JAPAN INTELLECTUAL PROPERTY ASSOCIATION

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Mr. Tim Moss
Chief Executive and Comptroller General
Intellectual Property Office
Concept House, Cardiff Rd,
Newport, South Wales, NP10 8QQ
United Kingdom

Re: JIPA Response to the Artificial intelligence call for views

Dear Mr. Moss,

We, the Japan Intellectual Property Association “JIPA”, are one of the world's largest organizations of IP users with about 970 major Japanese companies as members. When appropriate opportunities arise, we offer our opinions on the intellectual property system of other countries and make recommendations for more effective implementation of the systems.
(http://www.jipa.or.jp/english/index.html)

Having learned the Artificial intelligence call for views on your website, we would like to offer our response as follows.
Your consideration on our opinions would be greatly appreciated.

Sincerely yours,

Yuji TODA
President
Japan Intellectual Property Association

Patents

1. What role can/does the patent system play in encouraging the development and use of AI technologies?

We consider that AI technologies contribute to industrial developments. In these latter days of remarkable advancements of AI technologies, protection of AI technologies is absolutely essential for promotion of the development of AI technologies.

However, it is also considered that some institutional designs may result in the blocking of industrial developments. It is necessary to give careful consideration to an AI invention-related institutional design including the point of whether or not AI is identified as an inventor as mentioned in other comments.

2. Can current AI systems devise inventions? Particularly:

(a) to what extent is AI a tool for human inventors to use?

We consider that the current AI systems have not reached the level where they autonomously generate inventions.

Under the current circumstances where a human makes an input with the expectation of obtaining an output of interest and makes a careful examination or the like on an output during utilization of AI, Ai is merely used as a tool; and we consider that an invention is devised and embodied by a human and feel that an invention generated by AI should be an extension of an idea of humans.

Meanwhile, we consider that when AI has completed an invention in a state where no human is involved therein, AI is beyond the role of a tool and generates an invention.

(b) could the AI developer, the user of the AI, or the person who constructs the datasets on which AI is trained, claim inventorship?

When a person involved in solution to a specific problem has made a contribution as an inventor, we consider that the person is entitled to be an inventor in any case in light of the current eligibility for an inventor. On the other hand, if a general-purpose AI is constructed in the future and a new era has come when a new invention for solving a specific problem is made with no human involvement, a developer of that general-purpose AI or a user of the AI not involved as an inventor in making the invention has made no

contribution to the invention, and thus they should not claim inventorship.

(c) are there situations when a human inventor cannot be identified?

As described in the above a), AI alone cannot generate an invention and humans are involved. In addition, no sufficient explanation is made for the situation where a human is not eligible as an inventor although the human has been involved. Therefore, it is impossible to perceive what situation is indicated by the expression "when a human inventor cannot be identified."

3. Should patent law allow AI to be identified as the sole or joint inventor?

Because AI has not yet reached a technical level where it generates an invention, it is considered premature to identify AI as a sole inventor. Meanwhile, assuming that AI contributes to an invention, a cautious discussion is considered necessary on how to identify an inventor and who to attribute the right to. Before consideration of a system on the AI-intellectual property relationship, there is a concern on the fact that impacts over the socioeconomy, the legal systems including acts other than the patent law, and the ethics have not been evaluated appropriately. The point that AI holds a property right or bears legal responsibility is not sufficiently examined.

4. If AI cannot be credited as inventor, will this discourage future inventions being protected by patents? Would this impact on innovation developed using AI? Would there be an impact if inventions were kept confidential rather than made public through the patent system?

As mentioned in the above 2a, AI alone cannot generate an invention at present and a human is identified as an inventor; and thus inventions can be protected under the current laws. Then, we consider that failure to identify AI as an inventor does not discourage the protection of inventions.

5. Is there a moral case for recognising AI as an inventor in a patent?

(N/A)

6. If AI was named as sole or joint inventor of a patented invention, who or what should be entitled to own the patent?

To clarify a subject of discussion, it is necessary to classify AI outputs depending on whether or not a human is involved therein, and to look closely into both a definition and a defined term therefor. In an AI-involved invention, the inventorship is classified into three items based on the concept of the current law: (1) a person with inventorship is involved; (2) a person without inventorship is involved; and (3) no human is involved.

Among these items, item (1) is considered in the same manner as that in operation of the current system, and an inventor can be identified. Regarding items (2) and (3), we are not yet in a situation where an inventor can be defined, and a cautious discussion should be made.

7. Does current law or practice cause problems for the grant of patents for AI inventions in the UK?

As mentioned in the responses to other questions, we consider that the current laws can deal with the problems. We consider that inventions with AI involved would be addressed in the same manner as computer software-related inventions.

It seems that software-related inventions including AI-related inventions are more difficult to grant than applications using the EPC route. It is of a problem that the route difference greatly affects a decision on whether or not an application is granted, and it is expected to harmonize with EPO.

8. Could there be patentability issues in the future as AI technology develops?

The inventorship, the description requirements (support requirement, enablement requirement, etc.) or the inventive step would possibly be of a problem. In addition, the examination guidelines may be different depending on the country, and we consider that it is necessary to consider harmonization.

When AI is identified as an inventor, one AI may be involved in a quite wide range of inventions. We consider that it is necessary to study whether such a case may cause a loophole in the current law including the requirement of the same inventor (system including the requirement of the same inventor, etc.).

In addition, it seems necessary to study, for example whether AI inventions are distinguished in such a manner that a name of a system or identification information thereof is given to each AI, and whether inventions generated by the same system have the same inventor even when users of the system are different. Further, it is considered that a remarkable change will occur in the determination of the inventive step.

9. How difficult do the list of excluded categories in UK law make it to secure patent protection for AI inventions? Where should be the line be drawn here to best stimulate innovation?

(N/A)

10. Do restrictions on the availability of patent rights cause problems for ethical oversight of AI inventions?

(N/A)

11. Does the requirement for a patent to provide sufficient detail to allow a skilled person to perform an invention pose problems for AI inventions?

In answering this question, you may wish to consider:

• is it clear how much information would be sufficient for a skilled person to be able to work the invention?

• could there be uncertainty knowing when an AI could be obtained by a skilled person to achieve the specific purpose of a patent claim and when an AI would need to be specified in a patent application?

• what are the consequences if the details of AI algorithms need to be disclosed?

• if AI is making decisions in a black box:

AI inventions should be handled in the same manner as conventional computer-related inventions, and the contents to be disclosed may vary depending on the subject matter of an invention. In addition, undue requirements such as disclosure of a learning dataset itself may discourage filing (publication) of applications for AI-related inventions, thus hampering the development of AI technologies.

- Could there be a need to disclose more than a basic trained AI model, for example training data or the coefficient or weight of the model? If yes, is it clear how much information would be sufficient for a skilled person to be able to work the invention? Are special provisions needed for this information to be filed and stored?

It is not considered essential to disclose training data itself, weight itself of the AI model, etc. Disclosure of all of training data is not necessary, and it is enough as long as data necessary to satisfy the reproducibility is disclosed. Regarding inventions using AI, if, in general, the format of training data (e.g., what are an explanatory variable and a response variable), the type of an algorithm of an AI model (e.g., supervised learning, unsupervised learning, information on CNN, LSTM, etc.) or the like is disclosed, it is considered that an invention can be worked (undue trial and error or experiments are not required) by the technical capability ordinarily exhibited by a skilled person.

- What would be the effect if competitors could use data to quickly train a different AI model?

The industry-wide technical level seems to be improved immeasurably. An increase in improvement inventions is expected, and this will allow later applications to be possibly advantageous.

Meanwhile, it is likely that it will be difficult to differentiate from competitors, and thus the number of companies that employ a strategy to make their technologies secret may be increased.

- How would the skilled person know whether the invention could be repeated across the breadth of the patent claims or whether a claimed result could be achieved?

If experimental data supporting the entire breadth of the patent claims is disclosed or it is logically described that the contents of Examples can be extended (e.g., variations in the type of data, and variations in the algorithm of a model) in line with the breadth of the patent claims, then it can be determined that a skilled person can reproduce the invention.

12. In the future could there be reasons for the law to provide sufficient detail of an AI invention for societal reasons that go beyond the current purposes of patent law?

(N/A)

13. Does or will AI challenge the level of inventive step required to obtain a patent? If yes, can this challenge be accommodated by current patent law?

As a skilled person promotes AI use, the level of the inventive step will be enhanced relatively. However, we consider that this can be accommodated by reviewing the standards of a skilled person while taking AI use into consideration, and that no immediate legal revision is required.

It will be necessary to discuss whether a human can determine the inventive step of an AI invention.

14. Should we extend the concept of "the person skilled in the art" to "the machine trained in the art"?

As described in the responses to the above questions, a cautious consideration of the definition of a skilled person is needed.

15. Who is liable when AI infringes a patent, particularly when this action could not have been predicted by a human?

We consider that a company using AI assumes part of the responsibility, but where the responsibility rests should be flexibly determined depending on the form of infringement.

16. Could there be problems proving patent infringement by AI? If yes, can you estimate the size and the impacts of the problem?

We consider that such problems will arise. It seems difficult to confirm the entity of infringement and the size thereof (to what extent AI is involved in infringement).

Copyright

1. *Do you agree with the above description of how AI may use copyright works and databases, when infringement takes place and which exceptions apply? Are there other technical and legal aspects that need to be considered?*

Regarding the issue on AI's use of copyright works, we agree to collect a wide range of opinions and to start and deepen discussions with the aim of finding balanced outcomes which benefit owners and users of copyright works. JIPA considers that under the current circumstances where evaluation of an impact given on society by the progress of AI technologies has not yet fixed in the course of rapid and continuous evolution of technologies, it is premature to determine a policy to be taken on the legal handling of particularly works produced by AI beyond the rules of the current copyright law. First, it is important to sufficiently organize, analyze and evaluate the points listed in this Open consultation (the concept of originality, the grasping of who is involved in what way, etc.).

Meanwhile, as the premise for studying this question, it is necessary to divide "The use of copyright works and data by AI systems" into the following two aspects and study them.
(1) Aspect where a work is used in the process of AI learning
(2) Aspect where a trained AI (consequently) uses an existing work when it creates a work

Then, the above item (2) should be further classified into the following cases depending on the creation process of a generated work (AI-generated work).
(2-1) Case where a human uses AI and creative contribution of the human is found
(2-2) Case where a human uses AI but creative contribution of the human is not found
(2-3) Case where no human involvement is found

The above cases are taken into consideration, and then, it is necessary to study the way of being a right that is given to a work generated by using an AI system, the presence or absence of infringement, and rules for restricting a right.

2. *Is there a need for greater clarity about who is liable when an AI infringes copyright?*

If a legislative constitution is established such that an AI action falls within a third party's

copyright infringement, the judgement criteria should be clarified so as not to hamper the development of AI technologies or culture. However, attention is needed to avoid: a case where a person that should intrinsically have the responsibility is exempted; or a case where a person that should not be responsible is held (excessively) responsible.
Further, if a copyright of an AI-generated work is permitted, one possible option is that a right and a responsibility are treated as a unit such as a case where a person having the copyright thereof should take a responsibility for infringement.

3. *Is there a need to clarify existing exceptions, to create new ones, or to promote licensing, in order to support the use of copyright works by AI systems? Please provide any evidence to justify this.*

As described above, studies should be made on the following two aspects.
(1) Aspect where a work is used in the process of AI learning
The Digital Single Market Copyright Directive established in April 2019 stipulates that lawfully acquired works can be reproduced (Article 4) for the purposes of not only scientific research (Article 3) but also text and data mining of works (any automated analytical technique aimed analysing text and data in digital form in order to generate information which includes but is not limited to patterns, trends and correlations (Article 2 (2)). The directive obliges each of EU Member States to introduce the above regardless of being a profit-making or not-for-profit basis.

In addition, the Copyright Act in Japan also stipulates that when a work is used with the purpose of information analysis (meaning the extraction, comparison, classification, or other analysis of the constituent language, sounds, images or other elemental data from a large number of works or a large volume of other such information), the work can be reproduced and so on (i) if the use of the work has the purpose of personally enjoying or does not have the purpose of causing another person to enjoy the thoughts or sentiments expressed in the work, (ii) if it is within the extent considered necessary, and (iii) if it does not unreasonably prejudice the interests of the copyright owner in light of the nature or purpose of the work, and the circumstances of the use (Article 30 quater (2)).

As described above, it is assumed that such use of a work allows the social significance or the public interest to be more significant than disadvantages to copyright owners, and thus it is considered highly necessary to provide rules for restricting copyrights.

(2) Aspect where a trained AI (consequently) uses an existing work when it creates a work
Not only the degree of human involvement in AI-generated works as described in the above (2-1), (2-2) and (2-3) but also objective elements such as the similarity or dependency between an AI-generated work and an existing work should be taken into consideration. Based on that, careful consideration should be given to a comparison between disadvantages to copyright owners and the social significance or the public interest, and studies should be made on what rules for right restriction are appropriate or what licensing system is appropriate; and thus, we consider that it is premature to form a conclusion at this time.

4. Is there a need to provide additional protection for copyright or database owners whose works are used by AI systems? Please provide any evidence to justify this.

As described above, studies should be made based on the following two aspects.
(1) Aspect where a work is used in the process of AI learning
Regarding the use of existing works, it is assumed that the social significance or the public interest is more significant than disadvantages to copyright owners. Therefore, it is considered highly necessary to provide rules for restricting copyrights while it is considered less necessary to provide additional rules for protection of existing copyright owners.

Meanwhile, if data is leaked to be unintentionally used on a large scale by unauthorized access of a third party to a server storing learned works, it may be difficult to provide ex post relief to copyright owners, and thus attention needs to be paid to this point.

(2) Aspect where a trained AI (consequently) uses an existing work when it creates a work
Not only the degree of human involvement in AI-generated works but also objective elements such as the similarity or dependency between an AI-generated work and an existing work should be taken into consideration. Based on that, careful consideration

should be given to a comparison between disadvantages to copyright owners and the social significance or the public interest, and studies should be made on what protection is needed, and thus it is premature to form a conclusion at this time.

5. *Should content generated by artificial intelligence be eligible for protection by copyright or related rights?*

To study this question, it would be appreciated if you would teach us the situations after "Protection for computer-generated works" introduced in 1980 in UK was applied. Specifically, Copyright, Designs and Patents Act 1988 stipulates that "Computer-generated works" are defined by stating "the work is generated by computer in circumstances such that there is no human author of the work" (Article 178); and an author thereof is the "person by whom the arrangements necessary for the creation of the work are undertaken" (Article 9 (3)). Then, please explain how the above articles have been applied on the administration of justice such as what fact is needed to prove or disprove for allegation of the ownership of a right, or practical analysis results on the entity of right ownership, which of (i) AI developer, (ii) a creator of learning data and (iii) an AI user has been identified as an author. In addition, an institutional design is desired to be internationally harmonised, and then, it would be much appreciated if you would provide an explanation on your analysis on why other countries do not follow this article.

6. *If so, what form should this protection take, who should benefit from it, and how long should it last?*

As described above, AI-generated works should be classified into the following cases and studied.

(2-1) Case where a human uses AI as a tool and creative contribution of the human is found

Even when the position is taken based on either of the Common Law and the Civil Law, this AI-generated work deserves the protection under the copyright act because the creative contribution of the human as an AI user is found. Therefore, we consider that the identification of the AI user as an author according to the existing rules is not a problem.

(2-2) Case where a human uses AI as a tool but creative contribution of the human is not

found

Because creative contribution of an AI user is not found, no right of an AI-generated work should be granted to the AI user. In addition, at this time, it is unclear how the protection of AI-generated works would contribute to appropriate development of technologies or culture, and thus it is premature to form a conclusion.

Meanwhile, it is inferred that in UK, there is room for a copyright owner of an original work, an AI developer, a creator of learning data and others to be identified as an author of an AI-generated work according to the rule "person by whom the arrangements necessary for the creation of the work are undertaken," and then, it would be appreciated if you would teach us how the rule is applied practically.

(2-3) Case where no human involvement is found

Same as above.

7. Do other issues need to be considered in relation to content produced by AI systems?

• Risk that an AI-generated work is disguised as a "human-created work"

If AI-generated works are protected in a different manner from human-created works, it is considered that there is the problem of how an AI-generated work is distinguished from a human-created work, and that an AI-generated work may be intentionally disguised as a human-created work and exploited.

8. Does copyright provide adequate protection for software which implements artificial intelligence?

It provides adequate protection. No particular difference is found from software embedded in an ordinary system.

9. Does copyright or copyright licensing create any unreasonable obstacles to the use of AI software?

They do not create any obstacles. No particular difference is found from software embedded in an ordinary system.

Designs

1. *Do you agree with the analysis above which concludes that it is not possible for AI to be the author or owner of a UK or Community design?*

We agree. The current law was established on the premise that an author is "a human" and thus "AI" which is not recognised legally as "a person" should not be an author or an owner.

2. *Are there, or could there be, any tensions with the current legislation when seeking to register a design or be recognised as the owner of an AI-created design? Who would be the legal entity applying for the rights?*

The current law was established on the premise that an author is "a human," and thus if "AI" which is not recognised legally as "a person" is treated as an author or an owner, an inconvenient situation may occur. Under current circumstances, we consider that it is reasonable that AI-created designs should be protected within an applicable scope of the current law without revising it. The legal entity that can apply for the rights should be an owner of an AI system, and "a natural person," "a company," "an organization" or "an institution" which provides an input or data to the system and is directly involved in the creation of the design.

3. *Who should be recognised as the author of a design created by AI where the system has been bought from a supplier, and the buyer has provided input or data to the system? Does the wording of legislation need to be changed?*

The current law was established on the premise that an author is "a human," and thus "a purchaser" who provides an input or data to the system and is directly involved in the creation of the design should be recognised as "an author" of the design.

4. *Do you consider that legislation should be changed to allow AI systems to be recognised as the author of a registered design or designer of an unregistered design?*

We consider that AI systems should not be recognised as an author of a design, and thus no change is needed at this time.

5. *If so, how should we assess when AI stops being a tool programmed by a human and becomes an intelligent entity capable of producing its own IP? What proof or evidence would be required?*

Under current circumstances, involvement of a natural person is needed for AI to generate intellectual property; and it is premature to discuss an author, etc. on the assumption that AI by itself will be able to produce intellectual property.

6. *Unlike UK domestic legislation, the CDR has no provisions relating specifically to computer-generated designs. Does this result in legal uncertainty in relation to authorship and ownership of computer-generated designs? Would the same apply to AI-generated designs?*

The CDR is based on the premise that an author is "a human," and thus regarding a computer-/AI-generated design, as long as a natural person directly involved in the creation of the design is an author/right owner, "legal uncertainty" would not be brought about.

7. *Are there any other issues in relation to the CDR which we should consider in relation to AI?*

Because AI is not recognised as "a human" under the current law, we consider that AI cannot implement the above action.

8. *Can the actions of AI infringe a registered or unregistered design? Can AI do the acts set out in law?*

(N/A)

9. *When considering infringement are there, or could there be, any difficulties applying existing legal concepts in the registered designs framework to AI technology? Does AI affect the use of the "informed user" in measuring overall impression?*

(N/A)

10. *If AI can infringe a registered design, who should be liable for the infringement?*

Should it be the owner, the programmer, the coder, the trainer, the operator, the provider of training data, or some other party?

(N/A)

Trade marks

1. *If AI technology becomes a primary purchaser of products, what impact could this have on trade mark law?*

Even if AI mediates the action of purchasing, the action of purchasing itself should be recognised as a human action, and thus it is necessary to restrict such a trade mark or use thereof that may mislead AI in a way that causes damage to an AI user.

2. *Are there or could there be any difficulties with applying the existing legal concepts in trade mark law to AI technology?*

Even if AI implements the action of purchasing, the liability therefor and the gain or loss therefrom is held by a human using the AI; and thus there is no impact on the trade mark law.

At present, there are many cases where AI is utilized to perform specific tasks; however, in the future, AI may evolve in such a way that it can address various problems as can a human or make a comprehensive determination with a human-like consciousness. Therefore, it is considered that careful studies should be made in the medium to long term.

3. *Does AI affect the concept of the "average consumer" in measuring likelihood of confusion?*

The criteria for judgment on the confusion of AI, which performs the action of purchasing in a liable manner as described above 1, are different from the criteria for judgment on the confusion of a human, and thus there is no impact on the concept of the "average consumer."

Note that it is considered that the future development of AI may require study of the criteria for judgment on the confusion of AI in the same manner as described in the second paragraph of the response to Question 2.

4. *What is the impact of AI on the drafting of section 10? Can AI "use in the course of business" a sign which may be confusingly similar or identical to a trade mark?*

If this implies a case where AI is a seller and uses a trade mark that confuses consumer, the entity that causes AI to use it in such a manner is a human, and thus section 10 may stand as it is.

Note that if the future AI development may raise a doubt in judging the infringement on AI-mediated actual transactions as described in the second paragraph of the response to Question 2, it is considered that it may be necessary to consider, for example, clarifying "A person," the subject of section 10.

5. Can the actions of AI infringe a trade mark?

If AI creates a trade mark or a service mark by itself, the trade mark or service mark would be unintentionally similar to an existing trade mark, and thus they could do so. However, the liability therefor should be taken by a human using the AI.

6. If AI can cause trade mark infringement, does this shift who could be liable? Should it be the owner, the operator, the programmer, the trainer, the provider of training data, or some other party?

Regarding who should be liable, all of the parties involved in the action of AI including a human using the AI that has caused trade mark infringement should be liable, and it is desirable to provide a system that gives rise to an appropriate liability depending on the degree of the involvement thereof or the benefit received.

(EOD)