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Who owns it?

As technology evolves, entire industries are reshaped, and software development is no exception. Recent layoffs in major tech companies have revealed a new reality: artificial intelligence can now generate functional code in seconds, reducing the need for large engineering teams. Tools like GitHub Copilot and ChatGPT have made it possible for anyone with an idea to build an application, even without a formal computer science background. This democratization of development marks a revolutionary shift in which creativity has become the new barrier to entry. Yet, as the power to create software becomes more accessible, the legal and ethical boundaries of authorship and ownership are less clear. If an app is built with the help of AI, who owns the final product? There are just three possibilities: the developer, the machine, or the company behind the tool. The first step toward answering this is to understand current legal frameworks, which are essential for developers to protect their rights and maintain creative integrity. As a developer who has used AI tools to build apps, I see both their creative potential and their disruptive power. These tools reshape how software should be built to maintain the idea of ownership under the current legal framework.

At first sight, with generativeAI (genAI), the technical level barrier has lowered, but the backbone of the app still needs optimal design choices. As Appel et al. explain, genAI “will change the nature of content creation, enabling many to do what, until now, only a few had the skills or advanced technology to accomplish at high speed.” In my own experience, this change

felt like a balance between automation and authorship. Because I had worked with these tools before, I knew that unclear prompts often produced messy or repetitive code. To avoid spending hours editing AI output, I first focused on refining my product's design and structure before generating any code. Unlike traditional development, where I would have started small, mocked a local database, and expanded gradually, AI-assisted tools required me to think at a higher level of abstraction. My role shifted from typing every line of code to clearly defining the creative direction, much like a designer guiding an assistant who writes in syntax. This shift emphasizes creative input and direction, particularly prompting and curation, rather than technical execution. It enables individuals to function as authors even if their contribution is limited to creatively selecting, modifying, or arranging AI-generated material, as shown in the paper "Developer Perspectives on Licensing and Copyright Issues Arising from Generative AI for Software Development" by a group of computer science professionals. I see this transformation as similar to how Tesla's factories rely on robotic systems instead of human workers for repetitive tasks. AI in software creation performs a comparable role: it takes over many of the mechanical parts of programming while leaving the creative design and problem-solving to people. This change, powered by technology that requires little expertise to rapidly produce complex results, leads directly to the core legal uncertainty. While the human creator's input is what the law seeks to protect, the question of who should own the intellectual property rights in AI-generated content is not completely solved.

Intellectual property (IP) laws provide frameworks to protect human creations, generally divided into four categories. These include copyright, which protects original works of authorship such as literary, artistic, or musical expression; patents, which protect novel and nonobvious inventions and require naming a natural person as an inventor; trademarks, which

protect brand identifiers like names and logos; and trade secrets, which safeguard confidential intellectual property that provides a competitive advantage, such as processes or formulas (Tomasevich). When I first started building my latest app (goalsforme.com), I did not think about these categories at all. My focus was entirely on design and usability, not ownership or protection. Writing this paper has helped me realize that intellectual property is not just a legal detail but something that shapes how a developer should plan and document their work. For me, copyright has become the most relevant area, since I want to understand how to protect the interface, structure, and overall design of my product. This traditional legal landscape is being fundamentally challenged by AI-assisted app development because intellectual property law has always centered on human creativity. Under current U.S. law, copyright still revolves around a human creator, something I had to consider when using AI-generated code. The U.S. Copyright Office has refused to register works that lack “meaningful human input” (Norton). This position is based on the principle of incentivization, as confirmed by the court ruling in *Thaler v. Perlmutter*: “The court held that ‘human authorship is an essential part of a valid copyright claim,’ reasoning that only human authors need copyright as an incentive to create expressive works” (Rosenfeld et al.). This ruling directly explains why AI-generated code alone cannot be copyrighted, since the machine requires no incentive. However, human creation remains protectable when AI is used as a tool (U.S. Copyright Office, *Copyright and Artificial Intelligence: Part 2*). For apps, this means that while unedited, entirely AI-generated code may not qualify for copyright protection, the human developer retains ownership over key creative contributions. The interface design and user flow are protectable as creative expression, and the app’s name and logo can be secured through trademark law (Cambridge Journal). This means that human modifications, even when based on AI output, function as derivative works, allowing

creators to claim rights over their altered and reorganized code. Once we understand these rules regarding ownership and copyright eligibility, we can better appreciate both the advantages and the risks of using AI in app development.

The use of AI-assisted coding tools has fundamentally changed the application development process, introducing both powerful benefits and complex intellectual property challenges. On the positive side, these tools speed up development and encourage broader creative participation. They allow many users to focus primarily on higher-level design, user experience (UX), and problem-solving rather than the mechanical act of writing code (Stalnaker et al.). This reduction of technical barriers leads to major improvements in efficiency and supports the growing democratization of creation, where deep technical expertise is no longer the main requirement unless you want to scale. AI promotes faster innovation and lower barriers, which fulfills the demand for rapid prototyping and efficiency by generating usable content quickly (Stalnaker et al.). However, this comes with legal uncertainty, particularly around the origin of training data and the question of ownership. When AI models are trained on vast collections of copyrighted works without clear licensing, the resulting AI-generated content may unintentionally reproduce protected material (U.S. Copyright Office, *Copyright and Artificial Intelligence: Part 3*). This issue is reflected in controversies such as the GitHub Copilot litigation (Stalnaker et al.), which alleges that the system reused open-source code without attribution. Such risks, combined with the unresolved question of who owns AI-generated material, have made intellectual property law far more complex. As Bharati explains, “The implications of AI on IP rights are far-reaching, touching upon various aspects of copyright, patent, trade secret, and trademark law. As AI continues to evolve, legal systems worldwide are grappling with fundamental questions about the nature of creativity, inventorship, and ownership in the context

of machine-generated outputs.” This statement highlights how legal frameworks continue to struggle with determining whether rights belong to the user, the developers of the AI model, or the creators of the data it was trained on. In my own experience, these uncertainties became clear when I realized that AI rarely produces a perfect app (or even code). The snippets I received often worked but required extensive editing to fit the structure of my project. At the time, I did not think to document those changes, but looking back, I can see how important that would have been to demonstrate human authorship. On the positive side, using AI also turned into an unexpected learning tool. It helped me understand how different programming languages solve similar problems, such as how a loop might be written in Python before I rewrote it in TypeScript. That process of correction and adaptation made me more aware of how much of my final product was shaped by both machine output and human judgment.

Writing this paper and finishing my app changed the way I view AI as a creative partner. It made me more aware of the importance of documenting every piece of generated code and every correction I make, since those details show where human work begins. More importantly, I realized that AI helps bridge the gap between imagination and execution. It turns ideas that once stayed on my computer into projects that can actually reach the world. I now see AI as a tool like any other, one that can bring great ideas to life more quickly, but only when used with care and transparency. Developers who build apps with AI assistance should treat their work as both a creative and a legal process. The first step is documentation: record what parts of the code or design were generated by AI and what you personally created or modified. Doing so clarifies ownership and demonstrates the human authorship that copyright law still requires. The next step is to read the licenses of the AI tools you use, because the terms of service often define how generated material can be used commercially. Beyond legal compliance, developers should add

their own creativity, expand AI-generated code, refine interfaces, and solve problems in ways that reflect personal judgment and design intent. Protect distinctive elements of your app, including its interface, name, and brand, through copyright or trademark registration. If you train your own models, use clean and licensed data. As intellectual property law continues to evolve, staying informed is essential. Treat every major update to your app as an opportunity to reassess legal risk. These steps matter far beyond one project. For new developers, AI lowers the technical barrier to entry and grants remarkable creative power, yet that same power also brings responsibility. In the short term, we will see faster innovation, new career paths, and unsettling changes as traditional engineering roles transform. In the long term, society will redefine what creativity means. Authorship will come to represent guiding and curating intelligent systems rather than working in isolation. The developers who thrive will be those who unite human vision with legal awareness, understanding that collaboration with AI does not erase originality but instead requires clearer proof of it.

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