

Legal Regulation & Education: Doing the Right Thing?

Deborah Ferns

Jisc Legal

deborah.ferns@strath.ac.uk

Facilitating 3D Printing - The Role of Open Licences

3D printers work by layering thin slices of material on top of one another to create three-dimensional objects. To create a three-dimensional object, the 3D printer requires a blueprint or 3D digital model. The paper examines the extent to which copyright can subsist in a 3D digital model focussing on 3D digital models of physical objects created through the use of 3D scanning technology as models created in this way appear to present the greatest challenge to the traditional copyright concept of 'originality.'

The paper addresses the following issues: (1) Does the author of a 3D digital model made by scanning a physical object obtain exclusive rights including the ability to restrict another individual from 3D printing an object from the model without permission? (2) How can the author of the model effectively control its use short of keeping the model itself confidential? (3) In a climate of open licensing can rightsholders openly licence their 3D digital models, for example for non-commercial use in research or for teaching and learning, while exercising control over 3D printing the models? and (4) how can they effectively do this?

Analysing relevant legislation and case law primarily from the UK however, where relevant, making reference to examples from other jurisdictions such as the EU and US, the paper draws the following conclusions:

3D digital models created through 3D scanning existing objects will constitute copyright works where the author exercises choices in the representation of the object sufficient that it can be considered the expression of his own intellectual creation. In such circumstances the author will acquire exclusive rights to control copying, adaptation and distribution of such models.

While a 3D digital model will constitute a copyright work in the correct circumstances it is not clear cut whether 3D printing a model is 'making a copy' or 'adaptation.' The likelihood is that it will be an adaptation where the individual printing the design tweaks it to the extent considered a material alteration or embellishment which suffices to make the totality of the work an original work. Otherwise printing is likely to constitute 'copying.'

There appears to be little doubt that a 3D digital model constitutes a design document for the object the model represents. As such the model will be subject to s 51 Copyright, Designs and Patents Act 1988 and it will not constitute an infringement of copyright in the 3D digital model (design document) to make an object to the design, unless the model is a design for an artistic work. Consequently the authors of 3D digital models of artistic works will be able to restrict printing three-dimensional objects from the models. Authors creating 3D digital models of non-artistic works, in contrast, will not be able to

control printing through copyright law. Any controls they are able to exercise are likely to arise from restricting access to the models and the law of contract licensing.

Applying a Creative Commons Attribution, No Derivatives licence to a 3D digital model will not prevent all 3D printing of the model. Where a 3D digital model is printed without contributing anything new or original which would amount to a material embellishment or be considered the intellectual creation of the individual printing the model it will constitute a copy. Printing therefore will not be restricted under the licence (which permits copying but not adaptation) irrespective of whether the object printed is an artistic work or something else.

Where printing involves tweaking of the model sufficient to constitute an 'adaptation' then where the model represents an artistic work a Creative Commons No Derivatives licence such as the CC-BY-ND licence can control printing. Where the model represents another type of work the author of the model cannot restrict printing under the Creative Commons licence because the exception in s 51 Copyright, Designs and Patents Act 1988 will apply and the licence terms provide that the licence does not override copyright exceptions.

For the author of a 3D digital model who wants to openly licence his model but restrict use of it to 3D print an object the most effective way of achieving this would be to develop a bespoke licence controlling printing.