. Let's analyze the risks associated with using AI in coding, the standards for copyright protection, strategies for protecting code, and the evolving direction of AI usage in software development.

Risks of Using AI to Assist in Software Coding: Copyrightability and Legal Exposure

Copyrightability of AI-Generated Code

In 2023, the U.S. District Court for the District of Columbia addressed the copyrightability of AI-generated works in *Thaler v. Perlmutter*, 687 F. Supp. 3d 140 (D.D.C. 2023), holding that "copyright law protects only works of human creation." This case is somewhat limited in application, given that Professor Thaler was trying to make a point by listing the AI LLM Dabus as an author without listing any human authors. Professor Thaler specifically disclaimed any human input into the resulting art, making it of limited precedent for typical AI-assisted coding scenarios where humans provide creative direction, prompting, selection, and integration. Since then, the U.S. Copyright Office has stated that content generated solely by AI, without sufficient human creative input, is not eligible for copyright protection. Again, this should be considered in light of the fact that the Copyright Office is an administrative agency and that neither Congress nor the courts has weighed in.

The key legal question is what level of human involvement is necessary for AI-assisted works to qualify for copyright protection. In January 2025, the U.S. Copyright Office released guidance detailing this threshold.

The Copyright Office noted that works created by AI prompts alone are not copyrightable. Even if a human might be giving an instruction to the AI, "the AI system fill[s] in the gaps." The Copyright Office provided the following AI generation as an example:

Prompt	***Output***
professional photo, bespectacled cat in a robe reading the Sunday newspaper and smoking a pipe, foggy, wet, stormy, 70mm, cinematic, highly detailed wood, cinematic lighting, intricate, sharp focus, medium shot, (centered image composition), (professionally color graded), ((bright soft diffused light)), volumetric fog, hdr 4k, 8k, realistic	

Here, the prompt did not specify every detail of the output. The large language model generated the type of cat, the size of the cat, and the collared shirt worn by the cat. As a result of this, the Copyright Office noted that this image is not copyrightable.

Works may be copyrightable, however, when a human author arranges AI-generated material "in a sufficiently creative way that the resulting work as a whole constitutes an original work of authorship." For example, an author's use of AI tools to reshape and enhance different regions of an image may make the image copyrightable. Ultimately, however, the Copyright Office noted that copyrightability is an issue to be determined "on a case-by-case basis." Further, the copyrightability analysis should focus on **specific elements** rather than entire codebases. Even if AI generates certain functions, the overall program architecture, unique algorithms, creative variable naming, comment structures, and integration patterns may still reflect sufficient human authorship for copyright protection. Additionally, human authorship can exist in the creative prompting, selection, and arrangement phases.

For coders, a lack of copyright protection presents a significant risk. If the code is not copyrightable due to insufficient human involvement, no one – including the coder or the AI provider – can claim exclusive rights. Instead, such code effectively resides in the public domain, meaning anyone can use, copy, or modify it without restriction.

Protecting Your Code: Copyright and Other Best Practices

In this time of legal uncertainty around the copyrightability of partially AI-generated work, maximizing the human contribution to AI-generated work is critical. As such, coders should take the following steps to minimize their risk:

- **Document Human Contribution:** Keep detailed records of your creative process, including how you used AI tools, the specific prompts or instructions given, and the modifications or original code you contributed. Likewise, the selection, coordination, and arrangement of these potentially unprotectible features may create a copyrightable compilation **under 17 U.S.C. § 103**. This documentation can be critical in demonstrating the human authorship necessary for copyright protection.

- **Edit and Transform AI Output:** Where possible, use AI-generated code as a starting point and make substantial, creative modifications. The more the final code reflects your own original expression, the stronger your claim to copyright.

- **Disclose AI Involvement in Registrations:** When seeking copyright registration, disclose any AI-generated content and clearly identify the human-authored portions, as required by the Copyright Office.

The Direction of AI Usage in Code: Legal Trends

The U.S. Copyright Office and courts have reaffirmed that only works with sufficient human creative input are eligible for copyright protection. The threshold for "sufficient" human involvement is evolving but will ultimately depend on a case-by-case analysis.

In addition to *Thaler v. Perlmutter*, the Copyright Office has denied copyright registrations where the author lacked sufficient human input. For example, in *Zarya of the Dawn*, the Office denied the copyright of a graphic novel that used AI-generated illustrations, even where the text of the novel was human-authored. In *SURYAST*, the Office denied the copyright of a piece of artwork created by interpolating two images because the AI system was responsible for the extent of the interpolation.

Some guidance may be gained from Oracle America, Inc. v. Google Inc., 750 F.3d 1339 (Fed. Cir. 2014) (analyzing creative expression in software architecture). In that case, Google designed an API to work with Oracle's Java program. Google claimed fair use. To establish that the work was transformative, Google documented and tracked how its programmers created its new work. Likewise, programmers assisted by AI should track how they reviewed, modified, and integrated AI-generated suggestions into the broader codebase architecture.

Again, there has been limited interpretation of the copyrightability of AI-assisted materials in the courts. As more cases are decided, there will be more guidance. In the meantime, the case for protectability and registrability should be made by focusing on any human input into:

- the overall program architecture,
- unique algorithms,
- creative variable naming,
- comment structures,
- the selection and arrangement of elements,
- creative prompting,
- and integration patterns.

Likewise, many programmers have libraries of reliable code segments that are often used and perhaps even adopted by enterprise AI models. Additionally, software architecture, module organization, API design, and the creative assembly of various components (some AI-generated, some human-authored) could qualify for protection as compilations.

Even if code lacks copyright protection, it may still be protected by:

- **Trade secrets** (if kept confidential)
- **Patent protection** (for novel algorithms)
- **Contractual restrictions** (licensing terms, employment agreements)
- **Trademark protection** (for distinctive naming conventions)

Some ways to keep up with human involvement may be through:

- **Architectural documentation** showing human creative decisions.
- **Version control practices** that capture the iterative human-AI collaboration process.
- **Code review protocols** that emphasize human oversight and modification.

Companies should have AI usage policies. Those companies believing that their programmers are not using AI are probably mistaken.

Conclusion

The use of AI in software coding offers significant efficiency gains but introduces complex legal risks, especially regarding copyrightability and code ownership. Only code reflecting substantial human creative input is eligible for copyright protection. Otherwise, its protection may be more limited. Developers and companies should adopt proactive strategies – robust record keeping, code scanning, internal policies, and careful management of AI tool usage – to protect their code and minimize legal exposure as the regulatory environment continues to evolve.

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privacy, and artificial intelligence. Should you have any questions, need assistance with AI disclosures, or want to discuss ways to protect your business and position it for long term success in these areas, please reach out to the authors Justin S. Daniels, Edward D. Lanquist, Javier Becerra, CIPP/US, or any member of Baker Donelson's team of experienced Artificial Intelligence attorneys.