From: Ashley Greenwald

To: U.S. Copyright Office, Library of Congress

Date: October 30, 2023

To whom it may concern,

My name is Ashley Greenwald, I am a Senior Associate at Huntsman Architectural Group, a commercial interior design firm located in San Francisco, California. I also serve as an Assistant Vice President of Philanthropy in the IIDA Northern California Chapter.

I am writing to submit my comments to the Copyright Office's Request for Comments on "Artificial Intelligence and Copyright" (Docket No. 2023–6).

In this report, I aim to provide some industry-specific insights into the issues related to copyright in the age of generative AI. Specifically, this report highlights some of the considerations that pertain to the role of generative AI tools and their impact on the business of interior design. This report should not be considered as covering all of the possible issues related to the use of generative AI in interior design, it primarily aims to contribute to the current work of the US Copyright Office and offer some insights from the perspective of the commercial interior design profession.

I would like to draw the attention of the US Copyright Office to the existence of the IIDA. The International Interior Design Association (IIDA) is a professional networking and educational association committed to the practice of interior design. The IIDA unites more than 15,000 members across 58 countries. The IIDA promotes the advancement in design excellence, legislation, leadership, accreditation, and community outreach to increase the value and understanding of interior design. The IIDA strongly encourages the registration, and/or certification of practicing interior designers who work in code-impacted environments. As a professional organization, the IIDA is committed to advocacy and activism, provides scholarships and educational resources as well as mentoring the next generation of designers.

We, interior designers, applaud the work that the US Copyright Office is conducting to clarify the implications of generative AI technologies. I learned about this docket just before October 18th, the original deadline, and was unable to confer all responses included below with the greater industry network of IIDA in order to submit a consolidated industry response. At this time, I am available to answer any industry-specific questions should the US Copyright Office decide to seek further information. However, in the future, we would request a formal notice in order to provide a complete industry response.

Sincerely,

Ashley Greenwald

Senior Associate, Huntsman AG
Assistant VP of Philanthropy, IIDA

Executive Summary

In this era of rapid technological advancement, the integration of AI in the field of interior design is likely to become inevitable. In the realm of commercial interior design, specifically in highly regulated sectors such as legal and healthcare services, there exists a profound societal expectation for a high standard of professional services. The introduction of AI into this equation necessitates a critical examination of the existing framework and the establishment of robust guardrails to maintain the trust and social fabric that permeates interior design.

When generative AI tools are placed in the hands of the general public or even professionals, questions of accountability and competence arise. What happens if a generative AI tools makes a mistake with grave consequences, such as violating code requirements and causing harm? The risks may seem minor but could have severe implications.

Within the practice of interior design, we recognize that generative AI tools have the potential to enhance the design process, providing configurators to expedite typical workflows. The relationship between generative AI tools and the designer should be seen as symbiotic, fostering co-creation and maintaining a high level of creative inputs.

Copyright law plays a critical role in this intricate landscape, serving as one of many tools to uphold standards and protect intellectual property. Yet, it should not be viewed in isolation: the practice of interior design is based on a multitude of cornerstone pillars such as professional licensing requirements, contractual arrangements, trade secrets, insurance and liability. These are all integral components of a comprehensive legal and ethical framework for the profession. Copyright rules, if any, aiming to address generative AI implications should be industry-specific. In commercial interior design, the licensure of professionals serves as a safeguard, ensuring that designs meet the required standards. The responsibility cannot be shifted to software; which, at the end of the day, is a tool, not an autonomous entity.

The development of generative AI tools for interior design should not occur in isolation, nor should it be driven solely by individuals with limited experience in the field. Interior designers seek to emphasize the accumulated industry knowledge which should be respected and integrated into the process of developing generative AI. As we contemplate the future of generative AI in interior design, we must ensure that there is ample space for co-creation and the preservation of unique creativity. AI should be viewed as a complement to the designer, not a replacement. Institutional knowledge and experience must be valued and incorporated into the development of generative AI tools to ensure they truly enhance the design process, rather than disrupt the industry's foundational principles. I believe that integrating AI in interior design presents both opportunities and challenges. By approaching this integration with a balanced perspective, respecting the industry's accumulated wisdom, and establishing clear guidelines and accountability, we can harness the benefits of generative AI while upholding the high standards and trust that society places in our profession.

I. General Questions

1.1. The Scope of These Comments: Interior Design

In this report, we focus on the copyright-related topics that pertain to the interior design industry. The concept of interior design and the range of work done by interior designers has been eloquently described by the Council of Interior Design Qualification:[1]

> *'Interior design encompasses the analysis, planning, design, documentation, and management of interior non-structural/non-seismic construction and alteration projects in compliance with applicable building design and construction, fire, life-safety, and energy codes, standards, regulations, and guidelines for the purpose of obtaining a building permit, as allowed by law. Qualified by means of education, experience, and examination, interior designers have a moral and ethical responsibility to protect consumers and occupants through the design of code-compliant, accessible, and inclusive interior environments that address well-being, while considering the complex physical, mental, and emotional needs of people.'*

Interior design closely relates to the work that building architects are engaged in and has the following overlaps: (i) health and safety requirements and considerations; (ii) codes that govern the development of commercial buildings and spaces; and (iii) liability considerations (as professionals, both architects and interior designers are required to comply with codes and regulations and carry liability insurance).

The following sections contain Ashley Greenwald's answers to the US Copyright Office questionnaire that cover the issues related to interior design and not architecture, although there may be similarities to the considerations pertaining to copyright law and AI.

1.2. Opportunities and Challenges with Generative AI Tools

The emergence of generative AI technologies has received much attention from technology experts, early adopters, policy makers, creators, and society in general. The fact that every individual user has been able to test various generative AI tools to generate text, visual and audio content contributed to the public discussion about the potential benefits and risks of generative AI.

Generative AI technologies are likely to have a direct and immediate impact on the commercial interior design industry. It is clear that interior design is a highly creative industry where applied AI tools can play a major role. In particular, generative AI technologies can help **facilitate the ideation process**: helping interior designers explore various design ideas, concepts and options quickly and iteratively. . Generative AI tools can help interior design professionals find inspiration and generate unique ideas based on past and contemporary

[1] Council of Interior Design Qualification, 'Abbreviated Definition of Interior Design' available at: https://docs.wixstatic.com/ugd/0784c1_35be22acfef44bb3987190f333ac3af9.pdf (accessed on October 22, 2023).

trends. Generative AI also has the potential to help interior designers "explore the unknown" - e.g., an interior designer who starts to work on an assignment can create initial sketches using pre-existing design tools and also use generative AI tools to add additional models, renderings or imagery as part of the design process.

In addition to serving as one of many tools for generating creative design options, generative AI has the potential to **improve efficiency and productivity.** This is especially the case when interior designers work on rather repetitive tasks or tasks that do not require certain unique or creative solutions (e.g., basic code reviews of conceptual spaces plans, implementation of doors or windows into a space plan based on basic industry knowledge, etc.). As a result, interior designers could use generative AI technologies to streamline simple/routine work and focus on more creative aspects of their projects.

Challenges

Liability: It is difficult to hold generative AI software or software companies liable for any mistakes. Since generative AI is not recognized as a human or legal entity and cannot hold insurance, it is difficult to expect any completed task to be completely human-free.

Authenticity: The amount of public information available to these generative AI companies is currently limited; and so, the lack of diverse information to train models could lead to homogenous or 'template' outputs. This may lead to two possible scenarios; 1) designers and design firms hold tightly to their proprietary information in order to maintain authenticity 2) designers and design firms may become willing to license their proprietary information for AI training purposes. **Human-centric design** is based on human experience and study. This can be challenging to program into software that understands how to use these pieces of information.

Trade secrets. Although some information can be gleaned from codes and standards, not all information is readily available. There are certain types of design that tend to be held within specialized firms - for example, lab planners, sports facilities and healthcare to name a few. Although these can be learned, information tends to be passed person-to-person within those specialized interior design firms.

The interior design industry is evolving quite rapidly: many interior designers are eagerly exploring new ideas, approaches, styles and tools in their work. Generative AI tools bring new capabilities to the interior design industry. In the short term, interior designers see these tools as helpful and encouraging, especially if developed within existing platforms. In the long term, if these tools become free-thinking agents, then the responsibility of liability and insurance will need to be shifted to the new owners - generative AI programs.

Interior designers seek to play an integral role in developing generative AI tools specific for their field.

From our experience we can see ways in which generative AI could help solve more complex problems. For example, using generative AI tools interior designers may be able to develop better solutions to challenges such as, but not limited to, increased building management efficiency, reduced waste, and other sustainability goals.

II. Training

2.1. Allocation of Ownership in Commercial Interior Design

Interior design firms tend to ground their work on Document A210 'General Conditions of a Contract for Construction'[2] prepared by the American Institute of Architects (AIA) to create and guide contracts for construction and interior design. Document 210 contains language governing the ownership rights to drawings, specifications, and other service documents created by interior designers (§1.5). By default, interior design firms "retain all common law, statutory and other reserved rights, including copyrights." This means that in cases where clients want to have ownership over and use of the design documents, they need to negotiate this issue before signing the agreement.

Pursuant to the existing US Copyright Act, original works are protected by copyright. In the context of interior design, examples of such works can include but are not limited to illustrations, photographs, furniture design, millwork design, interior architectural plans, specifications, design sketches and drawings, 3-D renderings and digital drafts, fabric prints, and wallpaper designs. Just like in other areas of copyright law, interior design firms have copyright over the original design works; they also have exclusive rights to prepare derivative works based on the copyrighted work and to perform or display the work publicly.

The standard in the interior design industry is that **the interior design firm owns (the exclusive copyright to) the material generated based on the contract done for clients**. Internally, interior designers who work as employees for interior design firms sign IP assignment agreements pursuant to which the employer (i.e., the interior design firm) owns all of the thought capital and all the work created by the employees. However, in some instances, clients may want to negotiate contracts where they would own the material created by an interior design firm. This can be the case with companies with extreme sensitivity about any design that could give away trade secrets or the client's security. These could pertain to items such as space planning, coordinated equipment, or construction details.

Commercial interior design firms tend to prefer to maintain copyright ownership of their creative works, documentation and models in order to be able to use those learnings toward the development and improvement of future work. If the ownership is passed to a third party

[2] Available at: https://content.aia.org/sites/default/files/2017-04/A201_2017%20sample%20%28002%29.pdf (accessed on October 22, 2023).

(e.g. client or to a software provider), then those creative works can no longer be used by the designers or firms for future works. This is how copyright ownership works. Because of the iterative way in which individuals and design firms learn and develop projects, there is little economic incentive for designers or design firms to give up ownership of those works, which could include trade-secrets.

2.2. Training AI Models in the Context of Interior Design

Interior design firms tend to be reluctant to give developers access to proprietary data to train generative AI models. As mentioned above, every interior design firm has libraries of proprietary data that consist of prior historical works that are protected by contractual non-disclosure obligations, trade secrets, copyrighted material that is not public, as well as published works.

I am aware that developers of generative AI models are already incorporating publicly available information - such as works published in code books, trade publications, standards and online sources. We are also aware that developers of generative AI models also seek to gain access to such proprietary data stacks of commercial interior design firms.

With regard to publicly available information – codes and standards – according to which interior design works are done, it is important to understand how they could be relevant for the training of AI models. Even though the publication (a book, a trade publication, the image of an interior design) itself may be copyrighted, the material within such a publication is general knowledge.

This dichotomy between the work itself (a drawing, a space plan) may be proprietary and protected by certain intellectual property frameworks, some information could also be completely public. Such information can be found on websites, government registries, trade publications, standards and so on. Interior design firms encourage the development of generative AI models firstly on these public types of information.

2.3. Developing Generative AI Models for Interior Design

One of the biggest challenges in training generative AI models for interior design relates to transferring knowledge about how humans think. Training AI models based on publicly available information usually does not lead to the transfer of how ***humans think about design***.

The way interior designers think about spaces and materials is best learned by doing. Consider the following example where a designer has to “design a space *against* or *near* windows and where natural light is preferred”. In fact, using generative AI tools to design a

building based on the above-mentioned publicly available knowledge from books and inscriptions would lead to long and skinny designs: in the example of "designing a space with natural light" it would be very difficult to come up with a solution without any additional human involvement. Standalone generative AI can not deliver meaningful results without any human involvement to create the proper inputs from a point of learned knowledge and practice

There is specific knowledge that is held by groups and individuals and such information is not public; rather, such information and domain-specific knowledge are gathered through experience. In addition to publicly available information, copyright and IP-protected materials, there is experience-based knowledge, the ability to interpret the code, general design skills, and specific (personal) client goals.

This experiential knowledge is an asset that developers of generative AI systems appear to want to gain access to in order to make their tools more intuitive to the way humans think about design. Such meaningful information may be provided by an interior designer who has proper experience in that area. Ideally, such experienced professionals would sign a contract with an AI company to provide such information and get paid for that work.

This confluence of public and proprietary data as well as professional experience would take large volumes of projects to gather that knowledge. This could be very restrictive to developers or could provide new licensing opportunities for design firms.

Such IP ownership and trade secret-related considerations may mean that some major interior design and architecture firms choose to develop their own generative AI tools on top of their own proprietary data.

Training AI on publicly available information (e.g., images available on Pinterest) may lead to the standardization or homogenization of interior design. More specifically, if all the images used for training are coming from several publicly available sources, it is likely that there are fewer creative solutions. Therefore, forward-looking interior designers are more willing to keep their own creative works private and retain their own creative patterns.

2.4. Licensing and compensation (Question 6.2.)

Should developers of generative AI systems be allowed to use publicly available information to develop new AI-powered tools? Should developers have access and permission to use publicly available floor plans and other drawings kept in the public records?

These are some of the most complex questions that the interior design industry is currently debating about, and no consensus has been reached. On one side, there are many opportunities when it comes to the development of more efficient and cost-saving tools. On the other hand, even if drawings are kept in public registries, they are still

copyright-protected. This means that third parties need to get permission to use those works in subsequent projects. When it comes to the creation of generative AI tools and systems, it is not clear on what legal basis the developers get access to such data and whether their work is conducted for the "public good" or for some commercial purposes.

Another question relates to the licensing of such proprietary documentation for the creation of certain architectural or interior design plans for reproduction in virtual environments (e.g., computer games, virtual spaces or "metaverses" created using various software programs, including generative AI tools). Given the current development of AR/VR and generative AI environments, it is difficult to determine the size of the potential market for licensing proprietary documentation created for real-world implementation and utilizing that in virtual spaces. However, it is quite easy to imagine the *possibility* that some most famous building plans and interior spaces could be licensed for re-use in digital environments, however, it is important to note that the owners of such assets will most likely license out only very high-level and non-editable versions of the documentation: such documents would likely to be abstracted so that licensees and third parties could not learn anything from them. For example, interior plans would be abstracted to such a degree that third parties are not able to learn anything about certain technical solutions.

Licensing Works for the Development of Gen-AI Tools: A Potential New Market Opportunity

In light of such market realities and a strong ownership interest of interior design firms to protect their proprietary data (drawings, architectural plans, etc.), it seems logical to envision an emerging market opportunity to extend the licensing scheme for works that are used to train generative AI models. Licensing proprietary works owned by interior design firms could **unlock a new value stream** both for companies developing generative AI technologies and IP owners. The licensing framework would be based on contractual negotiations which would also help determine how the compensation is determined.

But what happens to the proprietary works that have already been used to train various machine learning and AI models to date? Who should be in charge of determining the compensation schedule for the works that have been used without the owners' prior permission? Should compensation for training be determined only for the works that will be used in the future or should there be compensation for the works that have already been used without proper permissions and compensation?

Interior designers recognize the complexity of these issues and that there are multiple paths forward. Yet, with regard to the works that are created by interior design firms, interior designers consider the possibility of developing default compensation guidelines which could be used as a default framework as generative AI technologies are being developed. Such guidelines could provide more clarity about different ways of compensation depending on

what works are used for what purpose and in what context. Interior designers find it important to protect proprietary information which is also a cornerstone feature for creativity in the interior design industry. As such, the interior designers equally recognize the importance of facilitating progress in society.

3. Transparency & Recordkeeping

Traditionally, requirements of transparency, disclosures, and recordkeeping are intended to help society and relevant stakeholders gain information about certain relevant facts. From a policy, law and economics perspectives, rules requiring greater transparency and recordkeeping are designed to facilitate trust in society, to curtail information asymmetries and instances of fraud.

Similar arguments could be made about transparency and disclosure obligations that are developing AI tools. As of now, it is clear that the starting point for generative AI technologies falls under a somewhat misleading metaphor of a "black box." There is a concern that "the magic behind the curtain" gives generative AI companies a free ticket to escape liability with regard to what sources have been used to source the content and how the data is being labeled in the process.

It is advisable that the US Copyright Office take a more **functional approach** to transparency and disclosure obligations with regard to generative AI tools utilized in the interior design space. To begin with, interior design is a highly regulated space: interior designers are **licensed professionals** who have to pass professional qualification exams and be knowledgeable about the local code and life safety requirements. Also, the works created by the interior design firms must comply with mandatory rules determining **health and safety standards**.

Code compliance considerations. From the policy and public safety perspective, it may be quite important to know whether the floor plan generated based on the prompts is based on the data that meets the requirements of the jurisdiction where the floor plan will be implemented. For example, if a floor plan is based on prompts for a building to be built in California, would it be useful to know that 75% of the underlying data comes from buildings in Northern Europe where earthquakes do not happen? Interior design considerations differ from country to country, and region to region.

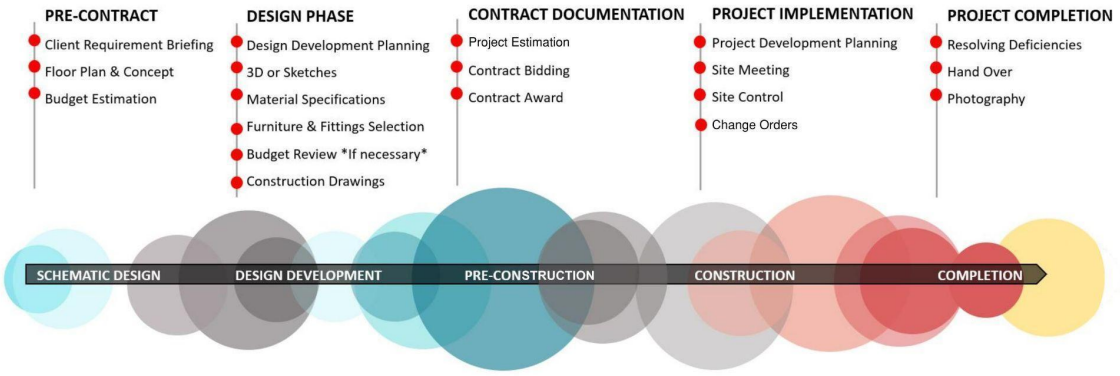
Social norms. From the policy and human rights perspective, it may also be important to know whether and what amount of data used could promote bias and discrimination. For example, there are countries where it is still customary to create commercial floor plans for offices that contain living spaces for maids. While this practice may still exist in some countries, it is not socially acceptable in others.

Various biases may be pre-programmed in generative AI models: it is important to recognize these risks and consider what practical steps could be taken to eliminate the negative consequences of using such generative AI tools. Ideally, developers of generative AI systems may voluntarily agree to provide information about their data labeling practices and transparently disclose what data and how it is being used in their models. Yet, such self-reporting models do not seem to work in practice. At the other end of the spectrum, the government could step in and impose some transparency and disclosure requirements. Interior designers understand that this may be a policy choice. If such a policy were to be implemented, professional interior design groups such as the IIDA may be interested in participating in this effort.

We would note the importance of the **human/interior designer integrated into the conversation and development**. A pragmatic approach to solve transparency and disclosure issues in the context of interior design would be to identify:

1. Stages of project implementation where generative AI tools are being used and
2. What transparency obligations and disclosures are actually meaningful, desirable or needed, and to whom should such disclosures be addressed to?

Different transparency considerations may apply to using generative AI tools in designing floor plans, determining how electricity and fire detection systems should be implemented, the location of the furniture and choosing various light installations. In many instances, the proposed solutions must be initiated, developed and approved by a certified interior designer - the choice of what tools are used to generate such documentation is up to the interior design team members.



To summarize, **many aspects of the work should be initiated, reviewed and approved by a human/designer in the loop.** The work of interior designers comprises not only creative and aesthetic elements of interiors, but – equally importantly – relates to ensuring that the interior design is safe, healthy and inclusive.

4. Outputs

4.1. Authorship of Material Created using Generative-AI Tools: A Wider Perspective of the Industry

The US Copyright Office raised a question of whether there are circumstances when a human using a generative AI system should be considered the ‘‘author’’ of material produced by the system. Based on the state of technology today, we only see instances where humans are the authors.

Interior designers have always relied on various tools that help augment their creative capacities and convert ideas into tangible forms - AutoCad, Revit, SketchUp. From that perspective, generative AI tools could be deemed as one of the tools that interior designers use in their work. More generally, even from the perspective of any individual (not a licensed interior design professional), generative AI is also a tool. Interior designers recognize that generative AI tools may be of greater capabilities than previous tools because of the amount of data they use to generate outputs. We also understand that - from a historical perspective – tools used by interior designers reflect different social, cultural, and technological environments in which they emerge and exist.

From an interior designer’s perspective, generative AI systems are (a) *initiated*, by individual designers who give certain prompts and instructions, (b) interim results can *refined* and modified by the interior designer many times, and (c) it is the interior designer who makes the *final determination* whether and how the output co-created with the help of generative AI tools should be utilized. As mentioned in section 3 above, interior design firms deliver projects in phases, and there are different types of work conducted at each phase. Also, there is a legal component associated with the work done at each stage. Generative AI can be used as a tool to assist the interior design firm in producing some deliverables.

Interior designers acknowledge the reality that some generative AI tools are becoming increasingly capable. From the interior design perspective, such generative AI tools could be embedded to augment the designer’s capabilities in various stages of project development. However, as we also discussed in section 3, the human/designer is involved in all stages of the interior design process and is ultimately responsible for compliance with the code and health and safety requirements. A generative AI system does not have any recognized legal personality to assume the rights, and liabilities for the work that it helps generate. Furthermore, most of the terms and conditions of companies that provide generative AI tools for commercial deployment stipulate that the (a) user of the generative AI tool owns rights to the output and (b) some major generative AI platforms also provide that they will indemnify for any legal challenges to the output which the user of the generative AI tool may encounter.