

Piracy, Printing, And A New Era Of Manufacturing

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A topic that doesn't seem to come up, at least via outlets that are 3D-printer friendly (which are in a powerful majority at this point), is the proliferation of piracy thanks to the quickly emerging 3D-printer market.

Much like Napster brought a slapped major record labels across the face, 3D printing is poised to make major manufacturers shake in their boots... maybe. At-home 3D printing is certainly growing, fast, and there is a legitimate concern for manufacturers that their patented designs and unique products are going to be pirated and printed at home - effectively removing the manufacturer from the process. It seems like this would be almost advantageous for designers, as they can cut design and invent without the need for a cumbersome, capitol-holding middle-man, but then the concept of piracy causes many innovators to start pulling the sheet over their designs - and understandably so.

[Josh Constine of TechCrunch wrote](#) [1], "Eventually, the old manufacturing industry will wise up, and independent designers will band together to try to thwart physibile piracy." While this might be true, it seems to be a distant-future problem. A very-distant-future problem.

Let's go back to the music industry. When Napster first emerged, the major record labels panicked at the prospect that users could download any and all music at will. It was believed that Napster and its brethren would all-together kill the music industry. But now we have iTunes, Amazon, and an ever-growing plethora of digital music to appease our fickle tastes. It isn't a far stretch to compare Napster to 3D printing and the music industry to manufacturing, but there are some major differences.

First and foremost, even though Napster emerged some 14 years ago (back in 1999), we still have many record labels that make monstrous profits every year. Granted, their surplus has gone down since the advent of digital sharing, but they have survived, even with digital music almost entirely replacing hardcopies. The manufacturing and design engineering industries are much larger Goliaths to confront than the music industry could ever hope to be.

I'm clearly not the first to recognize these similarities. Napster was a surprise revolution to just about everybody, including its creators, but lawmakers are already wise to the capabilities of 3D printing and have started to preemptively create definitions for laws and regulations regarding the gray area between copyright and patent and 3D printing.

A major flaw in the 3D-printing revolution is that it isn't referred to as at-home manufacturing. These issues will not come to any sort of legislative or legal table until at-home manufacturing is truly possible. Right now, 3D printing outside of

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professional engineering settings doesn't go far beyond a hobby. There are advantages to customizing a housing for a Raspberry Pi or Arduino when you help your kid build their first robot, but this will, by no means, replace traditional manufacturing. So, for now, we can relegate 3D printing to a complex Pinewood Derby Car.

RP Siegel said [in a recent blog post on imt](#) [1], "While many [rapidly prototyped] parts are produced directly from CAD design files, a growing trend is the use of scans that can create a part directly from another part without a design drawing. This capability can have a significant impact on the design process by facilitating the ability to reverse-engineer a product or a part." This may present an issue for piracy, but, currently, the cost of scanning, adjusting, and printing a new showerhead far exceeds the cost of just going out and buying one.

If Moore's law continues to prove frighteningly true, we will have to confront these issues sooner than later, but not until 3D printers are significantly cheaper, offer better resolutions, faster platforms, and more materials that cost less,. This is without mentioning the need for public know-how, which seems to be the slowest moving portion of our societal adoption of anything. We may be able to download and print anything we find on the internet, but those who understand CAD and design well enough to manipulate these items and truly pirate designs are sure to remain few and far between for some time.

Though FDM has been around for nearly a quarter century, rest assured that 3D printing is still in its infancy, and the masses have yet to catch up thus far.

Do you fear that your designs will be stolen and 3D printed? How will design piracy, using 3D printers, affect you? Comment below or email chris.fox@advantagemedia.com [2].

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[1] <http://techcrunch.com/2013/05/04/3d-printing-piracy-physibles/>

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