

Online sharing of Digital Design files as “use of a design”? A reassessment of the current regime of liability

by Matteo Frigeri *

Abstract: EU Design law often appears as lacking the same strong identity that characterises trademark and copyright rights. Divergent conceptions over the scope of protection of these rights have persisted, disguised behind the pretence of a fully harmonised legal framework.

New developments in technology, social practices and business models now force us to question the extent to which design protection could apply to new forms of digital creation, distribution, and consumption of designs.

As the European Commission carries out a reappraisal of whether Design law is sufficiently flexible to remain relevant in the digital economy and what protection it can offer to rightsholders against acts of illegal online sharing of files, this article will attempt to critically assess the jurisprudence, literature, and legislative history of design legislation to determine whether immaterial forms of “use of a design” may constitute infringing acts – with a particular focus on

the online sharing of Digital Design files.

This review demonstrates that the extension of protection to forms of immaterial exploitation of designs may have been an unintended result facilitated by the ambiguous wording of the legislation.

The last section of the article assesses the potential liability for the sharing of a DD file in a platform environment, a question also recently considered by the Commission’s study. After recognising the crucial role of the “appearance” of a design as a condition of liability, the article discusses how this may cause Design law to be inconsistent or ineffective in tackling the online sharing of designs. In the conclusion of this article, a few possible solutions are canvassed. It is submitted that the current Commission Proposal does not satisfactorily address the conceptual issues outlined in the article, risking rather being a short-sighted and unprincipled response to a much broader necessity: a general reconceptualisation of what design should protect in the digital ecosystem

Keywords: EU Design law, Digital designs, Online sharing platforms, Peer-to-peer sharing

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A. Introduction

1 While defining “design” is notoriously difficult, the Design Regulation (“Regulation”)¹ provides

1 Council Regulation 6/2002/EC of 12 December 2001 on Community designs (2001) OJ L 003/1 (Regulation). Unless specified, this article will only look at the Regulation. The analysis may however be similarly applied – *mutatis mutandis* – to the Design Directive.

a remarkably concise and clear explanation: “the appearance of the whole or a part of a product”². In this simple definition, a tension can be observed between the immaterial appearance of a design and the material existence of a product; this opposition already anticipates the *leitmotif* of the discussion: how far does Design law venture into the digital domain? To what extent is the current regime of liability fit for purpose?

2 *ibid* 3(a).

- 2 What is evident from this definition is the pivotal role played by the appearance of a design and the economic value that it attaches to products in the market³. This has prompted several scholars to claim that an infringement may arise from the mere use of the appearance of a design, without any physical interaction with the product (the “Abstract view” of protection)⁴.
- 3 The standing of this theory seems to be already entrenched in the doctrinal architecture of Design law as a result of: 1) the inclusion in the Regulation of a limitation for the “acts of reproduction for the purpose of making citations or of teaching”⁵; 2) its consistency with several judicial decisions at both the national⁶ and European level⁷; 3) the growing efforts by the industry to register and protect Digital Designs⁸; 4) its strong support in the academic literature⁹ and, finally, 5) the increasing economic relevance of acts of immaterial exploitation of designs in the new ecosystem developing around

3D printing technology¹⁰.

- 4 At the time of writing, this general evaluation of the doctrinal foundation of Design law is made even more pressing by the recent Commission Proposal for amending the Design Regulation (“Commission Proposal”)¹¹. While the industry’s concerns regarding the growing threat of the use of 3D printing technology has been addressed in the newly introduced Article 19 (d), less clear is how this new provision will impact the protection of purely Digital Designs – namely, designs intended exclusively to be used in digital form or not intended to be printed. In the following discussion, possible futures of design protection will be canvassed.
- 5 Considering that the Commission Proposal aims to provide a clarification of the current scope of Design law¹², it is paramount that any amendment of the existing regime does not undermine the current level of legal certainty¹³. Looking at the present system, the study carried out by the Commission in 2016 (“Legal Review”) highlighted the existing confusion over the definition of the subject matter of design protection – in particular, regarding the concept of product¹⁴. The available empirical evidence also suggests that the design community finds the law confusing, blaming courts for this state of affairs¹⁵. A historical perspective reveals that, while courts bear some responsibility¹⁶, the uncertain scope of Design law seems to be a more endemic problem. Two factors help us to explain this situation.
- 6 The drafting of the Regulation took place in a state of diverging national practices, with such strong differences that any attempt at harmonisation

3 Commission, ‘Green Paper on the Legal Protection of the Industrial Design (Green Paper)’ (1991) III/F/5131/91-EN, para 2.1.2.

4 See Ana Nordberg and Jens Schovsbo, ‘EU Design Law and 3D Printing: Finding the Right Balance in a New E-Ecosystem’ in Ballardini et al. (eds), *3D Printing, Intellectual Property and Innovation: Insights from Law and Technology* (1st edn, Kluwer Law International 2017); Natalia Kapryna, ‘Limitations in the Field of Designs’ (2018) 49 IIC – International Review of Intellectual Property and Competition Law 41; Mikko Antikainen, ‘Differences in Immaterial Details: Dimensional Conversion and Its Implications for Protecting Digital Designs Under EU Design Law’ (2021) 52 IIC – International Review of Intellectual Property and Competition Law 137. The Commission also endorses this theory in his review: Commission, ‘The Intellectual Property Implications of the Development of Industrial 3D Printing (Commission study), (2020) doi/10.2873/85090.

5 Regulation (1) art 20(1)(c).

6 A notable case is BGH GRUR 2014, 175 Geburtstagszug (the Birthday Train case), a German case in which the registered design for the shape of a train was relied on to prevent reproduction of images of the train on the company’s commercial brochure.

7 Joined cases C-24/16 and 25/16 *Nintendo v. BigBen* ECLI:EU:C:2017:724.

8 Rainer Filitz, Joachim Henkel and Jörg Ohnemus, ‘Digital Design Protection in Europe: Law, Trends, and Emerging Issues’ [2017] ZEW – Centre for European Economic Research Discussion Paper No. 17-007 para 3.1.

9 See generally footnote 4.

10 Nordberg and Schovsbo (n 4) para 13.02.

11 Commission, ‘Proposal for a Regulation of the European Parliament and of the Council amending Council Regulation (EC) No 6/2002 on Community designs and repealing Commission Regulation (EC) No 2246/2002 (Commission Proposal)’ COM (2022) 666 final.

12 *ibid* 2.

13 Commission, ‘Staff Working Document Impact Assessment Report of the Commission Proposal’ SWD (2022) 368 final, 108.

14 Commission, ‘Legal Review on Industrial Design Protection in Europe (Legal review)’ MARKT2014/083/D, 12, 57-60.

15 Alexander Carter-Silk and Michelle Lewiston, ‘The Development of Design Law -- Past and Future: From History to Policy’ (2012) SSRN Electronic Journal 118.

16 See section “IV. *Nintendo v. BigBen*: towards a judicial recognition of the ‘abstract’ protection theory at the European level?”

was deemed “hopeless”¹⁷. The difficulty in coming to a common agreement stemmed from opposing normative conceptions of what Design law should protect: a clash between the “copyright approach” to design (epitomized by French Design law) and the “patent approach” (characteristic of the legislation of the Nordic countries)¹⁸. The problem was exacerbated by the variety of industrial interests that Design law was meant to protect, a factor that played an evident role in shaping early proposals¹⁹.

7 Despite these early obstacles, the adopted solution consisted in introducing a new design legislation with its own autonomous identity and rationale. The doctrinal foundations of this new legislative instrument were laid in the proposal for a “European Design law”, devised by the Max-Planck-Institute working group (“MPI Proposal”)²⁰. Despite a promising consistency and clarity of purpose, the principles expressed in the MPI Proposal were arguably tainted during their transposition into the EU legislation. During this process – later analysed more in detail – several amendments were introduced that have allegedly altered or at least blurred the scope of protection afforded by the legislation, most notably by including an exception to the right to *reproduce* a design for the purpose of *citation*²¹.

8 Questions on whether Design law could extend to “images appearing on a computer screen as a result of a program being loaded”²² – in other words, purely Digital Designs – were surprisingly already being discussed shortly after the enactment of the Regulation; the technological advancements of the past 20 years have however opened up possible new

forms of exploitation of designs – either by using them purely in a digital format (e.g., in the context of gaming) or with a view to print them as a new product – that were not fully anticipated at the time. New online platforms and business models have proliferated in response to the increase in accessibly priced 3D printing technology²³, the entrenchment of new social practices (e.g., the Maker Movement²⁴) based on the online sharing of Digital Design files (“DD file”), and the distribution of new software for the creation and modelling of DD files²⁵.

9 It is therefore useful to look at how seamlessly the Regulation has evolved to reflect these developments. The Commission’s regulatory response has largely been anticipatory rather than reactive. In fact, it mostly addresses what is the industry’s fear of future mass-infringement of designs rather than a present and documented threat. These concerns should however not be dismissed as unrealistic. DD files are already being illegally downloaded via platforms such as Pirate Bay²⁶, and legal claims for design infringement have been brought against DD file-sharing platforms²⁷. As a result of the mass adoption of 3D printing technology, the lowering of barriers to entry in terms of skills and tools required to create designs, as well as an increase in the economic value of designs destined for pure digital consumption (e.g., digital products available in the Metaverse²⁸), it is likely that litigation will increase if these platforms succeed in reaching a

17 ‘Rosconi Designs Working Party Report’ (1992) 2143/IV/62.

18 Annette Kur and Marianne Levin, ‘The Design Approach Revisited: Background and Meaning’ in Jens Schovsbo, Annette Kur and Marianne Levin (eds), *The EU Design Approach – A Global Appraisal* (Edward Elgar Publishing 2018) 4-6.

19 A notable example is the proposal of the “Treviso Group” in 1989, which was modelled on copyright law and had been favoured by the textile industry, a key market sector in northern Italy where the proposal originated. See Herman Cohen Jehoram, ‘Cumulative Design Protection, a System for the EC?’ (1989) 11 *European Intellectual Property Review* 83.

20 Reported in Michael Ritscher, *Auf dem Wege zu einem europäischen Musterrecht*, GRUR Int. 1990, 559–586.

21 Article 20 (1)(c) of the Regulation.

22 Anette Kur, ‘Protection of Graphical User Interfaces Under European Design Legislation’ (2003) 34/1 *International Review of Industrial Property and Copyright Law* 50, 58.

23 An important milestone in this regard was the expiry of the first patents in late 2000, which coincided with an increase in sales. See A Brief History of 3D Printing at <https://www.3dhubs.com/guides/3d-printing/> and Mendis et al., ‘Introduction – From the Maker Movement to the 3D printing era: opportunities and challenges’ in Mendis et al., *3D Printing and Beyond* (Edward Elgar Publishing 2019).

24 It could be described as a series of activities characterised by the use of digital tools and desktop fabrication machines (e.g., 3D printers) to design and produce objects, combined with an *instinctive online sharing of such creations*. See Chris Anderson, *Makers: The New Industrial Revolution* (Random House 2012) 21–22.

25 Dinusha Mendis and Phil Reeves, *The Current Status and Impact of 3D Printing Within the Industrial Sector: An Analysis of Six Case Studies* (Intellectual Property Office, 2015).

26 Pedro Malaquias, ‘Consumer 3D Printing: Is the UK Copyright and Design Law Framework Fit for Purpose?’ (2016) 6 *Queen Mary Journal of Intellectual Property* 321, 324.

27 *ibid* 325.

28 ‘What is the metaverse?’ <<https://about.facebook.com/what-is-the-metaverse/>>

broader audience.

- 10 Establishing more certainty over the liability of online users and platforms is necessary to safeguard the system of incentives for the creation and distribution of quality designs whilst promoting digital “creativity and innovation”²⁹. The aim of this article is to evaluate to what extent the current design regime offers protection to rightsholders against the sharing of a DD file, reviewing the jurisprudence, the legislative history of the Regulation, and the academic literature. Some tentative recommendations on possible solutions to reduce the uncertainty over the scope of protection of Design law will also be outlined. Further, as the writing of this article coincides with the submission of the Commission Proposal to its first reading, an opinion will be expressed on whether legislation in its current form sufficiently addresses the concerns individuated.

B. New frontiers: 3D printing technology and online sharing of DD files

I. 3D Printing and the Maker Movement – the threat of the “zero marginal cost society”

- 11 While it is important to reiterate that Digital Designs intended for a purely digital consumption are likely to become an increasingly relevant category of designs³⁰, there is no denying that the threat – or opportunity – of 3D Printing³¹ was a key motivation for the legislative reform³². At its most simple level, this technology consists in the reproduction of a digital model as a three-dimensional object by adding several layers of material³³.

29 Matthew Adam Susson, ‘Watch the World “Burn”: Copyright, Micropatent and the Emergence of 3D Printing’ [2013] *Innovation Law & Policy eJournal*, 39.

30 See Antikainen (n 4) 140.

31 For the sake of simplicity, we will treat 3D Printing and additive manufacturing as interchangeable.

32 Commission Communication, ‘Making the most of the EU’s innovative potential. An intellectual property action plan to support the EU’s recovery and resilience’ (2020) COM(2020) 760 final, 6-7.

33 Tuomi et al., ‘3D Printing History, Principles and Technologies’ in Ballardini et al. (eds), *3D Printing, Intellectual*

- 12 Its origins can be traced back to the creation of objects with the use of a laser in the late 1960s³⁴. Since its early days, the ability to create objects “impossible to mould” and unlock “effortless” creative ability were identified as the main advantages³⁵. Beyond the steady improvement of the technology and its reduction in terms of costs, the appearance of online platforms where DD files are created, shared, and downloaded has profoundly altered the economic dimension of 3D printing, shifting it towards a model where production is decentralised from an industrial to a much more granular level: the individual.

- 13 These new business models were also the catalyst for the growth of new social practices, such as the “Maker Movement”: a broad description of a series of activities characterised by the use of digital tools and desktop fabrication machines (e.g., 3D printers) to design and produce objects, combined with an *instinctive online sharing of such creations*³⁶. This movement is connected to the development of Open Design – the open collaborative approach for design creation predicated on sharing information online³⁷ – and the FaBLabs network – a series of spaces enabling makers to have access to the necessary equipment to make (almost) everything³⁸.

- 14 The profound impact that these new developments may have in the future is well-captured by Neil Gershenfeld when he comments that the “personal fabrication [of objects] will bring the programming of the digital worlds we’ve invented to the physical world we inhabit”³⁹. In other words, the merging of the digital and physical worlds opens new possibilities and reduces scarcity⁴⁰ by ushering us

Property and Innovation: Insights from Law and Technology (2017 Wolters Kluwer) 1-2.

34 Terry Wohlers, ‘Early Research and Development’ <http://www.wohlersassociates.com/history.pdf>

35 David Jones, ‘Ariadne’ Column (1974) *New Scientist* 80.

36 Chris Anderson, *Makers: The new industrial revolution* (New York: Crown Business 2012) 20-21.

37 Séverine Dusollier and Thomas Margoni, ‘Open design’ in Cornu-Volatron et al. (eds), *Dictionnaire des Biens Communs*, (2nd edn, Presses Universitaires de France 2021).

38 FabLabs originated from the mind of Neil Gershenfeld, himself inspired by the famous MIT course called How to Make (Almost) Anything at the MIT Center for Bits and Atoms.

39 Neil Gershenfeld et al., *Designing reality: How to survive and thrive in the third digital revolution* (Basic Books 2017) 17.

40 Mark A. Lemley, ‘IP in a World without Scarcity’ (2015) 90/2

into what has been called a “zero marginal cost society”⁴¹.

- 15 From the perspective of rightsholders, this scenario poses a serious risk of losing the ability to control the distribution and manufacture of products incorporating their designs, thus undermining their economic incentives to invest in the production of quality designs. In addition, 3D printing is also likely to contribute to an increase in infringements by simplifying the production chain of counterfeiting products and shortening its distribution channels⁴².

II. Online Sharing Platforms

- 16 There exists an increasing number of platforms catering to different needs and customers. Among the platforms currently registering the highest number of users we find Shapeways⁴³ and Thingiverse⁴⁴. Both platforms allow a growing number of users to create, edit and share digital designs, mostly as 3D printable models. They also act as an online repository of designs, hosting a high number of files.⁴⁵ More generally, both platforms have the effect of democratising the design creation process by empowering individuals to create their own designs and express their creativity⁴⁶.
- 17 Transactions between platform users are regulated by both legal and social norms. In a relatively recent report (2015), it was found that 65% of designers active on online platforms do not use any type of license to protect their rights when sharing their designs, notwithstanding the encouragement by these platforms to use licences such as Creative Commons, Commons Attribution and GNU Public

New York University Law Review 460, 461-3.

41 Jeremy Rifkin, *The Zero Marginal Cost Society* (Griffin 2014).

42 Nordberg and Schovsbo (n 4) 275.

43 <https://www.shapeways.com/>. The scale of their operations is impressive: as of December 2020, the company manufactured more than 21 million parts, with more than 1 million customers worldwide. See Shapeways’s Press Release of Report First Quarter 2022 Financial Results. Accessible at: <https://investors.shapeways.com/news-events/press-releases/detail/51/shapeways-to-report-first-quarter-2022-financial-results>.

44 <https://www.thingiverse.com/>

45 <https://www.thingiverse.com/about>.

46 See Thomas Margoni, ‘Not for Designers: On the Inadequacies of EU Design Law and How to Fix It’ 4 (2013) *JIPITEC* 3 225.

Licences⁴⁷. As pointed out by Mendis, it may sometimes be a deliberate choice by the designers to not claim any rights in their works⁴⁸. Alternatively, it could be interpreted as indirect evidence of the designers’ desire to self-regulate by adopting codes of conduct and internal rules.⁴⁹.

III. The elements of a Digital Design file

- 18 The sharing of a DD file is an integral part of the 3D Printing Process. A DD file contains the digital representation of a design, which is often created with the assistance of Computer-Aided Design (CAD) software, a common standard used in many different industries⁵⁰.
- 19 The information on the DD file created using the CAD software can then be saved in different file formats; the most common in 3D printing are the native DWG extension⁵¹ and the neutral STL⁵². They both act as a blueprint for the design, allowing it to exist digitally without any physical embodiment. A difference is that the DWG extension is used whenever the design is created and modelled exclusively digitally, whereas the STL extension is the standard format used for files scanned from an existing physical object.
- 20 Although they both contain the description of the surface geometry of the design, only the DWG file contains metadata allowing us to review the creation process and subsequently edit the design. On the other hand, the STL file is more limited in its capacity to represent the design; for example, it lacks information on colour and texture⁵³. It follows that the choice of the file format is likely to affect the overall impression of the design – a crucial test for determining the scope of protection.

47 Dinusha Mendis and Davide Secchi, ‘A Legal and Empirical Study of 3D Printing Online Platforms and an Analysis of User Behaviour’ (Intellectual Property Office 2015), 43.

48 *ibid.*

49 Nordberg and Schovsbo (n 4) 278.

50 Although throughout the article the more general term DD file is used, it often implies the use of a CAD file.

51 ‘The DWG File Specification’ (Scan2CAD 2017) <https://www.scan2cad.com/blog/dwg/file-spec/>

52 Tuomi et al. (n 33) para 1.04.

53 ‘STL files’. <<https://www.adobe.com/creativecloud/file-types/image/vector/stl-file.html#>>

- 21 This is a powerful reminder of the current limitations of this technology. In fact, except in the case of very simply shaped objects, the output of the 3D printing process is rarely a finished product; the scanning and printing of the object also entail a significant loss of detail, often capturing only the general external shape of an object⁵⁴. The 3D printing infrastructure is also complex and still relatively expensive, especially for specific materials such as metals⁵⁵. For all these reasons, and despite the prevailing policy discourse, it is not difficult to imagine that the unauthorised use of purely Digital Designs – either as NFTs or in a gaming context – is likely to become a more significant issue for rightsholders than 3D printing in the near future. For this reason, it is even more important to establish whether the sharing of a DD file may amount to the “use of a design”.

C. Design law and Digital Designs

- 22 In order to understand Design law, we must appreciate its justification and. These fundamental questions underpin the notion of what Kur and Levin have dubbed the “Design approach”⁵⁶, as expressed in the original MPI proposal. Facing a highly fragmented internal market, Design law promotes and protects the marketing of high-quality products: in saturated markets composed of highly substitutable products, the function of designs resides in its diversification effect – the “opportunity for differential advantage in the marketplace” that ultimately influences consumer choices⁵⁷. However, and differently from trademarks, the market function of a design is not to convey a message (e.g., origin) but rather to appeal by virtue of its appearance.
- 23 The MPI proposal became the blueprint for the current EU design legislation⁵⁸. The unique identity of this right has been recently confirmed by the European Commission Impact Assessment, where it was said that well-designed products “create a competitive advantage for the producers”.⁵⁹

54 Nordberg and Schovsbo (n 4) 278.

55 *ibid.*

56 Kur and Levin (n 18).

57 Mariëlle Creusen and Jan Schoormans, ‘The different roles of product appearance in consumer choice’ (2005) 22/1 *Journal of product innovation management* 63.

58 Kur and Levin (n 18) 7-8.

59 Commission, ‘Inception impact assessment of the Review of the Design Directive and Community Design Regulation’ (2020) Ares(2020)7065286, 1.

I. The legal definition of a Design – sufficiently flexible to encompass Digital Designs?

1. Design as the appearance (of the registration) of a product

- 24 At the heart of Design law lies the notion of the “appearance” of a product⁶⁰. There is no requirement for designs to be either aesthetically pleasing nor should any consideration be paid to the cognitive effect of the design on consumers. The definition of ‘designs’ encompasses both 2D designs (e.g., an image or ornaments) and 3D designs (e.g., models)⁶¹.
- 25 There is a general consensus in the literature that Design law only protects the visual features of a design to the exclusion of the other senses⁶²; the argument rests on the limiting effect of the word “appearance”, which implies that the design must be capable of being perceived visually, as well as on the modus of assessment of individual character as described in Recital 14, whereby the determination is to be made by reference to an “informed user viewing the design”⁶³. It is also worth mentioning that considerable differences exist in the jurisprudence of EU domestic courts on this point⁶⁴.
- 26 Despite that a literal interpretation of the original Green Paper seems to suggest that all features perceivable by the human senses should be in principle treated as features protectable by design rights⁶⁵, there is strong support for requiring that such features result from the appearance of a design in order to be considered⁶⁶. This confirms the overarching importance of the “appearance” of a design in delimitating the subject matter which can be protected by the Design law⁶⁷.

60 Regulation (n 1) art 3. See Charles-Henry Massa and Alain Strowel ‘Community design: Cinderella revamped’ (2003) 25/2 *European Intellectual Property Review* 68, 71.

61 Green Paper (n 3) 64.

62 Bently et al., *Intellectual Property Law*, (Fifth edn, Oxford, Oxford University Press 2018) 744; David Musker, *Community Design Law Principles and Practice*, (Sweet & Maxwell 2002) 12.

63 *ibid.*

64 Legal Review (n 14) 54-64.

65 Green Paper (n 3) para 5.6.1.1.

66 Nordberg and Jens Schovsbo (n 4) 281.

67 Legal Review (n 14) 157.

- 27 The appearance of a design is to be protected as represented in the application for registration, highlighting the crucial role of the registration in specifying the features of the design and laying claim to its protection⁶⁸. While courts may consider actual examples of the registered design as embodied in products, the scope of protection is exclusively determined by the representation of the design as registered⁶⁹.
- 28 The choices made when registering a design can have important consequences, as the judgement in *PMS International v Magmatic*⁷⁰ demonstrates. In this judgement, the court describes how, for example, graphically representing the design “in monochrome, with grey-scale shading” will be interpreted by courts as a claim to the design in all possible colour variations⁷¹. The utmost importance attributed to these choices reflects the fact that the applicant can set “the level of generality at which the design is to be considered”⁷². In other words, “the selection of the means for representing a design is equivalent to the drafting of the claims in a patent: including features means claiming them”⁷³. The technical means adopted to represent a design are also of consequence. For example, a CAD file is better capable to show “subtle shadings and colours as well as decoration”⁷⁴.

2. Assessing the Novelty of a Digital Design

- 29 At its core, the concept of novelty means that an identical design – or one that differs only in immaterial details – must not have been made available to the public before the date of filing⁷⁵. Under the Regulation, “making available to the

public” is treated as synonymous with “disclosure”, a concept broadly defined⁷⁶ as generally covering all “acts which make the design public”⁷⁷.

- 30 This broad interpretation is counterbalanced by the “safeguard clause”, an inbuilt limitation that specifies that a disclosure should be disregarded if it could not have become known “in the normal course of business to the circles specialised in the sector concerned”⁷⁸. Once again, the appearance of the design plays an essential role in determining what may amount to a disclosure: both the literature⁷⁹ and the jurisprudence⁸⁰ support the proposition that a written description cannot suffice to disclose a design.
- 31 Although it is currently rare for designs to fail due to lack of novelty, this proviso could gain importance if the uploading of a DD file on a website will be treated as tantamount to an absolute disclosure. Interestingly, the case law seems to be pointing in this direction. For example, in a decision of the EUIPO’s Board of Appeal – *Crocs v Holey Soles Holdings* – the effect of uploading an image of a registered design on the company website was deemed to disclose the design to the audience targeted by the website⁸¹.
- 32 In so far as it remains publicly accessible, information uploaded on public websites or online databases should therefore be considered a disclosure⁸². In addition, access restrictions are not sufficient to make the disclosure obscure as long as the requirements for access can be reasonably met by the professional’s circle concerned⁸³. For this reason, it is safe to assume that DD files uploaded to a website amount to a disclosure as long as it is capable to

68 Bently et al. (n 62) 758.

69 *Samsung Electronics (UK) Ltd v Apple Inc. (No 1)* [2012] EWHC 1882 (Pat) para 8.

70 *PMS International Group Plc v Magmatic Ltd* [2016] UKSC 12, 2016 RPC 11.

71 *ibid* para 18.

72 Lewison J, *Procter & Gamble v Reckitt Benckiser (UK) Ltd* [2007] FSR 13, para 48.

73 Martin Schlotelburg, ‘The Community Design: First Experience with Registrations’ (2003) 25/9 *European Intellectual Property Review* 383, 385.

74 Jacob LJ, *Procter & Gamble (73)* para 40.

75 Regulation art 5.

76 Regulation art 7. See EUIPO Third BoA *Watt Drive Antriebsstechnik v. Nanotehnologija* (2013) Case R 1053/2012–3 para 13–18.

77 Arnold J, *Magmatic v PMS International Group* [2013] EWHC 1925, para 33.

78 Regulation art 7(1).

79 Bently et al. (n 62) art 765.

80 Joined Cases T-22/13 and T-23/13 *Senz Technologies v. OHIM* EU:T:2015:310, para 24.

81 EUIPO Third BoA *Holey Soles Holdings Ltd V Partenaire Hospitalier International (Phi)* (2010) R 9/2008–3.

82 Uma Suthersanen, *Design Law: European Union and United States of America* (2nd edn, Sweet & Maxwell 2010) 95.

83 EUIPO Invalidation Division *Napco Beds B.V. v Koninklijke Auping B.V.* (2015) 000009312.

reveal the outer appearance of the design⁸⁴.

3. The Product requirement – are Digital Design files products?

- 33 In the Regulation, a product is defined as “any industrial or handicraft item, including *inter alia* ... graphic symbols and typographical typefaces”⁸⁵.
- 34 There is little by way of clarification of what an industrial or handicraft item may be, with commentators struggling to determine how far the concept of product may stretch⁸⁶. A tension is apparent: the intuitive association of products with material objects is contradicted by the addition of symbols and typefaces within the scope of the definition.
- 35 The EUIPO guidelines do not provide a conclusive view on how to solve this conundrum, although they note that “designs of screen displays and icons, graphic user interfaces and other kind of visible elements of a computer program”⁸⁷ are in principle eligible for registration under Class 14-04 of the Locarno Classification. This class has experienced a steady growth in applications, despite that a considerable share of them can be attributed to a limited number of enterprises (e.g., Microsoft)⁸⁸. This growth highlights the increasing commercial value of digital designs. While Class 14-04 offers a modest degree of certainty to specific categories of digital products (e.g., GUIs), it remains unclear where the boundaries between products and non-products are to be drawn, and on which side DD files may fall. Three potential interpretations can be envisaged.
- 36 First, we could resolve the tension by treating all industrial or handicraft items as products, affording protection to articles that do not fall within this “narrow definition” only when a direct or indirect specific category is available – e.g., the inclusion of a graphical symbol as a basis for treating GUIs as a “product”. This is an approximation of the approach

84 Viola Elam, ‘CAD Files and European Design Law’ 7 (2016) *JIPITEC* 146 para 73.

85 Regulation art 3(b).

86 Bently et al. (n 62) 745.

87 EUIPO, ‘Guidelines for Examination of Registered Community Designs’ (2022) para 4.1.3.

88 Henkel et al., ‘Digital design protection in Europe: Law, trends, and emerging issues’ (2017) *ZEW Discussion Papers* no 17-007, 9.

adopted by Margoni⁸⁹.

- 37 On the other hand, we could try to infer a common interpretation of what a product is by identifying the common element – *ejusdem generis* – in the list of items included in the Regulation. While this approach has much to commend, it suffers a severe limitation: the lowest common denominator is difficult to find.
- 38 A third option, suggested by Antikainen, is to treat all digital designs as products, “as long as their appearance is visible”⁹⁰. The advantage of this option is to avoid arbitrary distinctions and ensure that Design law finds wide application in the digital world. However, the price to pay for the adoption of this solution is that the “product requirement” becomes redundant, confined to a simple obligation to identify the most suitable Locarno class under which to register the design.
- 39 In light of this, it should be considered how DD files could be potentially registered. Even when adopting a conservative interpretation of the product requirement, there are several options to register a DD file. A first possibility would be to register a DD file under the “printed matters” classification (Class 19-08), drawing an analogy with the registration of blueprints for architectural structures – such as gardens and buildings⁹¹.
- 40 Another option is to register a digital file – e.g., a CAD file – as a “blueprint” (Class 19-08). The EUIPO guidelines treat the blueprint and the physical object represented by the technical drawing as distinguishable. Since design only protects the appearance of the product as registered, the blueprint of, for example, a house would not disclose the appearance of an actual house, only of the blueprint for the house⁹².
- 41 However, it must be noted that the Commission report (2020) casts doubts on both solutions. Relying on Article 3 of the Regulation, the report notices how a DD file does not possess the features described in Article 3(a) – *inter alia*, it has no “lines, contours, shape, texture”⁹³. As such, it cannot be a product.

- 42 While the argument has some traction, it arises from an unduly formalistic analysis of the definition of

89 Margoni (n 46) 228.

90 Antikainen (n 4) 148.

91 Nordberg and Schovsbo (n 4) 282.

92 EUIPO Guidelines (n 87) para 4.1.1.

93 Commission study (4) 63.

a product, ignoring the inherently flexible nature of the product requirement (as discussed above). A better approach would be to more generally recognise that a DD file per se cannot be protected because they are not visible. What can be protected is only the digital representation – “the appearance” – caused by the execution of the software. This would shift the focus from the product – a highly incoherent concept – to what is actually visible and worthy of protection.

- 43 At least in the context of sharing DD file, the third option proposed by Antikainen appears most suitable in so far as it guarantees that digital designs are treated coherently and in a technologically neutral way. In addition, this approach would force us to question what useful purpose the product requirement is serving. The marginal role of this requirement and its inability to block registrations suggest either that the purpose is unclear or that it is ineffectively pursued.
- 44 However, a possible role for the product requirement seems to remain. Not limiting protection by any specific product entails that the design corpus we consider when assessing the validity of a design is equally unrestrained, causing therefore more designs to be potentially declared invalid⁹⁴. Reform in this area of the law should therefore not be undertaken lightly.

4. The exclusion of computer programs from the definition of design

- 45 Computer programs cannot constitute a product for the purposes of Design law, yet no definition delimiting the scope of this exclusion is provided⁹⁵. A possible explanation for this omission is the desire to respect the principle of technological neutrality. It is clear that the notion of computer program should include – as a minimum – the object and the source code; Nordberg and Schovsbo maintain it should also include the preparatory works as well as the visual representation of the algorithms⁹⁶.
- 46 An official justification for the exclusion of computer programs from the definition of “product” can be found in the Explanatory Memorandum attached to

the initial 1993 Regulation proposal⁹⁷; the Commission wanted to ensure that the protection of computer programs was to be regulated exclusively by the Software Directive⁹⁸, avoiding any cumulation based on the “look and feel” of the computer program⁹⁹. The non-protection of the overall visual appearance of a computer program does not however exclude the application of Design law to individual graphic elements¹⁰⁰. This interpretation mirrors seamlessly the judgement of the CJEU in C-393/09 BSA¹⁰¹.

- 47 It remains therefore possible that the “results of running a computer program” (e.g., the design of symbols displayed on the screen) could be protected, as well as any specific graphic designs for individual elements such as icons¹⁰². For this reason, the exclusion of computer programs should not be an obstacle to the protection of a DD file.

D. The scope of protection of Digital Designs

- 48 Upon registration, protection is extended to any design producing the same overall impression on the informed user¹⁰³. This distinctive overall impression is also known as the individual character of a design¹⁰⁴. Unlike in trademark law, there is no requirement for similarity of products: protection covers all categories of products¹⁰⁵. However, the nature of the product to which the design is applied must be taken into consideration when assessing its overall impression, as well as the industrial sector to which it belongs¹⁰⁶.

94 Bernard Volken, ‘Requirements for Design Protection: Global Commonalities’ in Hartwig Henning (ed) *Research Handbook on Design Law* (Edward Elgar Publishing 2021) 12.

95 Regulation (n 1) art 3(b).

96 Nordberg and Schovsbo (n 4) 279.

97 EU Commission, ‘Proposal for a European Parliament and Council Regulation on the Community Design (1993 Regulation Proposal)’ COM (1993) 344.

98 Directive 2009/24/EC of the European Parliament and of the Council of 23 April 2009 on the legal protection of computer programs (2009) OJ L 111 16–22 (Software Directive).

99 1993 Regulation Proposal (n 97).

100 Kur (n 22).

101 C-393/09 BSA v. Ministerstvo Kultury ECLI:EU:C:2010:81.

102 Commission study (4) 61.

103 Regulation (n 1) art 10.

104 *ibid* art 6.

105 C-361/15 P *Easy Sanitary Solutions v Group Nivelles and EUIPO* ECLI:EU:C:2017:720 para 96.

106 Regulation (n 1) recital 14.

- 49 The assessment consists of a four-step examination: 1) identify the sector to which the product(s) belong; 2) construct and delineate the profile of the informed user of those products¹⁰⁷; 3) assess the designer’s degree of freedom in the creation of the design; and 4) compare the designs at issue in terms of their overall impression¹⁰⁸.
- 50 It is submitted that the identification of the sector of the DD file (step 1) and the determination of the degree of freedom attributed to the designer (step 3) present the most interesting conceptual issues with regard to DD files in terms of implications for assessing the scope of protection. For this reason, after briefly discussing the characteristics of the informed user (step 2), the following sections will focus on how the uncertainty of the sector is likely to affect the identity of the informed user and what the constraints to the freedom in the creation of digital designs are. There is an underlying common to these questions: is the current conceptual architecture sufficiently flexible to adapt to digital designs?

I. Imagining the informed user – towards an informed user of Digital Design files?

- 51 The informed user determines the standard by which the design is to be judged. The attributes and knowledge imputed to this fictitious character affect the importance to be attributed to differences in the designs¹⁰⁹. Positioned in between an expert in the sector and the “average consumer”¹¹⁰, the informed user “has knowledge of the design corpus and the design features included in the designs existing in the sector concerned”¹¹¹, is interested in the products,

107 It should be noted that informed user is a legal construct. This fictional character is constructed in accordance with the purpose of the products in which the design is intended to be incorporated; the informed user then is used to determine the the degree of awareness of the prior art and the level of attention in the comparison of the designs. See C-281/10 *PepsiCo v Grupo Promer Mon Graphic* (GC) ECLI:EU:C:2011:679 para 53, 55, 59; T-9/07 *Grupo Promer Mon Graphic v OHMI – PepsiCo (Représentation d’un support promotionnel circulaire)* (GC) ECLI:EU:T:2010:96 para 62.

108 T-526/13 *H&M Hennes & Mauritz v OHMI – Yves Saint Laurent (Sacs à main)* (GC) ECLI:EU:T:2015:614 para 32-34.

109 Bently et al. (n 62) 775.

110 *PepsiCo* (n 107) para 53.

111 *Samsung Electronics (UK) Ltd v Apple Inc. (No 1)* [2012] EWHC 1882 (Pat) para 34, referring to *PepsiCo* (n 107) para 54 and

and shows “a relatively high degree of attention when he uses them”¹¹². In addition, whether the informed user would make a direct comparison between the designs depends on the practices and customs in the “sector concerned”, as well as the “handling to which [the product in question] is normally subject”.¹¹³ Although it is unclear how the “sector concerned” is to be identified exactly, recital 14 suggests that, in assessing the individual character, attention must be paid to “the industrial sector to which [the products in which the design is applied/incorporated] belongs”¹¹⁴.

- 52 The uncertainty in the identification of the sector affects the analysis of the identity of the informed user, as illustrated by the following example. Imagine that the registered design for a bottle opener is faithfully reproduced in a CAD file. The question would then be: who is the informed user? Should the sector be inferred from the product in which the design is applied (the infringing product) or the product represented by the design as per the registration, or again, the product in which the design was intended to be incorporated, as specified in Article 36(2) of the Regulation? In answering these questions, Elam submits that in the future the informed user could be identified in “a user of a 3D platform, who wants to manufacture the bottle opener”¹¹⁵. The consequence of such a finding would be to attribute to the informed user knowledge of the “specific methods and techniques” of the creation of Digital Designs¹¹⁶. In turn, this would likely alter the assessment of the overall impression produced on the informed users, especially when differences between designs can be attributable to the specific technique or nature of the program used.

II. The Freedom of the Digital Designer

- 53 Under Art 10(2), the margin of freedom enjoyed by the designer when developing the design – the design freedom – is a crucial element in the assessment of

59.

112 *PepsiCo* (n 107) 59.

113 *ibid* para 55 and C-102/11 P *Herbert Neuman v EUIPO/José Manuel Baena* ECLI:EU:C:2012:641 para 57.

114 Regulation (n 1) recital 14.

115 Elam (n 84) para 85.

116 *ibid* 93.

the scope of protection¹¹⁷. Several factors may curtail the freedom of the designer. These limitations are not confined to the technical function of the product but encompass all other constraints affecting the design¹¹⁸ such as, for example, the customs, expectations, and regulations in the industrial sector of the product concerned¹¹⁹, as well as the saturation of the market in terms of already existing designs for the particular product¹²⁰. As a guideline, we can say that the more freedom attributed to the designer, the more differentiation will be required before a product can be considered to produce a different overall impression vis-à-vis other designs¹²¹.

- 54 It is often maintained that purely Digital Designs generally enjoy a very high degree of freedom¹²²; however, this often neglects important constraints and limitations under which the designers are operating. An illustrative example of this is the *TeamLava case*¹²³ where the court properly identified the multiple limitations that the designer had to respect when developing the design for computer icons, such as the size of the screen and other technical specifications.
- 55 The picture becomes more complex when we look at designs specifically developed to be suitable for 3D printing (“Hybrid Designs”). In such a case, the printer’s specifications (e.g., height, size), and the physical limits of the material used (e.g., the ‘minimum wall thickness’)¹²⁴ may act as constraints. At the same time, these limitations are partially offset by the ability to create complex geometries which significantly enhances the designer’s freedom¹²⁵.
- 56 A more serious challenge to the existing legislative framework is that, in some cases at least, it is not possible to distinguish between a purely Digital Design from a Hybrid Design without first

inquiring into the actual intentions of the designer. It is therefore highly problematic that the design freedom – and consequently, the scope of protection – may depend on the subjective intentions of the designer.

- 57 However, a practical solution can be envisaged: As long as the appearance of the Digital Design is determined by the product it purports to represent, the degree of design freedom should reflect the technical or functional considerations normally attached to the designing of the product¹²⁶. Although admittedly this approach raises several conceptual problems, these difficulties stem from the ambiguity of the product requirement and the unresolved conflict between immaterial and material forms of exploitation of designs.

III. The overall impression test in the context of dimensional conversions

- 58 This section considers the effects of the dimensional conversion (3D to 2D, or vice versa) on the overall impression produced by a design: would an informed user perceive a 2D design as producing a different overall impression than its counterpart in 3D form? In keeping with the example of the screwdriver, would the digital reproduction (e.g., reproduced by an eBook reader) of the appearance of its design infringe the registered design?¹²⁷
- 59 It is possible to argue that a dimensional conversion necessarily entails a different overall impression as the informed user is unlikely to be confused¹²⁸. An opposite argument would be that a mere digital conversion cannot produce a different overall effect as the purpose of such reproduction is to faithfully replicate the existing design in a 2D form¹²⁹. Due to the paucity of rulings addressing this issue¹³⁰, it is not possible to conclusively settle which position should be preferred. However, replacing the overall impression test with a confusion test is a dangerous course to take as the latter may be considerably more

117 Regulation (n 1) art 10(2) and recital 14.

118 *Procter & Gamble* (n 72) para 29. See also Bently et al. (n 62) 779.

119 11/08 *Kwang Yang Motor v OHIM* (2011) (GC) ECR II-265 para 27 and 33; *Grupo Promer* (n 107) para 67 and 70.

120 *Elam* (n 84) para 95.

121 *Kwang Yang Motor* (n 119) para 33.

122 Antikainen (n 4) 155–56.

123 EUIPO Third BoA *TeamLava LLC v. King.com Limited* (2016) Case R 1951/2015-3 para 43.

124 *Elam* (n 84) para 96.

125 *ibid* 97.

126 Antikainen (n 4) 156.

127 *ibid* 45.

128 Margoni (n 46) para 45.

129 Malaquias (n 129); Antikainen (n 4).

130 Darren Smyth, ‘How Is the Scope of Protection of a Registered Community Design to Be Determined?’ (2013) 8 *Journal of Intellectual Property Law & Practice* 258.

stringent¹³¹.

60 It is also important to note that the informed user, in assessing the overall impression, will automatically disregard elements “that are totally banal and common to all examples of the type of product in issue”, concentrating instead on “features that are arbitrary or different from the norm”¹³². This could mean that the informed user may not notice differences attributable to a change of format, or other features which could be deemed trivial, common, or conventional.

61 Moreover, while dimensional conversion could be relevant for unregistered designs¹³³, this is less so for registered designs. After all, the scope of protection of the design is determined by the design as registered¹³⁴ while the existence of a physical product embodying that design is not necessary for protection to be granted¹³⁵. In other words, most of the cases of design infringement involve some form of “dimensional conversion”: namely, a comparison between the graphical representation of the design as registered¹³⁶ and the infringing 3D product^{137,138}.

62 Looking at the matter from a more technical perspective, the overall impression of a design may

131 Lack of confusion is not sufficient to exclude a finding of same overall impression, although confusion could be evidence of it.

132 *Grupo Promer* (n 107) para 74.

133 Under Article 11, it is *inter alia* the publication of the design which triggers its protection as an unregistered design (UCD).

134 The new proposal for a Design Regulation further reinforces this by specifying in Article 18a that only the ‘features of the appearance ... of a design which are shown visibly in the application for registration’ shall be protected. See Commission Proposal (n 11) art 18a.

135 *Elam* (n 84) para 52.

136 Council implementing Regulation No 6/2000/EC (2002) No 2245/2002 art 4.

137 Adopting a dicta by Kitchen LJ: “The scope of the protection must be discerned from the graphical representation and the information it conveys”. Kitchen LJ, *Magmatic v PMS International Group* [2014] EWCA Civ 181 para 31.

138 The courts have not treated the informed user as having any problem dealing with such cases so we should not expect, following this logic, any more difficulty in perceiving the distinctive character of two designs when both are in 2D – e.g., the registered design compared with a digital 2D reproduction.

be substantially affected by the technique used to convert it – e.g., either by printing or digitalising it with the use of a 3D scanner¹³⁹. For example, limitations in the technology itself may cause a loss of detail or intensify the presence of noise in the scan of the surface of the object.

63 Finally, the ability of the applicant to determine the technical means of representation, as well as the level of specificity and detail of the design represented¹⁴⁰ is likely to considerably affect the scope of protection. Whether dimensional conversions are covered by the registered designs is therefore not an issue that can be resolved in the abstract without reference to a specific design but rather depends on an evaluation on a case-by-case basis. There seems to be no reason why dimensional conversions should not fall within the scope of protection of design rights.

E. Drawing the boundaries of the right to “use a design” – a critical review of the “abstract protection theory”?

64 Article 19 states that a design registration confers on its holder the exclusive right to “use a design”, a concept which includes at least the right to authorise the “making, offering, putting on the market, importing, exporting, or using of a product in which the design is incorporated or to which it is applied”¹⁴¹.

65 Bently maintains that design rights should be limited to activities of the same nature as those listed in Article 19¹⁴²; it follows from this reasoning that there is no infringement of a design without *the use of a product*, a conclusion further reinforced by a literal interpretation of recital 14 of the Regulation. Under this approach – the “concrete” view of protection (“Concrete view”) – “use of a design” becomes synonymous with “use of a *product* in which the design is incorporated/applied”.

66 An opposite position is taken by the proponents

139 For example, 3D Laser Scanning allow to digitalise only object surfaces within “the line of sight” of the instrument, excluding therefore the internal – albeit visible – features. See ‘3D Laser Scanning Limitations’ <https://www.engineersedge.com/inspection/3d_laser_scanning_limitations.html> accessed 14 May 2022.

140 *Procter & Gamble* (73) 48.

141 Regulation (n 1) art 19.

142 Bently et al. (n 64) 972.

of the so-called “abstract” view of protection (“Abstract view”), which argues that ‘in addition to the making, offering, ... of a design’ the exclusivity also covers *immaterial forms of use* of a design¹⁴³. Such an interpretation, the argument goes, is consistent with the intention of the drafters to not unduly limit the concept of “use of a design” in anticipation of future technological developments¹⁴⁴. Under this theory, the scope of design protection extends to the “design as such”, independently of the product in which it is incorporated.

I. Examining the doctrinal arguments in favour of the “abstract” protection theory

67 Kapyrina provides one of the most elaborated arguments in favour of extending the scope of protection to immaterial uses of the design¹⁴⁵. The argument goes as follows: Recital 7 of the Regulation directs Member States to grant “enhanced protection” for the purpose of encouraging innovation and the development of new products; this “enhanced protection” extends beyond the design rights as construed in the pre-harmonisation era in the jurisprudence of the CJEU, which limited design protection to the right to “prevent third parties from manufacturing and selling or importing, without its consent, *products incorporating the design*”¹⁴⁶. According to Kapyrina, the adoption of the Regulation marked a shift in the interpretation of the CJEU, as evidenced by the court’s explicit recognition that design rights grant protection to ‘*the appearance of the product*’¹⁴⁷.

68 It must nonetheless be noted that this argument relies on a selective reading of the case law. In particular, the author relies on *C-238/87 AB Volvo* case¹⁴⁸ to demonstrate how – pre-harmonisation – the Concrete view was largely accepted as valid by the CJEU, a position from which it departed in post-harmonisation cases such as *C-23/99 Commission*

*c/France*¹⁴⁹. However, it should be noted how in *C-238/87 AB Volvo* the preliminary question referred to the Court concerned a UK Registered Design; in specifying that the product must be incorporated in the design, the CJEU merely took notice of the fact that, under the national law then in force, a design needed to be “applied to an article by any industrial process or means”¹⁵⁰. Rather than a policy change, the different formulation used in the in *C-23/99 Commission c/France*¹⁵¹ may be attributed instead to the differences in the definition of design in the Directive¹⁵². Whether this also imports a shift in the scope of protection is exactly the question in need of an answer. Finally, the case is an infringing proceeding on quantitative restrictions of goods and does not purport to give an interpretation on the scope of protection of design rights and, most importantly, does not concern a form of immaterial exploitation of a design – the cited portion of the judgement refers instead to “the manufacturing, sale and importation of products”¹⁵³.

69 Looking now to more recent developments in the jurisprudence, the German Case I ZR 56/09 *Deutsche Bahn v Fraunhofer-Gesellschaft*¹⁵⁴ is often cited as a judicial recognition of the Abstract view¹⁵⁵. In this case, the German Federal Court found that the reproduction of the design of the train (ICE 3) in the trade fair catalogue infringed the rights conferred by the registered design under § 38 (1) *Geschmacksmustergesetz*^{156, 157}.

70 Considering that the wording of § 38 (1) is identical

143 Antikainen (n 4).

144 Mario Franzosi (ed), ‘European Design Protection: Commentary to Directive and Regulation Proposals’ (1996) 20 *European Intellectual Property Review* 131.

145 Kapyrina (n 4).

146 *C-238/87 AB Volvo & Erik Veng* ECLI:EU:C:1988:477.

147 *C-23/99 Commission c/France* ECLI:EU:C:2000:500 para 42.

148 *AB Volvo* (n 146).

149 *Commission c/France* (n 147).

150 Registered Design Act 1949, s 1(1).

151 *Commission c/France* (n 147) para 42.

152 Directive 98/71/CE of the European Parliament and of the Council of 13 October 1998 on the legal protection of designs (1998) L 289/28 art 1(a).

153 *Commission c/France* (n 147) para 42: “Use of the appearance of the original design” refers to the manufacturing of products made to that design.

154 BGH ZR 56/09 *Deutsche Bahn v Fraunhofer-Gesellschaft* (7 April 2011).

155 David Stone, *European Union Design Law: A Practitioners’ Guide* (Oxford: Oxford University Press, Incorporated 2016) 470; Nordberg and Schovsbo (n 4) 284-5.

156 *Deutsche Bahn* (n 154) para 29-30.

157 Gesetz über den rechtlichen Schutz von Mustern und Modellen (*Geschmacksmustergesetz*) (2004) BGBl. I S. 390. See Nordberg and Schovsbo (n 4) 285.

to Article 19(1), this finding reinforces the idea that it is possible to interpret the Regulation as extending to immaterial uses of the design¹⁵⁸. More precisely, the adoption of this interpretation would mean that the aesthetic features of the design are protected *per se*. The question is then whether the CJEU should follow this approach.

- 71 It must be first noted that the case is not binding on EU courts. Moreover, the interpretation of the national court seems to directly follow from the tradition in German jurisprudence to conceive – pre-harmonisation – design protection as derivative of copyright (the *Kleines Urheberrecht* doctrine)¹⁵⁹.
- 72 Nonetheless, in 2015 the German Federal Court of Justice explicitly overruled this long-standing doctrine by recognizing that, after the implementation of the Design Directive, Design law was to be considered as hermeneutically independent of copyright law¹⁶⁰. In doing so, the Federal Court weakened the *ratio decidendi* of the *Deutsche Bahn* case. It is unlikely that the CJEU in the future will ever consider the decision to be a persuasive authority in the determination of the scope of design protection.

II. Nintendo v. BigBen: towards a judicial recognition of the “abstract” protection theory at the European level?

- 73 In Joined Cases C-24/16 and C-25/16 *Nintendo*, the CJEU held that the inclusion on a website of images of goods corresponding to a registered design constitutes an act of reproduction for the

purpose of making citations¹⁶¹. In confirming the applicability of the limitation in Article 20(1)(c), this judgement is the first explicit recognition that the mere reproduction of an image of a design on a webpage may fall within the concept of “use of a design” under Article 19(1). This seems to constitute an endorsement of the Abstract view, insofar as it implicitly extends the scope of protection to cover both material and immaterial reproductions of a design. In its most extreme interpretation, it follows from this judgement that any form of reproduction would be covered by the design right.

- 74 The decision’s importance should however not be overstated. After all, the literal text of the provision that the CJEU was asked to interpret referred to an “act of reproduction for the purpose of making citations”¹⁶². The conclusion of the court was to the same extent predetermined by the inclusion of a citation exception in the legislation. As it will be discussed later, it is difficult to justify its existence unless design rights could be infringed by bidimensional reproductions – whether digital or printed. Any other interpretation would render the scope of this exception incredibly narrow, raising the question of why it was included in the first place.
- 75 In other words, it appears that the judgement merely confirms the literal reading of the Regulation without really engaging with the underlying conceptual tensions between Article 19 – referring to “use of a product” and thus supporting the Concrete view – and Article 20 – which seemingly assumes the possibility that design rights may be infringed simply by reproducing the design. A textual and systematic analysis of these provisions is inconclusive, making it necessary to focus on the drafting history of the Regulation.

- 76 For present purposes, it suffices to say that the CJEU simply accepted the Abstract view without spending much time considering the issue. However, what the judgement does not clarify – therefore remaining a contentious issue moving forward – is how broadly the concept of reproduction should be interpreted, a point that was briefly touched upon in the Advocate-General’s Opinion. The discussion is limited to a few paragraphs, where the AG cites a publication by Kaesmacher and Stamos to support an interpretation “as broad as possible” of the concept of reproduction¹⁶³. The AG then concludes his Opinion by treating the matter as obvious: the publication of

158 France is another example of a jurisdiction where reproduction of a design of an umbrella was deemed to infringe rights in the registered design; see Paris Court of Appeal, pôle 5, ch. 2, 27 Nov. 2015, *S.A.S. Piganiol c/S.A.S. Publicis Conseil et al.*, No. 13/21612, JurisData No. 2015-029315

159 Design rights as *kleines Urheberrecht*: “... zwischen dem Urheberrecht und dem Geschmacksmusterrecht kein Wesensunterschied, sondern nur ein gradueller Unterschied bestehe” (unofficial translation: “[...] there is no difference in essence between copyright law and design law, but only a difference in degree”, in *Geburtstagszug* (n 6) para 18. See also Kur (n 22); Kur and Levin (n 18) 53.

160 *Geburtstagszug* (n 6) para 33-40; discussed in Ansgar Ohly, ‘The Case for Partial Cumulation in Germany’ in Estelle Derclaye (ed), *The copyright/design interface: past, present and future* (Cambridge: Cambridge University Press, 2018).

161 *Nintendo* (n 7) para 86.

162 Regulation (1) art 20(1)(c).

163 Dominique Kaesmacher and Theodora Stamos, *Brevets, Marques, Droits d’auteur ... Mode d’emploi* (Liège : Edipro 2009) 164.

images of the design on packages as well as on the website amounts to an act of reproduction¹⁶⁴.

- 77 The AG's reliance on Kaesmacher and Stamos' statement is problematic and likely misplaced. The source of the assertion is an intellectual property textbook and, crucially, it appears in the section of the book discussing the interpretation of the concept of reproduction under copyright law, not design law; such a broad interpretation is fully supported by the definition of reproduction found in the Info Soc Directive¹⁶⁵. On the contrary, the Regulation includes the act of reproduction within the rights conferred by a design only as an "afterthought"¹⁶⁶ and without providing a definition.
- 78 In addition, from reading the text of the source cited by the AG it emerges that the two authors were working under the assumption that the use of a design necessarily involves the use of a product¹⁶⁷. The AG appears oblivious to this, or at least fails to make explicit why a literal interpretation of Article 19 is ignored without argument.
- 79 Alternatively, it is also possible to regard the AG's Opinion as implicitly supporting that the right of reproduction under the Regulation should be consistently interpreted with Article 3 of the Info Soc Directive – notwithstanding that the very broad interpretation in the Info Soc Directive stems from a very specific wording which leaves no doubt as to its wide application.
- 80 It is not possible to know whether the CJEU endorsed the AG's reasoning when holding that the use of "images of goods corresponding to such designs" amounts to "an act of reproduction"¹⁶⁸; yet it is undeniable that the inclusion of the term "reproduction" in the wording of Article 20(1)(c) further strengthens the case for the Abstract view. For this reason, an analysis of the legislative and drafting history of Article 20(1)(c) is necessary to assess whether such an inclusion reflects a commitment of Design law to the Abstract view – in other words, whether Design law should include

immaterial uses of the design.

III. An analysis of the legislative history of Article 20(1)(c)

- 81 In the original MPI proposal – considered the "blueprint" or the doctrinal foundation of EU Design law – there is interestingly no mention of an exception to design rights for the purpose of teaching or citation; on the contrary, the precursor to Article 20¹⁶⁹ consisted in only a general exclusion for acts done in private for non-commercial purposes, in addition to a more detailed list of specific acts referring to typical limitations in patent law (e.g., exceptions for installation on craft – e.g., ships – temporarily entering the Member States' territory)¹⁷⁰. It is therefore safe to assume that this controversial provision was not part of the architecture of Design law as initially conceived by its founders.
- 82 The first traces of what was to become Art 20(1)(c) can be found in the Green Paper¹⁷¹, where a provision was included to exclude from liability acts of reproduction of a design "for the purpose of teaching"¹⁷². Limiting this exception to the right of reproduction – whatever it may mean – is a peculiar choice, especially when considering that this term could have more naturally been subsumed under the concept of "use of a design"¹⁷³.
- 83 There is no exhaustive description of the acts falling under the concept of reproduction, although in the text of the Green Paper the term "reproduction" is often employed as synonymous with "manufacture" of a design product, thus most likely excluding instances of immaterial uses of a design (e.g., reproduction in a book)¹⁷⁴.
- 84 A more interesting note on the semantic use of "reproduction" can be gleaned from section 6.4 of

164 Joined cases C-24/16 and 25/16 Nintendo v. BigBen (Opinion of Advocate General Bot) ECLI:EU:C:2017:146 (AG's Opinion).

165 Directive 2001/29/EC of the European Parliament and of the Council of 22 May 2001 on the harmonisation of certain aspects of copyright and related rights in the information society, OJ L 167 (Info Soc Directive).

166 The idea of the right of reproduction as an "afterthought" is reflected in its legislative history, as later discussed.

167 Kaesmacher and Stamos (n 163) 165.

168 Nintendo (n 7) para 86.

169 Then Article 23.

170 Ritscher (n 20) 528.

171 Green Paper (n 3).

172 *ibid* para 6.4.7.2.

173 A more natural wording could have been: "use of a design for the purpose of teaching".

174 An example of this semantic use of 'reproduction' can be found in the Green Paper's Introduction: "Reproduction of design products does not, in many cases presuppose know-how as regards sophisticated manufacturing process". *Ibid* 2.

the Green Paper, where the term suggests a specific meaning: to make a derivative copy of the protected design; it thus incorporates a subjective requirement of either fraud “or at least of negligence”¹⁷⁵. It follows that “reproduction”, as used in this section, implies a requirement of derivation – yet again this does not necessarily cover immaterial reproductions. If this interpretation is correct, then the use of the term “reproduction” in the teaching exception may be solely attributable to the drafters’ assumption that “teaching” a design necessarily implies having prior knowledge about the design, which may suggest derivation.

- 85** An alternative explanation for the use of the term “reproduction” is provided by Musker, who argues that the historical origins of the provision are to be traced back to the Directive on Semiconductor Topographies 1986¹⁷⁶. The similarities in the text point to the influence of this Directive on the drafting of the 1990 Green Paper¹⁷⁷. Under this theory, no particularly specific meaning should be attached to it.
- 86** More problematic would be to explain the rationale behind the addition in the 1993 Regulation Proposal¹⁷⁸ of a further purpose under which acts of reproduction may be excluded from liability: the purpose of “making citations”¹⁷⁹. The inclusion of a citation exception severely impairs the argument in favour of limiting design protection to the use of a product; for this reason, its origin should be carefully considered.
- 87** The amendment is most likely the result of the Commission’s hearings with interested parties which were held throughout 1992¹⁸⁰. Although there is no record confirming exactly when and why this provision was introduced, this is a reasonable inference based on the review of the procedural history of the Regulation.
- 88** What we can however glean from the available documentary evidence is that since its introduction this amendment to the original text proved to be confusing and controversial; most delegees who participated in the proceedings of the Economic

and Social Committee proposed to remove the words “making citations” altogether, with three delegations commenting that the provision was not needed and would be likely to create difficulties in the interpretation of the text¹⁸¹. There is unfortunately no evidence of the ensuing discussions; the following documents report that delegees removed all their reservations within a year of raising them¹⁸², while the amended proposal for the Community Design Regulation still reported Article 22(1)(c) [now Article 20(1)(c)] in an unaltered form¹⁸³ and no further amendments nor discussions followed.

- 89** It is also possible that the inclusion of a citation exception may be the result of a translation error during the drafting process, as suggested by Musker¹⁸⁴. First, he notes how this limitation has no analogues in other IP rights; despite this, it does not appear to have ever been discussed in any policy document of the time. This is surprising considering its potential controversial nature, raising the suspicion that its inclusion may have been unintentional. His main argument then rests on a consideration of potential drafting mistakes in the transposition of the wording of the Article from other legislative instruments. He notes for example how both Article 10 of the Berne Convention and Article 5(3)(a) of the Info Soc Directive include an exception for the purpose of “illustration for teaching”. In the French version, this provision would be translated as “illustration de l’enseignement”. It is therefore easy to imagine how a small drafting mistake – replacing *de* with *ou* – would result in the following text version: “illustration ou enseignement” (unofficial translation: citation or teaching), thus substantially altering the meaning of the exception by giving both purposes independent standing. In its English version, it would then be possible to translate “illustration” as citation, accounting for the current wording to be found in Article 20(1)(c). Albeit quite complex and lacking strong supportive evidence, this theory offers an interesting perspective, cautioning against over-reliance on the wording of the Article. It is further reinforced by evidence of several drafting and translating errors reproduced

¹⁷⁵ *ibid* section 6.4.2.

¹⁷⁶ Musker (n 62) 834.

¹⁷⁷ See, for example, Regulation art 13(1)(c).

¹⁷⁸ 1993 Regulation Proposal (n 97).

¹⁷⁹ Regulation art 20(1)(c).

¹⁸⁰ Detailed minutes of the hearing have been submitted by Commission services (III/F/5252/92) July 1992.

¹⁸¹ Summary of Proceedings of Working Party on Intellectual Property (Designs) (20 May 1994) (7298/94) 6.

¹⁸² Summary of Proceedings of Working Party on Intellectual Property (Designs) (9 October 1995) (10486/95) 6.

¹⁸³ Amended proposal for a Council Regulation (EC) on Community Design, 21 June 1999, (COM (1999) 310 final) 28.

¹⁸⁴ David Musker, “Making Citations’—Mystery or Mistranslation? The Opinion of Advocate General Bot in *Nintendo v BigBen*’ (2017) 12 *Journal of Intellectual Property Law & Practice* 834.

in other provisions of EU Design law¹⁸⁵.

- 90 Unfortunately, the lack of access to public documents shedding light on the drafting process make any attempt to conclusively resolve these questions impossible. For this reason, the existence of a “citation exception” within Design law remains theoretically confusing, with much uncertainty revolving around its scope of application. Whether the existence of this provision is sufficient to warrant a broad interpretation of the scope of design rights as covering digital reproductions remains unresolved. What is however clear is the important role it played in shaping our current understanding of the scope of protection, supporting arguments in favour of extending protection to mere digital reproductions. Arguably, this copyright-like interpretation of design rights is made possible by the existence of this exception. It is therefore surprising that its discussion in the recent Commission’s evaluation of the liability arising from the peer-to-peer sharing of DD files has been very limited.
- 91 In the final section of this article, and despite the inevitable uncertainty currently pervading design law, we will attempt a fresh assessment of the liability for the sharing of DD files in online platforms, questioning whether the Commission Proposal satisfactorily addresses the inconsistencies likely to result from the application of the existing framework. As it will be shown, the answer is negative; for this reason, possible ways forward to solve these inconsistencies will be canvassed, making direct reference to the reform proposal by the Commission¹⁸⁶.

F. Assessment of the liability for the peer-to-peer sharing of Digital Design files – a coherent framework?

I. The Commission’s position on the liability for sharing Digital Design files

- 92 The Commission study analyses the question of

185 See for example Art 110 CDR as discussed in *BMW v Round & Metal* [2012] EWHC 2099 (Pat), [2013] Bus LR D30, and the very un-aligned versions of Art 11 CDR. These examples were provided in Musker (183).

186 Commission Proposal (n 11).

liability for the sharing of a DD file¹⁸⁷. For the purpose of the discussion at hand, the act of sharing a DD file can be characterised as the uploading of a DD file to a publicly accessible website (e.g., by a user or by an online platform). The view of the Commission seems to be that the scope of protection of the current liability regime is sufficiently flexible to cover such acts¹⁸⁸.

- 93 The Commission’s analysis however fails to address – at least explicitly – the thorny question of whether digital reproductions fall within the concept of use of a design (the Abstract view)¹⁸⁹, providing no account of what “use of a design” means more generally. Instead, the study assesses the extent to which acts of “uploading” and “hosting” a DD file may be conceptualised under any of the rights of “use of a design” already explicitly listed in Art 19 of the Regulation.
- 94 The study finds that the notion of “offering a product made to the design” is sufficiently flexible to encompass both acts – namely, uploading and hosting a DD file¹⁹⁰. However, it is submitted that by extending the concept of “offering” to a purely digital context, this approach exacerbates the doctrinal confusion. First, the Commission’s interpretation is inconsistent with the text of the Regulation, which refers to the *offering* and *stocking* of a *product*. Secondly, the Commission’s reasoning is self-contradictory: it maintains that offering means “proposing to a third party the *transfer of physical control* of the design-infringing products” while at the same time arguing that the design-infringing product does not need to exist at the time of offer¹⁹¹. This obviously begs the question of what “transfer of control” could mean in a purely digital context (e.g., a design product used in the Metaverse), especially considering the non-rivalrous nature of digital consumption.

- 95 Even accepting the Commission’s premise, which predicates the notion of offer on the potential exercise of *physical control* imports in the legislation a requirement of “an intention to bring the object, as represented in the DD file, into existence” (e.g., 3D printing). Incidentally, this seems to be the approach

187 Commission study (n 4) para 4.4.2.1.

188 Ibid 140-2.

189 It could however be argued that this point is taken for granted, especially as the report accepts that digital uses of a design may in principle give rise to liability. As discussed in this article, such an assumption is problematic.

190 Commission study (n 4) 141-2

191 *ibid* para 4.4.2.1.

taken in the Commission Proposal¹⁹², where a new provision is included whereby digital uses of a design – e.g., sharing a design – are deemed within the scope of design protection only if carried out for the “purpose of reproducing a product that infringes the design”¹⁹³.

II. “Use of a design” as “use of the appearance of a product”: is the current regime of liability coherent?

96 In contrast to the approach taken by the Commission’s study, this article argues that to understand the scope of protection of Design law it is first necessary to recognise the crucial role played by the “appearance” of a design in the legal framework.

97 A systematic reading of Article 3, 10, and 19 of the Regulation reveals that “use of a design”¹⁹⁴ presupposes the use of the *appearance of a product*. The argument goes as follows: a design is defined in the Regulation as “the appearance of a product”¹⁹⁵; in addition, the test for infringement also heavily relies on the “appearance” – the overall impression produced by the *appearance or visual features* of a design¹⁹⁶. Consequently there cannot be a “use of a design” if the design is not visible at any point in time¹⁹⁷. For this reason, it is submitted that “use of the appearance of a product” is a necessary condition for design infringement.¹⁹⁸

98 This seems to be confirmed by *C-23/99 Commission c/France*, where the CJEU observes that the physical transportation of a product in which the infringing design is incorporated cannot amount to an act of infringement as it does not involve “use by a third

party of the *appearance* of the product”¹⁹⁹. The AG’s Opinion further reiterates that for “the purposes of the transport operation, *the appearance of the goods* transported is of *no importance* and *has nothing to do with the benefits which the carrier derives* from providing the transport service”²⁰⁰.

99 Applying this doctrine to the act of sharing a DD file leads to an interesting result. In fact, the act of sharing or uploading a DD file on a peer-to-peer website merely provides access to information, without any visual element. It is only the running of the file on the computer of the recipient that will provide the visual element to constitute the infringement – an analytically separate and independent act of use of the design.

100 The argument is reinforced by the separation of preparatory acts from the concept of “use of a design”²⁰¹. The acts preceding the visible reproduction of the design (e.g., the download of the design file) should therefore be classified as preparatory acts, thus removing any potential liability²⁰². The sharing of a DD file online cannot per se infringe any design right; the real act of infringement is rather the reproduction of the design (e.g., in the form of JPEG). This is problematic as it makes liability depend on a contingent factor²⁰³: whether, in addition to providing a link to download the file, the platform’s user has also uploaded a reproduction of the design²⁰⁴.

101 In the digital environment, protection of the appearance per se provides only a limited safeguard to the interests that design rights are meant to protect. This leads to the conclusion that, in its present condition, the current regime of liability is conceptually capable of applying to the peer-to-peer sharing of DD files in the platform ecosystem, yet it does so in an inconsistent and unprincipled

192 Commission Proposal (n 11).

193 *ibid* recital 11 and art 19(2)d.

194 Regulation (n 1) art 19(1).

195 *ibid* art 3(a).

196 Article 10(1).

197 This is reinforced by the centrality of the requirement of visualisation of design features, Article 36(1) and (6) CDR.

198 This generally justifies the exclusion of verbal description from design protection. See Anna Tischner, ‘Lost in Communication: A Few Thoughts on the Object and Purpose of the EU Design Protection’, *The Object and Purpose of Intellectual Property* (Edward Elgar Publishing 2019).

199 *Commission c/France* (n 147) para 42.

200 *C-23/99 Commission c/France* (Opinion of Advocate General Mischo) ECLI:EU:C:2000:212 para 83.

201 *Franzosi* (n 144) 131.

202 This classification relies on the correctness of our treatment of the digital file as medium or mere information, as distinct from the design that it incorporates.

203 It is contingent to the point of view of the purpose of design law, namely the protection of the economic value of the design. See Green Paper (n 3) para 2.1.2 and 5.4.7.1.

204 From a practical point of view, this inconsistency will not be a problem. Most often, unless the design is so famous that a verbal description suffices, a digital reproduction will accompany the download link.

manner. Most importantly from a practical point of view, it also risks making design protection easily circumventable. For example, a would-be infringer could in fact avoid liability by ensuring that at no point the design is ever reproduced, replacing instead such a reproduction with an accurate description of the design.

102 It appears intuitively correct that the sharing of DD files is an activity against which Design law should afford protection, given the economic relevance of such acts. Not only could they be considered functionally equivalent to the transfer and sale of physical designs. They may arguably also be even more prejudicial to the interests of rightsholders²⁰⁵. The problem highlighted in this article is that the current system is ineffective in affording such protection. Recent proposals for reform of Design law partly address this issue by providing a right to authorise the “downloading ... and sharing or distributing to others any medium or software recording the design” (e.g., a DD file) but only for the purpose of enabling a product to be made²⁰⁶. Although this is a positive development, the creation of a purpose-oriented produces considerable uncertainty that will have to be ultimately resolved by the judiciary²⁰⁷. For example, extending protection beyond uses of the “appearance” of a design is a considerable transformation of what we currently understand as the scope of design rights; it also stands in contrast with the new articulation of the “object of protection” of Design law in Art 18a of the Commission Proposal: “the *features of the appearance* of a design shown *visibly* in the application for the registration”. In other words, this reform demonstrates how nebulous and undefined the identity of this right is in its current form²⁰⁸.

103 At a time when the overall framework is being reassessed, it is important to face these conceptual challenges lest they will be exacerbated by the new developments in technology and social practices. Potential solutions will be sketched out in the final section of this article. In the conclusion, the Commission Proposal will also be briefly commented to determine whether it sufficiently addresses the

issue outlined.

III. Proposal for a consistent and coherent application of Design law online – possible ways forward

104 A possible solution to the issues discussed could be to amend the current Regulation by adding that the notion of use of a design includes the “making or distributing a design document for any of those purposes” [namely – the purpose of making, offering, putting on the market ... a product in which the design is incorporated/applied – see Art 19(1)]. This option – albeit conceived in a different context – was recommended by Malaquias²⁰⁹, drawing inspiration from Section 226(1)(b) CDPA 1998²¹⁰, and considered by the Commission in its 2016 review²¹¹. Interestingly, the new Commission Proposal opted for a very similar solution²¹². The merits of this amendment will now be assessed.

105 It must be first noted that this new ground of liability would significantly alter the current nature of Article 19, which does not cover any form of indirect infringement of design rights. In other words, once it is accepted the design need to be visible in some form in order for an act to constitute a (direct) infringement of a design, the distribution of a design document could be construed as a supply of the means to infringe such a design²¹³ – an act having all the hallmarks of indirect infringement – and be considered foreign to the spirit of that Article.

106 It would however be effective in ensuring consistency, being applicable to all cases of sharing of a DD file regardless if there is any reproduction of the design, and would increase legal certainty. More concerns, however, exist about the possible divergent interpretations of “making a design document”. This term could be interpreted as extending to the automatic creation of a document by a computer machine, thus requiring the creation of a new exception to design rights similar to Article

²⁰⁵ See for a similar analysis C-263/18 *Nederlands Uitgeversverbond and Groep Algemene Uitgevers (Tom Kabinet)* ECLI:EU:C:2019:1111 para 57-58.

²⁰⁶ See Commission Proposal (n 11) art 19.

²⁰⁷ A Kur and T Endrich-Laimböck and M Huckschlag, ‘Position Statement of the Max Planck Institute for Innovation and Competition of 23 January 2023 on the ‘Design Package’ (2023) Max Planck Institute for Innovation and Competition Research Paper No. 23-05, p. 12.

²⁰⁸ See Commission Proposal (n 11) art 18a.

²⁰⁹ Malaquias (n 26).

²¹⁰ Copyright, Designs and Patents Act 1988.

²¹¹ Legal Review (n 14) 133.

²¹² Commission Proposal (n 11).

²¹³ Martin Mengden, ‘3D-Druck-Drohtheine – Urheberrechtskrise 2.0?’ *Schutzumfang und drohende Rechtsverletzungen auf dem Prüfstand* (2014) 17(2) *MultiMedia und Recht*, p. 80.

5(1) of the Info Soc Directive²¹⁴.

107 Another potential issue is the compatibility of the new provision with the definition of design in Article 3(a)²¹⁵. The price for consistency would be therefore to abandon “appearance” as the kernel of design protection, moving into a new territory where designs gain protection independently of their visibility²¹⁶. While this could be formally fixed by defining in Article 3 what a “design document” is, the prospect that an infringement of a design right may occur without at any point the design’s appearance being visible raises the question of whether a particular mental state should be required before the act may attract any liability.

108 Finally, protecting DD files as design documents could potentially violate the exclusion of computer programs from the scope of design protection. This assessment is made particularly difficult by the absence of a positive definition of what a computer program is²¹⁷. It is important however to keep in mind that this exclusion only applies to the definition of a product. As the introduction of the concept of “design document” would be independent of either the concept of “design” or “product”, it is possible to argue that the exclusion simply does not apply at all. It is worth looking at other possible scenarios in case this may prove to be incorrect.

109 Malaquias compares “the sharing of a DD file” to “the sale of a computer program” on the basis that they both enable hardware (e.g., 3D printer) – to carry out an auction – (e.g., produce an object)²¹⁸. It can however be argued that the ability to “enable”

214 Info Soc Directive (n 165).

215 Regulation (n 1) art 3(a). Discussed in T-494/12 *Biscuits Poult v OHMI - Banketbakkerij Merba (Biscuit)* (GC) ECLI:EU:T:2014:757.

216 The role of the ‘appearance of a design’ as a constitutive element of design infringement was discussed in art 96-7. Not discussed in this article is how the ‘appearance of a design’ may be translated into a visibility requirement applicable for all type of products – contrary to the current position, where a visibility requirement during normal use applies only to components of complex products. See Regulation art 4(2), as interpreted in 11/08 *Kwang Yang Motor* (n 119); Third BoA *Lindner Recyclingtech v. Franssons Verkstädter* (2009) R 690/2007-3; and T-494/12 *Biscuits Poult v. Banketbakkerij Merva* (GC) EU:T:2014:757.

217 It is preferred to avoid an ontological argument on whether data (e.g., CAD files) could be classified as computer programs; after all, courts are unlikely base their judgements on such discussions.

218 Malaquias (n 26) para 3.1.1.1.

a printer to operate is not a sufficient condition. Considering the question of the copyrightability as software of CAD files under US law, Rideout maintains that since CAD files do not control the way 3D printers operate, they are not equivalent to software; rather, they function as a blueprint²¹⁹ and should be considered more akin to a graphical work than a literary work²²⁰.

110 Since the exclusion of computer programs from the scope of protection serves the purpose of ensuring there is no overlap between Design law and copyright law in protecting software, it is also useful to assess whether the DD file could fall within the scope of the Software Directive. Although we defined the DD file as comprising the source code²²¹, protecting it as a computer program would be inconsistent with the requirement that the program is a literary work²²²; the author’s intellectual creation does not go towards writing the source code and arguably does not involve programming at all. Protection of a DD file as a computer program seems therefore inappropriate, a conclusion reinforced by the judgement of the CJEU in *SAS Institute*²²³.

219 This is further confirmed when we consider that an argument in favour of protecting a DD file as a computer program would also most likely apply to Word Doc and other file formats.

220 Brian Rideout, ‘Printing the Impossible Triangle: The Copyright Implications of Three-Dimensional Printing’ (2011) 5 *J. Bus. Entrepreneurship & L.* 161, 168.

221 The present discussion assumes that the DD file can be expressed as source code. It is important to note that this is not always the case: in AutoCAD, for example, designs are created by interactive modelling without a human-readable source code (just a binary file). This difference does not affect our conclusions: if no written language is used in the creation of the design, then it would seem even more inappropriate to protect under the Software Directive.

222 Following Case C- 5/08 *Infopaq International* ECLI:EU:C:2009:465, an act to fall within the concept of ‘reproduction’ has to reproduce the elements which are the expression of the intellectual creation of the author. Arguably, the designer intellectual creation is expressed in the design itself – which may be protected as an artistic work – but not the ‘source code’, protected as a literary work. David Nickless, ‘Functionality of a Computer Program and Programming Language Cannot Be Protected by Copyright under the Software Directive’ (2012) 7 *Journal of Intellectual Property Law & Practice* 709, 709.

223 In the judgement, the CJEU held that ‘neither the *functionality* of a computer program nor the *programming language* and the *format of data files* used in a computer program in order to exploit certain of its functions constitute a form of expression of that program for the purposes of Article

111 Regarding the question of how a design document is to be defined, a good starting point is once again Section 263(1) CDPA 1988. According to this provision, a design document consists of “any record of a design, whether in the form of a drawing, a written description, a photograph, data stored in a computer or otherwise”. This definition is extremely wide, and sufficient to cover digital files stored on a computer and even on the cloud²²⁴. The requirement of visibility is somehow retained by the condition that the design document “corresponds to a record which clearly shows a visual representation of the design”²²⁵. DD files should be able to comply with this condition if they are capable of reproducing the design visually – e.g., should be machine-readable and produce a clear image of the design containing all its distinctive features.

112 The concept of distribution should also be interpreted as broadly as possible to ensure technological neutrality and guarantee its application to online peer-to-peer sharing of DD files. A good blueprint could be the right of distribution in the Software Directive, which covers “any form of distribution to the public”²²⁶. Despite that “distribution” is commonly understood only to apply to physical transfers, the CJEU in *UsedSoft* (2012) has extended its scope of application to digital distribution in circumstances where there is no tangible medium involved.²²⁷

113 It is important to stress that an essential premise of the solution proposed above is that the mere reproduction of a design constitutes a “use of a design” and can therefore give rise to liability (as stipulated by the Abstract view). As this article intended to demonstrate, this conclusion is not inevitable. For this reason, an alternative possible solution is to formally recognise in the legislation that the existence of a physical product is a necessary precondition for the infringement of a design right. Not only would this approach solve much of the conceptual uncertainty described in this article, but it would still leave open the option to extend

the scope of protection of design rights to target specific factual scenarios: e.g., sharing DD files for the purpose of 3D printing.

114 This solution is not currently reflected in the Commission Proposal; on the contrary, the Commission Proposal gives further support to the Abstract view – see, as an example, the inclusion of an exception for the purpose of “comment, critique or parody”²²⁸ – while at the same time, it includes a limited-in-scope extension of design rights to address the threat of illegal 3D printing incorporating registered designs.

115 Adding to the confusion, Article 19 of the Commission Proposal confers the exclusive right to “creating, downloading, copying and sharing or distributing to others any medium or software recording the design” but only when these acts are carried out “for the purpose of enabling a product [incorporating the design] to be made”, mostly using 3D printing technology. While an in-depth criticism of this provision is beyond the scope of this article, it is apparent how this solution is likely not increasing legal certainty. Especially when considering that the most recent Commission study treated the right to “offer a design” as covering both the “sharing and offering” of a DD file, it is not clear whether the Commission Proposal will reduce rights – by extending protection to sharing only if done with the purpose to print the product – or whether it leaves the previous framework intact. If the latter, then framing Art 19(d) as a purpose-limited right is redundant and likely to increase the already existing doctrinal confusion. Finally, in light of the increasing economic importance of purely Digital Designs, the future Regulation may be outdated soon after its enactment. A more general reconceptualisation and reflection of what the “design approach” means in today’s context is required. Unfortunately, the current Commission proposal falls short of offering a “protection system fit for purpose in the digital age”²²⁹ and leaves unaddressed most of the important issues outlined in this article.

1(2) of Directive 91/250 [Software Directive]. C-406/10 *SAS Institute Inc. v World Programming* ECLI:EU:C:2012:259 para 39. Similarly, protection as a computer program of the DD file seems inappropriate and extend beyond the mere protection of the source code.

224 David I Bainbridge, *Intellectual Property* (10th edn Pearson 2018) 497.

225 John Sykes, *Intellectual Property in Designs* (LexisNexis Butterworths 2005) 240.

226 Software Directive (n 98) art 4(1)(c).

227 C-128/11 *UsedSoft GmbH v Oracle International* EU:C:2012:407.

G. Conclusion

116 What the above analysis shows is that the extension of design protection to forms of immaterial exploitation of the appearance of a product (e.g., sharing of a DD file) causes several doctrinal problems which should be urgently addressed. Such an extension however should not be considered as a *fait accompli* or inevitable; in other words, it

228 Commission Proposal (n 11) art 20(e).

229 *ibid* 2.

is still possible to recognise that “use of a design” necessarily requires an interaction with a physical product. The extension of design protection to mere reproductions of a design seems to receive support from the jurisprudence and the wording of the Regulation itself; however, a careful analysis of its drafting history suggests that several explanations exist that would prompt us to recognise how the introduction of a right to authorise reproductions of a design may have been in reality an unintended consequence of the drafting process.

reconceptualization of EU Design law is called for.

117 While it is certain that the Concrete view would avoid much of the conceptual confusion, the broader reappraisal of Design law by the EU Commission offers the opportunity to decide whether design legislation should be applicable to forms of digital value-creation, distribution, and consumption.

118 Several options are available to implement such a policy, and all of them require some forms of amendment of the existing regime. For example, and as recommended by Malaquias, it could be possible to include in the list of exclusive rights conferred by a Design the “making or distributing of a design document”²³⁰, thus ensuring that DD files attract protection without any visibility requirement. Another possibility is offered by the recent Commission Proposal: extend design protections to digital uses of the design (e.g., sharing) but only when it is done for the purpose of “making a product” (e.g., 3D printing)²³¹.

119 It is nonetheless submitted that without a clear spelling and elucidation of what is the “function of Design law”, coupled with a clarification of its broader conceptual architecture, such an amendment would risk raising more questions than it can answer. It is also evident how the newly proposed Article 19 – arguably a legislative-driven foray of Design law into the digital ecosystem – is an ad hoc response to a specific threat: in the words of the Commission, “the challenges brought by the increased deployment of 3D printing technologies”²³². As a result, the intervention may reveal itself to be short-sighted in so far as it ignores other forms of digital exploitations (e.g., in-game and purely digital consumptions of designs) and does not increase the inherent conceptual flexibility of Design law.

120 In conclusion, it is likely that the broader conceptual uncertainties identified in this article will not be resolved by the introduction of legislative amendments to the Regulation; a broader

²³⁰ Malaquias (n 26).

²³¹ Commission Proposal (n 11) Art 19(2)(d).

²³² *ibid* 8.