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Intellectual Property and Technology

February 11, 2014

The Legal Perils of 3D Printing



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3D printing refers to the techniques also known as “additive manufacturing”. This process uses a digital model to create a three-dimensional object by adding successive layers of materials in the shape of the object.

3D printing machines have been on the scene since the late 1970s; however, only recently has the technology become accessible to individual consumers. With the cost of 3D printers dropping significantly after the patents covering the technology expired, individuals having 3D printers in their homes could be commonplace in the not-so distant future.

Printing coffee mugs, phone cases, action figures or spare parts for appliances may soon be as easy as printing a photograph. And sharing the designs for these objects will be just as easy as sharing a photograph over the Internet.

3D Printing is being heralded for its potential advantages over conventional methods of manufacturing goods. Not surprisingly, the relatively new technology is raising many questions and creating many challenges, particularly those relating to the protection of intellectual property.

Given the diversity of goods that can and will be printable with 3D printers, the intellectual property implications may well involve one or more intellectual property statutes. Three-dimensional objects that are artistic in nature will often attract copyright protection, as will the drawings, designs or plans for the making of the three-dimensional object. Functional three-dimensional objects may be protected under patent law. The design features and visual appearance of utilitarian objects can be protected through industrial design registration. If distinctive of their source, the three-dimensional features of objects may be protected as trade-marks.

One of the biggest potential impacts is on copyright protection, which is the focus of our discussion.

3D printing presents implications for parties whose copyright will be infringed either through 3D blueprints made available online through a hosting website or via products that are printed using 3D printers. 3D printing poses the threat of widespread manufacturing of objects occurring in businesses and homes that escape prevention, detection or control.

There is nothing unique about the way copyright principles or existing legislation applies to 3D printing. Principles of copyright protection, infringement and exceptions to both will apply equally to the designs and instructions used to perform the 3D printing and objects created as a result as they do to other copyrightable works.

After Fernando Sosa created an iPod docking station using 3D printer based on the *Iron Throne* chair from the HBO series *Game of Thrones*, he received a cease and desist letter from HBO. HBO alleged copyright infringement based on its copyrights in the show, its characters and the inanimate objects that appear on screen.

As the user-generated 3D model marketplaces grow it is likely that numerous creations will be based on similar types of copyrighted materials.

Last year Canada responded to the particular challenges facing copyright holders in the digital era by amending the *Copyright Act* through the *Copyright Modernization Act* to address, among other things, the reproduction and dissemination of works in a digital environment.

The *Copyright Modernization Act* addresses the different ways in which copyright may be infringed through online activity. Many of the amendments create a number of new defences to copyright infringement which seek to create balance. The amendments dramatically limit the penalties for non-commercial infringements. On the other hand, there are new provisions which target those who facilitate online copyright infringement which may give rights-holders new avenues of control and enforcement. There are no doubt some holes to be filled relating to particular challenges in 3D printing activities. Canada recognizes the need to legislate digital activities, including non-commercial copying by individuals. By contrast, the other Canadian intellectual property statutes are not well adapted to govern copying by individuals for non-commercial use.

One of the biggest challenges for copyright holders is identifying those individuals, like Fernando Sosa, who infringe their rights given in the privacy of their homes. The best option will likely be for the rights holders to focus on the websites hosting the 3D blueprints or selling products printed using 3D printers. After identifying wrongdoers, rights-holders can issue a cease and desist letter to the owner of the domain name for the website, asserting their rights under the *Copyright Act* and demanding the infringing activity cease immediately and that all infringing products be destroyed or delivered to the copyright holder. Unsuccessful demands may warrant a Court action for both an injunction to enjoin the infringing activity and an award of monetary damages.

3D printing offers faster, cheaper and more diverse manufacturing which can present benefits for all. It also offers a plethora of intellectual property issues which will undoubtedly create tensions between owners of intellectual property rights on the one hand and users and consumers of the technology and its products on the other. It won't be long before Canadian Courts are brought into the mix to sort out the issues.

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