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The Impact of artificial intelligence on IP policy Committee

World Intellectual Property Organization

13 February 2020

Dear Committee Members

Impact of artificial intelligence on IP policy

I welcome the opportunity to make a submission in relation to the enquiry into the impact of artificial intelligence on IP policy. This submission is made in my personal capacity as an Australian academic and legal practitioner with expertise in intellectual property law, and addresses Issue 6 specifically. Thank you for the opportunity to comment on this issue.

Issue 6: Authorship and Ownership

The primary dilemma of "authorship" in the copyright context arises when dealing with content which was created through autonomous AI creativity under the existing copyright framework. The policy positions adopted in relation to the attribution of copyright to AI-generated works need to balance commercial and economic considerations with considerations of public interest and existing copyright frameworks. The following comments and observations are made with respect to the three questions raised here:

(i) Should copyright be attributed to original literary and artistic works that are autonomously generated by AI or should a human creator be required?

It needs to be recognized that, at a foundational level IP rights are property rights, which are traditionally associated with a specific natural or legal person. Neither the WIPO Copyright Treaty nor the TRIPs agreement define the word "author", even though both treaties require compliance

with the Berne Convention.[1] Similarly, the word "author" is not defined in the Berne Convention.[2] Under Australian copyright law, the only definition of "author" in the *Copyright Act* is as follows: "*author*", in relation to a photograph, means the person who took the photograph,"[3] which in effect assumes that the word "author" means "person" and does not require further definition. In comparison, UK law deals with computer-generated material in a limited way only, which requires human involvement.[4] Section 9 of the CDPA provides that*: "author,* in relation to a work, means the person who creates it."[5] Again the Act refers to a "person" without further definition of the word "person". In the US *Copyright Act* there is no specific definition of the word "author". However, the definition of an "anonymous work" implies a requirement of authorship by a natural person.[6] This confirms the position that, under US law, in order to receive copyright protection, there must be a person or entity that qualities as the "author".[7] In Australia, although the Australian *Copyright Act*[8] protects copyright in computer software programs,[9] it makes no provision for "computer generated works" produced without creative effort expended by a human author. In instances of "computer-assisted works" the use of software is regarded merely as a tool to produce the work, with the user being primarily responsible for the final form of the work.[10] An obvious example is word processing software used to compose literary works.[11] However, copyright cannot subsist in computer-generated content as that content is created *by* the computer itself rather than *with the use* of the computer ('computer-aided' or 'computer-assisted' works).[12]

AI generated content challenges the traditional requirement of human authorship under the copyright regime, as there is evidence of increasing use of technology that involves very little to no human intervention.[13] Some argue that there is a need to clearly establish the true author or inventor of such works and that we should accept the reality that the rights should be granted to this entity even if that requires a radical shift in thinking and the creation of a new form of legal personality.[14] Davies suggests that "… a computer which is more akin to a true person, more particularly with the new generation of artificial intelligent computers, should be accorded the same status' as a body corporate being recognised as an individual."[15] This approach may provide

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[1] See *WIPO Copyright Treaty*, adopted on 20 December 1996 (entered into force 6 March 2002) art 1; *Marrakesh Agreement Establishing the World Trade Organization*, opened for signature 15 April 1994, 1867 UNTS 3 (entered into force 1 January 1995) annex 1C ('*Trade-Related Aspects of Intellectual Property Rights*') art 2(2); Rosa Maria Ballardini, Kan He and Teemu Roos, 'AI-generated Content: Authorship and Inventorship in the Age of Artificial Intelligence' in Taina Pihlajarinne, Juha Vesala and Olli Honkkila (eds), O*nline Distribution of Content in the EU* (Edward Elgar, 2019) 117, 121.

[2] Jane C Ginsburg, 'The Concept of Authorship in Comparative Copyright Law' (2003) 52(4) *DePaul Law Review* 1063, 1069.

[3] *Copyright Act 1968* (Cth) s 10.

[4] Colin R Davies, 'An Evolutionary Step in Intellectual Property Rights – Artificial Intelligence and Intellectual Property' (2011) 27(6) *Computer Law and Security Review* 601.

[5] *Copyright, Designs and Patents Act 1988* (UK) s 9.

[6] *Copyright Act of 1976*, 17 USC § 101.

[7] Bruce E Boyden, 'Emergent Works' (2016) 39(3) *Columbia Journal of Law and the Arts* 377, 380.

[8] *Copyright Act 1968* (Cth).

[9] *Copyright Act 1968* (Cth) s 31(1)(d).

[10] Jani McCutcheon, 'The Vanishing Author in Computer-Generated Works: A Critical Analysis of Recent Australian Case Law' (2013) 36(3) *Melbourne University Law Review* 915, 929.

[11] Ibid.

[12] Anne Fitzgerald and Tim Seidenspinner, 'Copyright and Computer Generated Materials - Is it Time to Reboot the Discussion About Authorship?' (2013) 3(1) *Victoria University Law and Justice Journal* 47, 50.

[13] Mark Perry and Thomas Margoni, 'From Music Tracks to Google Maps: Who Owns Computer-Generated Works?' (2010) 26(6) *Computer Law and Security Review* 621, 621-2.

[14] Davies (n 4) 602.

[15] Ibid.

commercial certainty and allow for the recognition of AI as creator. However, it creates further questions regarding rights and liabilities and the need for a measure of human involvement in such a structure, as discussed in (ii) below.

Another public interest-based system has been suggested, with the suggestion that "…work created in the absence of human intervention should belong to the public domain."[16] Such a public benefit centred approach would appear to obviate the need for copyright tensions. However, although aspirational, it would not be practicable, considering that a foundational tenet of copyright is the provision of an incentive to create (ie economic considerations). Also, this approach ignores the possibility of conflicts arising about the extent (or lack of) of "human intervention" applied in the creative process.

As technological developments in AI bring new challenges to the traditional concepts of "author" and "inventor", it raises the fundamental question of whether there is a need to reshape the current legislative framework and its interpretation in order to promote, rather than deter technological developments. As the law currently stands it assumes that a human author is involved in the creative process. The idea of assigning legal personality to AI itself is fraught with difficulties and uncertainties. From a legal perspective the assumption of rights and liabilities would not be viable unless there is some form of human involvement and accountability (eg in the form of directorship in corporate entities, who can assume liability for any claims brought against AI). Much has been written on the difficulties of assigning tortious liability to AI (which falls outside the scope of this enquiry); however the assumption of risk is a practical consideration that needs to be borne in mind when suggesting that legal personality be accorded to an AI application or technology.

(ii) In the event copyright can be attributed to AI-generated works, in whom should the copyright vest? Should consideration be given to according a legal personality to an AI application where it creates original works autonomously, so that the copyright would vest in the personality and the personality could be governed and sold in a manner similar to a corporation?

Systems of AI should only have rights and obligations that are strictly defined by legislators[17] for reasons of commercial and legal certainty. The suggestion that the term "inventor" or "author" be expanded to include a legal person (such as a corporation) controlling the AI process[18] is a feasible solution, provided there are checks and balances in place. This would mean setting up legal entities to control any IP rights evolving from AI - but with a human element involved to provide the possibility of intervention and control.[19] In Australia, the UK and the US, the concept of AI holding legal personality is not currently possible. What *is* possible is to create legal entities (such as corporations) and for those entities to hold or be assigned the IP rights in copyrightable or patentable outcomes, provided there is a *human* author or inventor. The problem of course is that this approach does not address creative content produced autonomously by an AI system. To remedy the problem the law will need to be amended to expand the definition of "authorship" to include non-human creativity.

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[16] Mark Perry and Thomas Margoni, 'From Music Tracks to Google Maps: Who Owns Computer-Generated Works?' (2010) 26(6) *Computer Law and Security Review* 621, 628.
[17] Paulius Čerka, Jurgita Grigienė and Gintarė Sirbikytė, 'Is it Possible to Grant Legal Personality to Artificial Intelligence Software Systems?' (2017) 33(5) *Computer Law and Security Review* 685.
[18] Beat Weibel, *AI Created Inventions – Digital Inventor Computer-Implemented Simulations – Digital Twin*, WIPO/IP/AI/GE/19/P2.4 (30 September 2019) <https://www.wipo.int/meetings/en/details.jsp?doc_id=51767>.
[19] Ibid.

In the context of this question it should be acknowledged that the value of IP rights in AI is significant. The International Data Corporation[20] has estimated that the AI market will grow from $8 billion in 2016 to more than $47 billion in 2020. It is desirable that there should be a clear way forward to protect these important intellectual assets that are being created on a global scale. It will require a multilateral approach to align existing copyright frameworks in different jurisdictions. Furthermore, in order to promote ongoing creativity and encourage new inventions and creations, the incentives and structures in an expanded IP regime will need to be clearly defined.[21] The primary justification for IP rights is utilitarian in nature, the purpose being to reward and promote creation and innovation.[22] As Simpson stated, "At the end of the day, the rights of copyright are an award for innovation, creativity and risk taking."[23]

Arguably, the same considerations should apply in relation to AI-generated content, although not all commentators share this viewpoint.[24] There is a compelling argument for maintaining the correlation between authorship and originality. According to McCutcheon, "there must be authorship, in the sense of materialising the work; the author must personally engage in a minimum degree of intellectual effort; that effort must be directed to the particular expression of the material output; and that effort must be independent in the sense that the work must originate from the author and not be copied."[25] Examples such as Google's "Deep Dream Generator," (DDG) which is labelled as a Human/AI collaboration,[26] illustrate the potential for conflicting rights claims and the need for clear regulatory guidelines when dealing with IP rights in AI-generated creations, especially as the applications of deep neural learning are expanding constantly, demanding a proactive, rather than reactive approach.

On a practical level, the best way to manage potential uncertainties regarding ownership of copyright in this context would be to clearly set out ownership and user rights in the copyright in commercial agreements, licensing agreements and terms of use for the system.[27] Given the number of entities which could be involved in the design, training and use of an AI system, these issues will need to be addressed at the outset of an AI project and applied at each stage as the project develops. Another solution would be to award copyright to the owners of the AI itself, which would operate in a similar manner as employer/employee relationships, where employers automatically own the work their employees produce.[28]

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[20] The IDC is a global provider of market intelligence, advisory services, and events for the information technology, telecommunications, and consumer technology markets, see e.g., Rebecca Segal, 'IDC's Top 10 Worldwide Services 2020 Predictions', *IDC* (Blog Post, 18 November 2019) <https://blogs.idc.com/2019/11/18/idcs-top-10-worldwide-services-2020-predictions/>.

[21] Francina Cantatore and Elizabeth Crawford-Spencer, *Effective Intellectual Property Management for Small to Medium Businesses and Social enterprises: IP Branding, Licences, Trademarks, Copyrights, Patents and Contractual Arrangements* (Brown Walker Press, 2018) 11.

[22] Francina Cantatore, *Authors, Copyright and Publishing in the Digital Era* (IGI Global, 2014) 42.

[23] Shane Simpson, *Review of Australian Collection Societies* (Report, Minister for Communications and the Arts and the Minister for Justice, July 1995) 8.

[24] Such as Samuelson: See Pamela Samuelson, 'Allocating Ownership Rights in Computer-Generated Works' (1986) 47(4) *University of Pittsburgh Law Review* 1185, 1208.

[25] McCutcheon (n 10) 940-941.

[26] See <https://deepdreamgenerator.com/>.

[27] See Cantatore and Crawford-Spencer (n 22) 103.

[28] Robert David Hart, 'If an AI Creates a Work of Art, Who Owns the Rights to It?', *Quartz* (online, 16 August 2017) <https://qz.com/1054039/google-deepdream-art-if-an-ai-creates-a-work-of-art-who-owns-the-rights-to-it/>.

(iii) Should a separate sui generis system of protection (for example, one offering a reduced term of protection and other limitations, or one treating AI-generated works as performances) be envisaged for original literary and artistic works autonomously generated by AI?

Due to the diverse nature of AI-generated creations and the open-ended possibilities afforded by AI algorithms, it would seem difficult, if not impossible, to create a sui generis category that would encompass all conceivable AI creations, which could range from, inter alia, music, art and literature to photographic images and video content. An artificial categorisation could create further uncertainty, especially where there may be some human effort expended in the creative process. A more sustainable approach would be to extend the ambits of existing legislative structures to accommodate AI-generated works in existing categories recognised under the law and international conventions.

Yours sincerely

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