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IP: 3D Scanners, IP issues with additive printing's companion technology

3D scanner advancements have kept up with 3D printing, and the technology has IP issues that merit review.

BY BRYAN J. VOGEL

The potential for mass consumer use of 3D printing has generated a lot of conversation on the interplay between the technology and IP laws. Less discussed, however, are the IP issues raised by 3D scanners — often a key component in successful additive printing. But 3D scanner advancements have kept up with 3D printing, and the technology has IP issues that merit review.

3D scanners now

Like 3D printing, 3D scanner technologies once limited to industrial use have begun to push into the consumer market. Most 3D scanners use a method to collect visual data that allows production of "point clouds"— a set of data points in some coordinate system —that, with associated software, enable computer extrapolation of a three-dimensional shape. Industrial scanners often combine robotics and lasers to generate the hundreds of thousands of high-end data points needed to produce scans with the precision manufacturers require.

Those same quality options don't yet exist in the consumer 3D scanner market. Early adopters could use an iPhone app that used light from the phone to generate less-than-precise 3D models. Last month, MakerBot — the consumer 3D printer manufacturer acquired by 3D printing industry giant Stratasys—released its MakerBot Digitizer, a home scanner that costs about $1,400 and apparently makes acceptable, but imperfect, scans. 3D printing enthusiasts also have a number of DIY options, including creating a 3D scanner by "hacking" Microsoft's Kinect motion sensor (soon to be an integral part of the Xbox One). They can also invest on Kickstarter in the hopes of acquiring an almost-there handheld, desktop or iPhone/tablet accessory 3D scanner. As with 3D printers, the greater affordability of lasers attributable to Blu-ray advancements has helped to make many laser-based consumer scanners more affordable.

Intellectual property law and 3D scanners

3D scanners share many of the IP law issues associated with 3D printing, including patent rights questions. Early battles between scanner technology holders will help define patent rights in machines made for the consumer market — just as they have and will continue to do for 3D printers.

For example, in *Metris USA., Inc v. Faro Technologies, Inc.,* the owner of a patent covering a device that combined a precision 3D scanner with an articulated robotic arm sued another scanner manufacturer for patent infringement. After a trial on the merits in 2011, the district court granted summary judgment of non-infringement as to one of the patents-in-suit and, in 2013, the parties reached a full settlement. The Metris court's 60+ page opinion fully explores the state of the art of industrial 3D scanners. As with the smartphone wars, early 3D scanner rights disputes like the one in Metris will serve to shape obviousness inquiries and other patentability issues associated with claimed 3D scanner advancements.

3D scanners also present unique IP issues, especially when it comes to copyright. For example, at least one early scanning company claimed copyrights in the scans themselves. In *Meshwerks, Inc. v. Toyota Motors Sales, U.S.A.,* the creator of digital car models argued that the laborious "digital sculpting" required to create a realistic end product entitled it to copyrights in the digital models. But the district court and court of appeals both rejected those claims. The 10th Circuit held that no matter the effort involved in the creation, depictions of "things or facts in the world" must reflect some new creative expression — like pose, lighting, or other ingredients that apply to the art form — in order to qualify for copyright protection. As a result, it seems unlikely copyrights exist in images created through the use of 3D scanners, unless some additional form of expression gets added.

But 3D scans can infringe copyrights and leave a trail of doing so in way that is often easier to follow and enforce when compared to 3D printing. Just what copyrights are implicated depends upon the rights in the object being scanned. Scans of utilitarian objects likely do not raise copyright issues because those kinds of objects typically do not qualify for copyright protection. Scans of functional items with decorative elements can, however, give rise copyright issues — though they present complex questions of "separability" for which no definitive test exists and which can be expensive to prove and litigate. Scans that make exact copies of artistic or other clearly copyrighted items likely infringe that item's copyright.

The Digital Millennium Copyright Act (DMCA) provides an avenue for copyright holders to challenge scans that potentially infringe copyrights, particularly if those scans end up being shared in 3D printing's ever-growing maker community. (For example, Thingverse, a free 3D printing file-sharing website, now hosts more than 100,000 files.) The DMCA dictates the steps that websites must take when a rights holder claims that content on that site infringe a copyright. Through a series of notices and takedowns, the copyright holder and the entity uploading the allegedly infringing content communicate — and potentially dispute — the claimed copyright. As 3D printing has expanded, reports of takedown notices of files originating in 3D scans have increased. No scan maker has disputed a claim of copyright and reposted a disputed filed — yet.

Conclusion

3D printing's dependence on 3D scanners has spurred innovations in both. As a result, the related technologies share many IP issues and 3D scanning patent holders will likely see as many rights battles as those in 3D printing. In the consumer market, however, 3D scanners potentially leave more

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easily traceable breadcrumbs, potentially making it easier for copyright holders to protect their rights through the DMCA. For now, the DMCA has worked to police copyright infringement, but suggestions to manage the coming IP rights conflict consumer 3D scanning creates range from an iTunes-like fee-based service to Congressional action. Only time, future advancements and IP rights litigation will define which approach is best.

About the Author

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