

3D Printing and the Law: Are CAD files Copyright-protected?

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Abstract

3D printing has emerged as one of the most significantly disruptive technologies in the digital economy. From the manufacturing of guns to food preparation, it has the potential to revolutionize (and improve) many aspects of our lives, in much the same way the Internet has revolutionized communication. Also known as additive manufacturing, 3D printing is a process of laying materials on top of each other to build a 3D solid object. 3D printing starts with the virtual model of the product, held in a computer-aided design (CAD) file. This file holds the instructions that, when sent to the printer, guide the device in building up the output through layering successive deposits of material until the model is complete. The CAD file can easily be distributed, copied, modified and shared over the Internet and then ‘printed’ by a printer device, using fine strands of molten plastic, ceramic, or even metal powder. The technology’s potential as a game changer, in this respect, presents challenging legal questions.

This paper explores questions that arise under copyright law, with a focus on the CAD file component of 3D printing. It is unclear whether copyright protection may exist over these design files, and if so, under what circumstances. The analogical reasoning of intellectual property rules extrapolated from relevant court cases relating to intellectual property and technology will be applied to the questions addressed in the research: whether copyright protection may exist over CAD files, and if so, under what circumstances.

In investigating whether and how copyright law deals with the CAD file as a prescribed work, the paper examines under what category of protectable subject matter CAD files may be classified, and whether CAD files possess sufficient originality to attract the protection. The answer to this may depend on the method by which the CAD file is produced, and whether there was sufficient skill and judgment exercised during creation or modification of the work. The paper will outline circumstances under which copyright may subsist in CAD files.