

PATENT FILE

Solving the DABUS problem

Bradford Newman asks what protections need to be put in place now that a machine can create IP



Bradford Newman

It is only a matter of time before humans lose the ability to oversee and track artificial intelligence (AI). What was once the realm of science fiction movies is, in short order, about to become a reality.

One consequence of the evolution of machines is that the intellectual property (IP) being created by AI is causing much consternation among human inventors and the US and foreign courts.

Consider: in April, a federal judge in the Eastern District of Virginia heard oral arguments in a case appealing the US Patent and Trademark Office's (USPTO) rejection of a patent application that named only a machine as the inventor. It seems likely the result will be a decision that under current patent laws, a human alone must be listed as the inventor – even where the human did not create the IP.

Stephen Thaler has been denied a patent that named his inventive machine, DABUS, as the inventor of IP created using neural flames and fractal containers. Simplified, the neural flame constitutes a light that is activated in a specific way to attract attention in a preferential manner, such as in an emergency when a plane crashes or a ship is lost at sea. AI or a human could search for this specific type of light. And to simplify again, a fractal container is akin to a drink container that uses fractal geometry to aid with storage and transportation.

On the patent application, Thaler had listed DABUS as the inventor for three primary reasons:

- DABUS functionally created the inventions.
- Thaler wanted to be clear that AI – not a human – invented the technology; and
- Thaler wanted to prevent humans from asserting that they invented this technology.

In the DABUS case, it has been suggested that where AI creates IP, the IP should be deemed to belong to the AI machine's owner

– ie, a human. This argument is based on existing patent laws in the US and in important jurisdictions like the UK and EU that constrain "inventor" to human beings. This is where the courts find themselves in a pickle.

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For starters, the “inventor as human being” approach grossly discounts the speed and complexity at which AI is being developed, trained and deployed. It is inappropriate to charge humans who purchased or own AI-enabled machines as the owners of what they did not create and likely do not – or soon will not – understand. Listing “any human” as the inventor, especially where the listed person did not create or co-create the IP, creates other tangible risks to the validity and enforceability to the patent. And in the US, criminal penalties flow from a human improperly listing herself as the inventor.

Unless the current patent laws allow AI machines to be listed as inventors, we need new regulation that considers AI as inventors from a different perspective: public health and safety. Because when – not if – AI-created IP presents a danger to the public safety and welfare, who

or what should be held responsible? The work arounds being used to try and address the shortcomings in existing patent laws do not, by any measure, address AI-created IP deemed dangerous to humans.

We're not far from this reality. The rate at which machine learning and neural networks are evolving, together with the interconnectedness of AI machines, makes it easy to imagine a near future where scores of AI machines “owned” and controlled by different entities – including state actors – work together to create and optimise new IP that is harmful to humans.

What's needed is a rational mechanism for overseeing AI-created IP and to make determinations about which AI-created IP present a danger to public safety and welfare. In the US, it should not be controversial to have one federal regulatory agency with this level of oversight: think of the Food & Drug Administration's oversight of the integrity of food and pharmaceuticals, the Securities and Exchange Commission's oversight of publicly traded companies, and the Department of Labor's oversight of occupational safety, health and wage and hour standards.

A similar agency – an Artificial Intelligence Board – should be created to address AI's social risks and establish safety protocols, rules and regulations for its usage, and to track and monitor AI-created IP. The board could also review and terminate patents issued by the USPTO that utilise AI to create, transfer or deploy IP that presents a public health or safety threat.

It's time to do more than acknowledge that current laws cannot account for AI-created IP. It's time to act. Since our courts are poised to confirm that existing patent laws cannot adequately address AI as inventors, Congress needs to act to solve our “DABUS problem”.

Bradford Newman is the current chair of the American Bar Association's AI Subcommittee and leads Baker McKenzie's AI and machine learning practice. He also participated in preparing the HR Discussion Draft Bill for the Artificial Intelligence Data Protection Act in 2018, together with Representative Nolan's office (D-MN).