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7 KEY TAKEAWAYS

Thought Experiment: Is Our Patent System Ready for a Potential Future of Brain Interfacing?

In a recent article, Kilpatrick Townsend's Kate Gaudry and Mark P. Mathison summarized current non-invasive brain-machine interface technology and theorized its effect on patent law if its advancement flourishes like that of the Internet and smart phones.

Here are some key takeaways from the article:

1

In 2019, researchers were able to non-invasively measure electrical brain signals from multiple people while watching a video game. The brain signals were used to non-invasively stimulate the brain of another person, who was then able to successfully play the video game (without seeing it). Other researchers were able to decode, from electrical brain signals (recorded using electrodes placed on the surface of the brain), what a person was saying when a limited vocabulary was used.

2

The U.S. Defense Advanced Research Projects Agency (DARPA) is currently funding six research teams to develop minimally invasive brain-machine interfaces that can read & write neural signals from 16 or more different brain resolutions at a resolution of 1 mm^3. Given the advancements, interest, and government funding, brain-machine interface technology seems to be at a state akin to cellular phones 30 years ago.

3

The article envisions what the impact a proliferation of practical brain-machine devices that could interpret discrete thoughts — and networks exchanging such electronic representations of thoughts — could have on domestic & international patent law.

4

Inventorship criteria may change to accommodate electronic thoughts that are mixed on computers, especially if they are at scale. Compare it to massively multiplayer online video games, such as *World of Warcraft*, which host 1000s of players at once. Another issue may be anonymity. Patent law may draw solutions from other endeavors in which many, many people collaborate or are affected. For example, particle physics papers are often authored by hundreds of researchers; class actions in tort law can handle thousands of individuals affected.

5

The person of ordinary skill in the art (POSITA) may change to include perfect processing & memory offered by the computers upon which electronic thoughts are hosted. The threshold for nonobviousness may be elevated considerably.

6

Prior art may change as drastically as it did when the development of the Internet reformulated what is "printed" and what is a "publication." For example, if electronically stored thoughts are indexed and searchable, then they may potentially qualify as a type of non-patent literature for obviousness. If not, then they still might be suitable as evidence for what is well known, for secondary considerations like long-felt but unsolved needs, or in derivation proceedings.

7

The written description and enablement requirements for a patent application could be supported by referencing databases of electronically stored thoughts. This is not without precedent, as some non-written material is already fair game, such as biological material (MPEP § 2402). There is also the prospect that such databases could serve as evidence that the inventors were in possession of the invention or that terms in the written portion refer to valid terms of art known in the field.

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