

ENGR 399

- Open the in-class quiz now... today, quiz questions will be distributed throughout the lecture. Quiz access code = nonso
- In quiz – no need to type questions
- Asynchronous assignment 5 is posted, and is due by Sunday midnight. There are three options... do ONLY ONE of the three options
- fyi: Async 5, Option A has different type of focus... it is “skills-based” and addresses US regulations limiting export of technologies

Congo asks NBA, F1, soccer teams to end Rwanda deals



Mark Fainaru-Wada

Feb 14, 2025, 09:00 AM ET

last Friday

In her letter Thursday to NBA commissioner Adam Silver, DRC Foreign Minister Thérèse Kayikwamba Wagner questioned the NBA's morality, calling on Silver to consider whether the league's "commitment to social justice and respect for human rights" aligns with its business ties to Rwanda, which the DRC blames for a surge in violence in its country.

World / Africa

Fighting in Africa's mineral-rich DRC killed over 3,000 in less than 2 weeks. Here's how your phone plays a part

By Nimi Princewill, CNN

⌚ 5 minute read · Updated 1:07 PM EST, Thu February 13, 2025

"Access to natural resources is at the heart of this conflict," Jean Pierre Okenda, an analyst specializing in extractive industries governance, told CNN about the M23-led takeover of territories in the east.

"It's not a coincidence that the zones occupied by the rebels are mining areas," Okenda said, adding that global demand for cobalt and coltan has fueled the crisis.

slides from
Lecture 2
addressed
this topic

RENEWABLE ENERGY

Electric vehicles have a dark side too: Blood batteries and child labour

The Democratic Republic of Congo, a country that is among the poorest on the planet, is paying a heavy price for the global green energy revolution

SCIENCE

THE EV BOOM IS BEING FUELED BY UNDERPAID, UNDERFED COBALT MINERS

Workers at a Tesla supplier say they can't get enough food or water on the job

By Maddie Stone | Feb 15, 2022, 11:30am EST

Cobalt poses human rights test for Biden on clean energy

By Jael Holtzman, David Iaconangelo | 03/15/2022 09:17 AM EDT



Pollution causing birth defects in children of DRC cobalt miners - study

Researchers link exposure to mining pollutants to greatly increased risk of conditions such as spina bifida and limb abnormalities

Thousands of people in the Democratic Republic of Congo (DRC) are being exposed to dangerous levels of toxic pollution that is causing birth defects in their children as they mine for cobalt used to make rechargeable batteries for smartphones, laptops and electric cars, a new medical study has found.

Research published in the Lancet last week found that local people working in mines in the African "copperbelt", a mining region stretching across Zambia and the DRC, are at significantly higher risk of having children born with serious birth defects.

Researchers from the University of Lubumbashi in the DRC and the universities of Leuven and Ghent in Belgium compared 138 newborn children of families within the copperbelt with 108 children born outside the mining zone in Lubumbashi. It found that the risk of birth defects greatly increased when a parent worked in a copper and cobalt mine.

JUNE 17, 2022

Keep Child and Slave Labor Sourced Electric Vehicles Out of U.S. Military, Ernst Says

NEWS DEFEAT POVERTY

Mining for Metal Used in Smartphone Batteries Is Causing Birth Defects in DRC

Metal mining and birth defects: a case-control study in Lubumbashi, Democratic Republic of the Congo

Daan Van Brusselen*, Tony Kijnebeke-Klering*, Silvian Mbaya-Munozapal, Tari Lubala Kasulu, Leon Kalonda Nyambe, Paul Mous Ghadie, Daniel Kyankwa Mukoma, Koen Van Herck, Dirk Aertsens, Koen Devalck, Erik Smolders, Colleen Banzu Luboba Nkulu, Berndt Nemery

Summary
Background: Widespread environmental contamination caused by mining of copper and cobalt has led to concerns about the possible association between birth defects and exposure to several toxic metals in southern Katanga, Democratic Republic of the Congo (DRC). We therefore aimed to assess the possible contribution of parental and antenatal exposure to trace metals to the occurrence of visible birth defects among neonates.

Methods: We did a case-control study between March 1, 2013, and Feb 28, 2015, in Lubumbashi, DRC. We included newborns with visible birth defects (cases) and healthy neonates born in the same maternity ward (controls). Mothers were interviewed about potentially relevant exposures, including their partner's jobs. Various trace metals were measured in individual and placental blood and urine specimens in maternal urine, umbilical cord blood, placental tissue, and surface soil from home. Multivariable logistic regression analyses were done to calculate adjusted odds ratios and their 95% CIs (C).

"We included newborns with visible birth defects (cases) and healthy neonates born in the same maternity ward (controls)." ↗

WRONG!!!!

Asynchronous 3

Async 3, Option A: Superintelligence

Due Feb 9 at 11:59pm | 20 pts

Async 3, Option B: A Dark Side of Electric Cars

Due Feb 9 at 11:59pm | 20 pts

Async 3, Option C: Genome-Edited babies

Due Feb 9 at 11:59pm | 20 pts

This lecture... what we will cover

1. What is “intellectual property”, and what is the ethical balance between an “exclusive monopoly on an idea” and public interest?
2. What is a trademark and how can you screw things up and lose it?
3. What is a copyright and what is “fair use”?
4. What can be patented, and who can “have” a patent?

UNITED STATES PATENT AND TRADEMARK OFFICE

Daniel J. Lacks

has made application for registration and has complied with all of the requirements of law and the rules of the United States Patent and Trademark Office for registration on the 6th day of September 2022. Now, therefore, the Under Secretary of Commerce for Intellectual Property and Director of the United States Patent and Trademark Office, pursuant to the authority conferred by statute, does hereby license the above-named applicant as an

Agent

Registration No. 81,042

to practice before the United States Patent and Trademark Office in Patent Cases.

In Witness Whereof, the seal of the United States Patent and Trademark Office is hereby affixed.



A handwritten signature in black ink, appearing to read "Well R. Day".

Deputy General Counsel for Enrollment and Discipline and
Director of the Office of Enrollment and Discipline

Intellectual Property

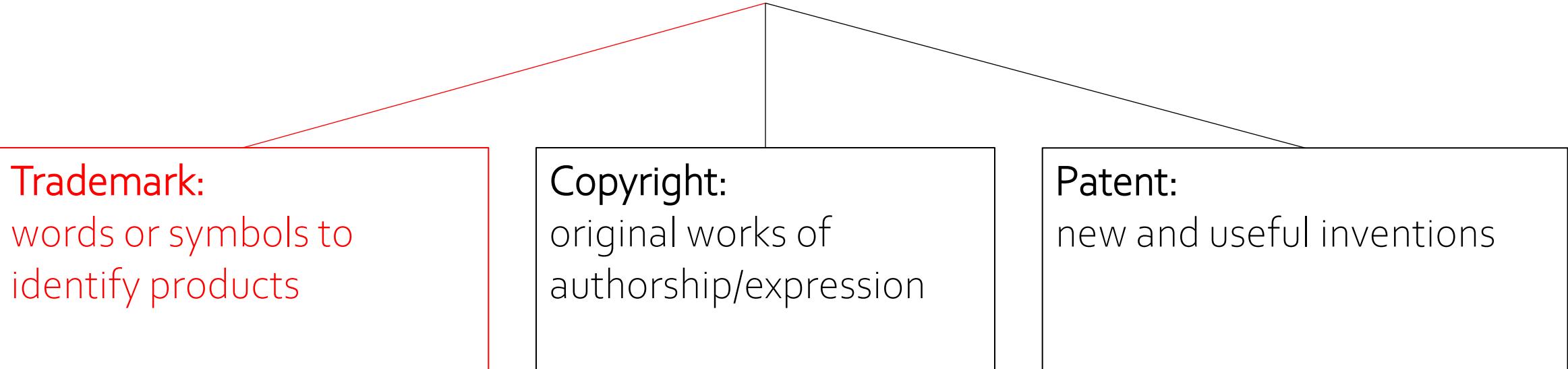
```
graph TD; IP[Intellectual Property] --- TM[Trademark]; IP --- CO[Copyright]; IP --- PT[Patent]
```

Trademark:
words or symbols to identify products

Copyright:
original works of authorship/expression

Patent:
new and useful inventions

Intellectual Property



Trademark:
words or symbols to
identify products

Copyright:
original works of
authorship/expression

Patent:
new and useful inventions

Trademarks — 15 U.S.C. 1127

The term "trademark" includes any **word, name, symbol**, or device, or any combination thereof—

- (1) used by a person, or
- (2) which a person has a bona fide intention to use in commerce and applies to register on the principal register established by this chapter,

to identify and distinguish his or her goods, including a unique product, from those manufactured or sold by others and to indicate the source of the goods, even if that source is unknown.



U.S.C. = "United States Code" ... these are laws passed by Congress

Ten years ago I taught ENGR 480 in Myanmar



Myanmar is a REALLY amazing place!!!



At the time, Myanmar didn't have international IP agreements



Trademarks are intended to stop situations like this

Are there “IP police” on patrol looking for IP violations and bringing offenders to justice?

No! If someone believes their intellectual property has been violated, it's up to them to take action and enforce their rights.

TECHNOLOGY

Why Tinder Is Trying to Shut Down the 'Tinder for Threesomes'

The dating app has filed a trademark infringement lawsuit against its rival 3nder.

BY ROB PRICE, BUSINESS INSIDER

MAY 24, 2016

Tinder alleges that 3nder's name — superficially similar to Tinder — infringes on its trademark. It wants its smaller rival to completely close down and stop using the 3nder name.

TECH

Threesome app changing its name thanks to Tinder

By [James Covert](#)

Published Aug. 1, 2016, 11:17 p.m. ET

3nder, the kinky app catering to threesomes, will change its name amid a nasty trademark dispute.

Dogged by a [lawsuit from Tinder filed this spring](#), British-based 3nder is expected to announce on Tuesday that it will change its name to "Feeld."



Microsoft Fights Apple Trademark on 'App Store'

By Stephen Lawson

| JAN 11, 2011 5:40 PM PST

Microsoft is asking the U.S. Patent and Trademark Office to deny Apple a trademark on the name "App Store," saying the term is generic and competitors should be able to use it.

The battle for the ‘Taco Tuesday’ trademark is over



By [Jordan Valinsky](#), CNN Business

⌚ 2 minute read · Updated 3:17 PM EDT, Tue July 18, 2023

f X e s



Taco John's has owned the trademark in every state except New Jersey since 1989. It has used the phrase for marketing purposes and has defended its use of the phrase and sent cease-and-desist letters to others trying to use it.

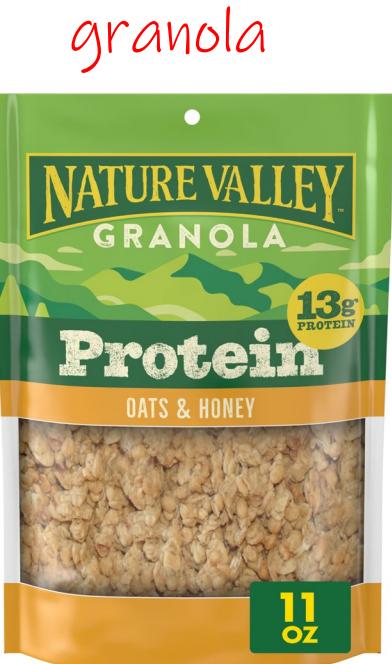
Taco Bell filed a petition in May with the US Patent and Trademark office to cancel the trademark owned by rival Taco John's for 34 years because Taco Bell claims the commonly used phrase "should be freely available to all who make, sell, eat and celebrate tacos."

15 U.S.C. 1127 goes on to say...

A [trademark] shall be deemed to be “abandoned” if ... conduct of the owner, including acts of omission as well as commission, causes the mark to become the generic name for the goods or services

What do these have in common?

These are brand names that lost their trademark status and have become generic words



escalator



pilates



Strain-Induced Reversal of Charge Transfer in Contact Electrification**

Mamadou Sow, Ross Widenor, Ajay Kumar, Seung Whan Lee, Daniel J. Lacks,* and R. Mohan Sankaran*

Our study is based on the classic demonstration of contact electrification in which a balloon is rubbed against another material. Balloons are composed primarily of latex rubber, an elastomeric material that can be reversibly strained by simply inflating and deflating. The novelty of our approach is that we compare the contact electrification from inflated (strained) or deflated (relaxed) balloons. We contact either the strained or relaxed balloons with a teflon surface and analyze the charge that develops on the teflon surface (rather than the balloon surface) to circumvent issues associated with changes in the surface area of the balloon. We show that the strain induced in the latex rubber controls the direction of charge transfer.

Your recent article in Angewandte Chemie on Electrostatic Charging ➤ Inbox x

[REDACTED] Fri, Jul 6, 2012, 3:09 PM ☆ ↵ :

to daniel.lacks, angewandte ▾

Dear Dr. Lacks,

I enjoyed reading your recent article on Electrostatic Charging, but was a bit confused by your use of the word "Teflon[sic]." Teflon(R) is a DuPont trade name and does not denote any particular chemical structure. It would be more accurate to use PTFE to describe the polymer (as Gryzbowski *et al.* did in the paper you site), and only call it Teflon(R) PTFE if it was a material made by DuPont.

Best regards,

[REDACTED], Ph.D.
Research Associate
DuPont Central Research & Development
Wilmington, DE

I had done consulting work with GOJO, the company that produces Purell, and their engineers and scientists were very concerned about things like this. Why were they concerned?

Forbes

ELECTION 2020

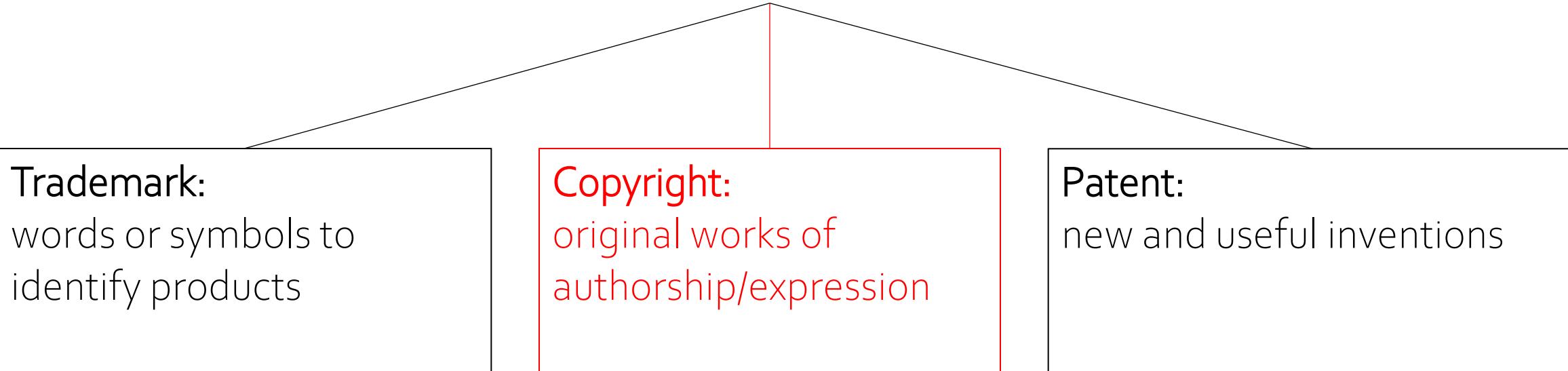
Meadows Brags About Purell Use When Pressed On White House Following Covid-19 Guidelines

Jack Brewster Former Staff

“I probably have used more Purell than any American here in the United States over the last 7-8 months,” Meadows told *CBS This Morning* when asked to clarify the White House position on Americans following Centers for Disease Control guidelines, before encouraging Americans to socially distance and wear a mask when you can’t stay away from people.

Q1: Prof. Lacks discussed his personal interactions with companies where engineers expressed a concern in regard to their company's trademark. Describe the concern that was expressed.

Intellectual Property



Trademark:
words or symbols to identify products

Copyright:
original works of authorship/expression

Patent:
new and useful inventions

The Times Sues OpenAI and Microsoft Over A.I. Use of Copyrighted Work

Millions of articles from The New York Times were used to train chatbots that now compete with it, the lawsuit said.

US artists score victory in landmark AI copyright case

A federal judge in California has blocked an attempt by several AI companies to have portions of a copyright case dismissed



WSJ

MEDIA

OpenAI, WSJ Owner News Corp Strike Content Deal Valued at Over \$250 Million

'The pact acknowledges that there is a premium for premium journalism,' News Corp CEO Robert Thomson tells employees

By Alexandra Bruell [Follow](#), Sam Schechner [Follow](#) and

Deepa Seetharaman [Follow](#)

Updated May 22, 2024 9:45 pm ET

Bollywood music labels seek to challenge OpenAI in India copyright lawsuit

By Aditya Kalra

February 14, 2025 5:23 AM EST · Updated 16 hours ago



AP

WORLD U.S. POLITICS SPORTS ENTERTAINMENT BUSINESS SCIENCE FACT CHECK ODDITIES BE WELL NEWSLETTERS

Live updates: Trump Danielle Sassoon Valentine's Day Super Bowl parade Movie reviews

AP SETS SUPPORT

BUSINESS

Canadian news publishers sue OpenAI over alleged copyright infringement

OpenAI faces new copyright case, from global book publishers in India

By Aditya Kalra, Arpan Chaturvedi and Munsif Vengattil

January 24, 2025 9:52 AM EST · Updated 21 days ago



Copyright — 17 U.S.C. 102

Copyright protection subsists, in accordance with this title, in **original works of authorship** fixed in **any tangible medium of expression**, now known or later developed, from which they can be perceived, reproduced, or otherwise communicated, either directly or with the aid of a machine or device.



In no case does copyright protection extend to any idea, procedure, process, system, method of operation, concept, principle, or discovery

17 U.S.C. 107 — Fair use

The fair use of a copyrighted work... is not an infringement of copyright.

In determining whether the use made of a work in any particular case is a fair use the factors to be considered shall include—

- (1) the purpose and character of the use, including whether such use is of a commercial nature or is for nonprofit educational purposes;
- (2) the nature of the copyrighted work;
- (3) the amount and substantiality of the portion used in relation to the copyrighted work as a whole; and
- (4) the effect of the use upon the potential market for or value of the copyrighted work.

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Nonprofit/educational purpose
more likely to be fair use

"transformational" (used
in way that was not
original intent) more likely
to be fair use

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if you copy something
more creative, the less
likely to be fair use

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smaller portion made
accessible to the public...
more likely to be fair use

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if not directly competing in market... more likely to be fair use

What is the copyright issue here?



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COURTS AND JUSTICE

The King's ink: Judge rules in favor of 'NBA 2K' video-game maker in lawsuit over LeBron James' tattoos

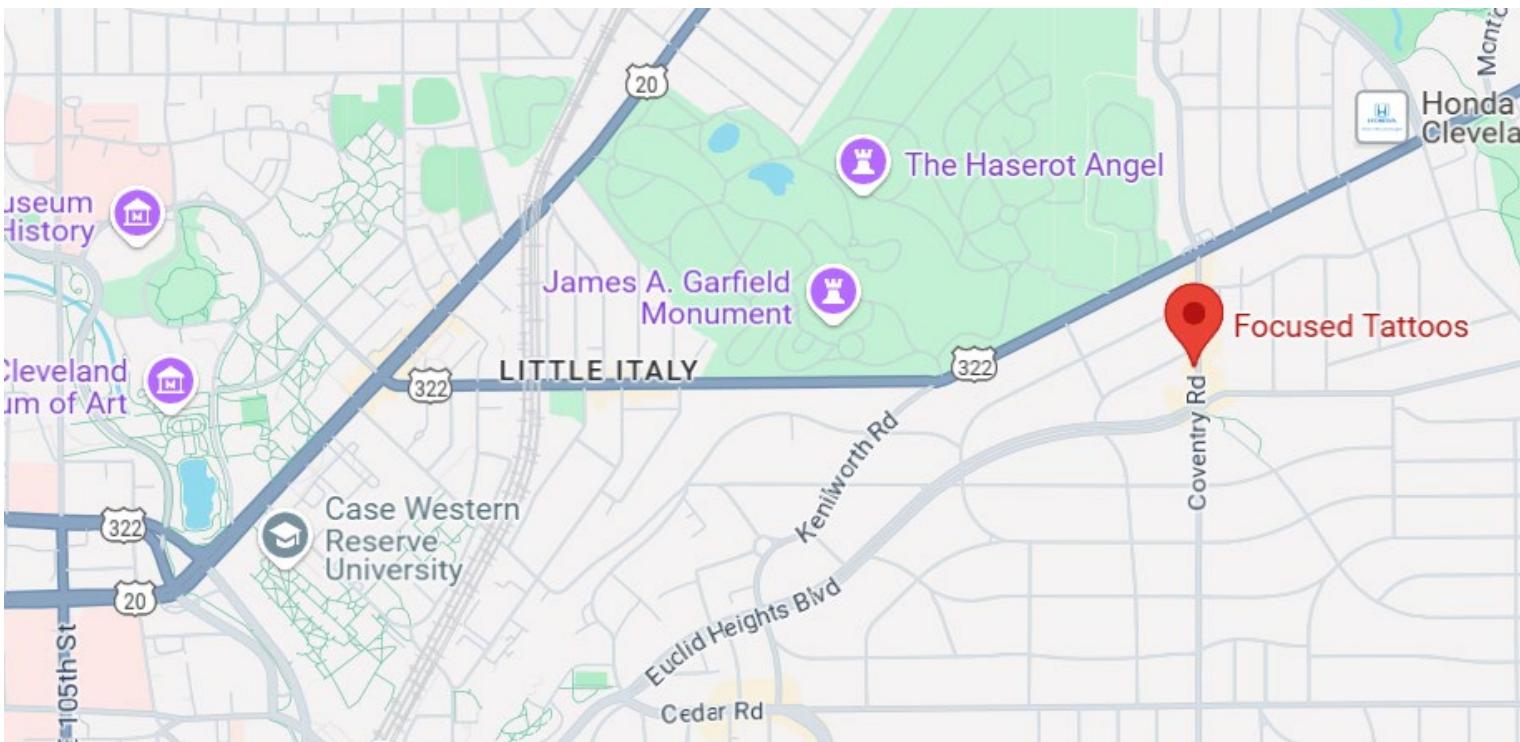
Updated: Jan. 25, 2024, 10:58 a.m. | Published: Jan. 25, 2024, 10:48 a.m.

CLEVELAND, Ohio — A federal judge on Wednesday dismissed claims brought by LeBron James' tattoo artist against the makers of the "NBA 2K" video-game franchise in a long-running lawsuit over copyright infringement.

U.S. District Judge Christopher Boyko sided with Take Two, saying Cleveland tattoo artist Jimmy Hayden had no legal claims of infringement for four of his six tattoos in the lawsuit.

Hayden owns Focused Tattoo in Cleveland Heights.

where in Cleveland Heights???



This is where I took my daughter to get her nose pierced!



What about computer programs?

"a computer program, whether in object code or source code, is a 'literary work' and is protected from unauthorized copying, whether from its object or source code version."

United States Court of Appeals, Third Circuit
Apple Computer v. Franklin Computer, No. 82-1582 (1983).

BUSINESS

Google Wins Multibillion Dollar Copyright Fight With Oracle in Supreme Court

A lower court had ruled that Google's Android operating system infringed Java copyrights held by Oracle

By [Brent Kendall](#) [Follow](#) and [Tripp Mickle](#) [Follow](#)

Updated April 5, 2021 5:14 pm ET

"Copying of some Java API code was fair use"

WASHINGTON—The Supreme Court ruled for [Alphabet](#) Inc.'s [GOOGL](#) [0.02% ▲](#) Google in [a multibillion-dollar battle](#) with [Oracle](#) Corp. [ORCL](#) [0.66% ▲](#) over elements of Google's Android smartphone-operating system, a decision that could weaken software copyright protections but allow developers more room to build on each other's products.

The court, in a 6-2 opinion Monday by Justice Stephen Breyer, threw out [a lower-court ruling](#) for Oracle that said Android infringed its copyrights on the Java software platform. The high court said Google's copying of some Java API code was fair use. APIs, or application programming interfaces, are prewritten packages of computer code that allow programs, websites or apps to talk to one another.

Generative AI

In generative AI, "generative" refers to the ability of the model to create new, original content—such as text, images, or music—based on patterns learned from its training data.*

E.g., ChatGPT

*Obtained from chatGPT

The Times Sues OpenAI and Microsoft Over A.I. Use of Copyrighted Work

Millions of articles from The New York Times were used to train chatbots that now compete with it, the lawsuit said.

US artists score victory in landmark AI copyright case

A federal judge in California has blocked an attempt by several AI companies to have portions of a copyright case dismissed



WSJ

MEDIA

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Updated May 22, 2024 9:45 pm ET

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January 24, 2025 9:52 AM EST · Updated 21 days ago



Generative AI

Is it LEGAL for generative AI companies to use copyrighted materials as training data without licensing or explicit permission?

This question boils down to... is this Fair Use?

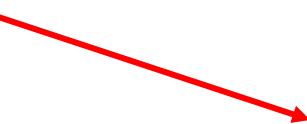
The decision will come from interpretation of 17 U.S.C. 107 by judges... lawsuits are currently proceeding ... but no decision yet

But there was a decision last week on non-generative AI

The product... AI-driven legal search

- This AI is non-generative because it outputs (verbatim) existing judicial opinions
- The company used copyrighted search prompts to develop material

The decision came out
last Tuesday!



IN THE UNITED STATES DISTRICT COURT
FOR THE DISTRICT OF DELAWARE

THOMSON REUTERS ENTERPRISE
CENTRE GMBH and WEST PUBLISH-
ING CORP.,

Plaintiffs,

No. 1:20-cv-613-SB

v.

ROSS INTELLIGENCE INC.,

Defendant.

Jack B. Blumenfeld, Michael J. Flynn, MORRIS, NICHOLS, ARSHT & TUNNELL LLP, Wilmington, Delaware; Dale M. Cendali, Eric A. Loverro, Joshua L. Simmons, KIRKLAND & ELLIS LLP, New York, New York; Yungmoon Chang, KIRKLAND & ELLIS LLP, Los Angeles, California; Miranda D. Means, KIRKLAND & ELLIS LLP, Boston, Massachusetts.

Counsel for Plaintiffs.

David Ellis Moore, Bindu Ann George Palapura, POTTER ANDERSON & CORROON LLP, Wilmington, Delaware; Jordan Ludwig, Emily T. Kuwahara, CROWELL & MORING LLP, Los Angeles, California; Ryan Henry Seewald, CROWELL & MORING LLP, Denver Colorado; Warrington Parker, Joachim B. Steinberg, Jacob Canter, Christopher J. Banks, Anna Z. Saber, Margaux Poueymirou, CROWELL & MORING LLP, San Francisco, California; Keith J. Harrison, Mark A. Klapow, Lisa Kimmel, Crinesha B. Berry, CROWELL & MORING LLP, Washington, D.C.

Counsel for Defendant.

MEMORANDUM OPINION

February 11, 2025

17 U.S.C. 107 — Feb 2025 decision on non-generative AI

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(3) the amount and substantiality of the portion used in relation to the copyrighted work as a whole; and

(4) the effect of the use upon the potential market for or value of the copyrighted work.

Factor 1: goes against fair use because

- Use is clearly commercial
- Not transformative...
the copied search
prompts was used in
same way as the original
search prompts



Would this be different
for generative AI?

17 U.S.C. 107 — Feb 2025 decision on non-generative AI

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(4) the effect of the use upon the potential market for or value of the copyrighted work.

Factor 2: goes in favor of fair use because

- The copied search prompts were minimally creative



Would this be different
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Factor 3: goes in favor of fair use because

- The copied search prompts were not made available to public



Would this be different
for generative AI?

17 U.S.C. 107 — Feb 2025 decision on non-generative AI

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Factor 4: goes against fair use because

- The AI product would compete directly with the product from which it got the data

would this be different
for generative AI?

Q2: What is fair use? Choose one factor used in assessing fair use and explain how, in terms of this factor, generative AI's (e.g., ChatGPT's) use of copyrighted materials as data for training the AI would favor or oppose a determination of fair use.

- (1) the purpose and character of the use, including whether such use is of a commercial nature or is for nonprofit educational purposes;
- (2) the nature of the copyrighted work;
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- (4) the effect of the use upon the potential market for or value of the copyrighted work.

Generative AI

Is it MORAL for generative AI companies to use materials from writers and artists as training data without their explicit permission?

This avoids any copyright infringement...
but is this ok?

EQ

THE CHRONICLE
OF HIGHER EDUCATION

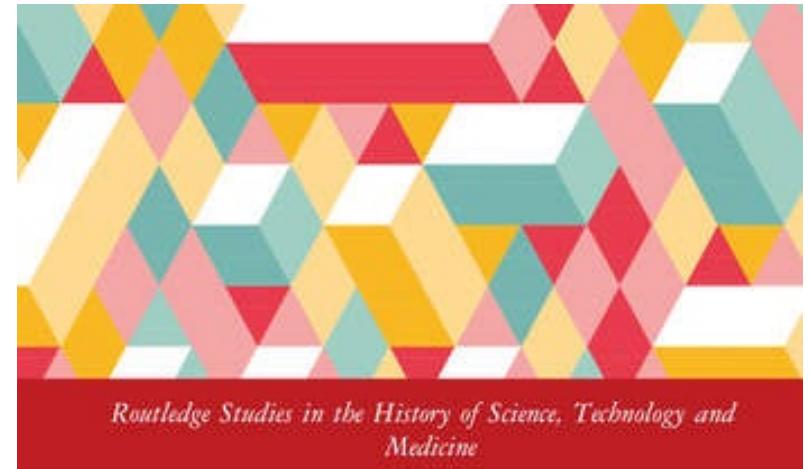
Sig

INTELLECTUAL-PROPERTY DEBATE

Two Major Academic Publishers Signed Deals With AI Companies. Some Professors Are Outraged.

By [Christa Dutton](#) | July 29, 2024

Note the Routledge publishing contract includes the following:
“Copyright in the Work will remain with the author, who licenses the Publisher to make a copy available in any format worldwide on a non-exclusive basis. This permits the Publisher to distribute the Work in any format at any time.”



Recall from previous lecture...

Is the value-neutrality thesis correct?

Consider again the case of guns. You can use a hand gun for many purposes: as a door stop, a paper weight, a decoration in one's house, or an object to stir ingredients in a bowl for dinner—and so on.

But guns weren't designed for these purposes, and they aren't as effective at achieving these ends as other artifacts specifically designed for such purposes. Instead, guns were designed to shoot bullets at ~1,400 mph (depending on the gun) toward a target.

In this sense, the particular design of guns inclines users to use this technology for specific purposes.



LANGDON WINNER

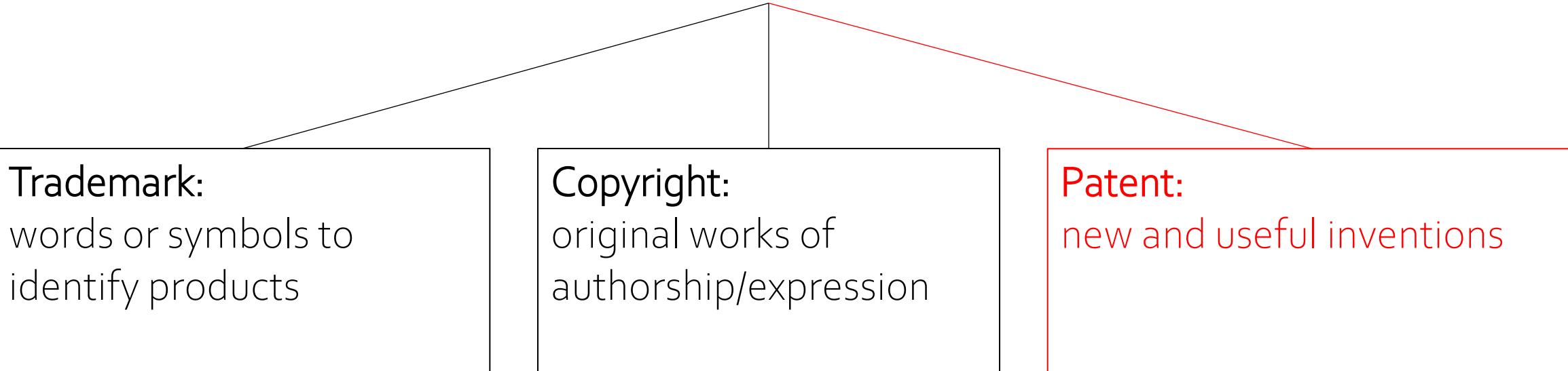
Do Artifacts Have Politics?

IN CONTROVERSES ABOUT TECHNOLOGY AND SOCIETY, there is no idea more provocative than the notion that technical things have political qualities.

- Our lecture discussed these ideas in terms of guns. You could say the same thing about other technologies: computers, automobiles, headphones, satellites, microscopes, etc.
- Winner argued against value-neutrality, claiming that some technologies have values ("politics") built into them—these values are inherent in the technologies themselves
- The values of a technology are the result of the design process itself (intentional or inadvertent)
- Philosophers of technology overwhelmingly reject the value-neutrality thesis (but, of course, they might be wrong!)

Q3: Do you think generative AI can be considered to “have politics”? Explain your answer.

Intellectual Property



Trademark:
words or symbols to identify products

Copyright:
original works of authorship/expression

Patent:
new and useful inventions

United States Patent Office

3,351,836

Patented Nov. 7, 1967

1

3,351,836

WINDSHIELD WIPER SYSTEM WITH INTERMITTENT OPERATION

Robert W. Kearns, Detroit, Mich., assignor, by mesne assignments, to Tann Company, Detroit, Mich., a partnership of Michigan

Filed Dec. 1, 1964, Ser. No. 414,973
19 Claims. (Cl. 318—443)

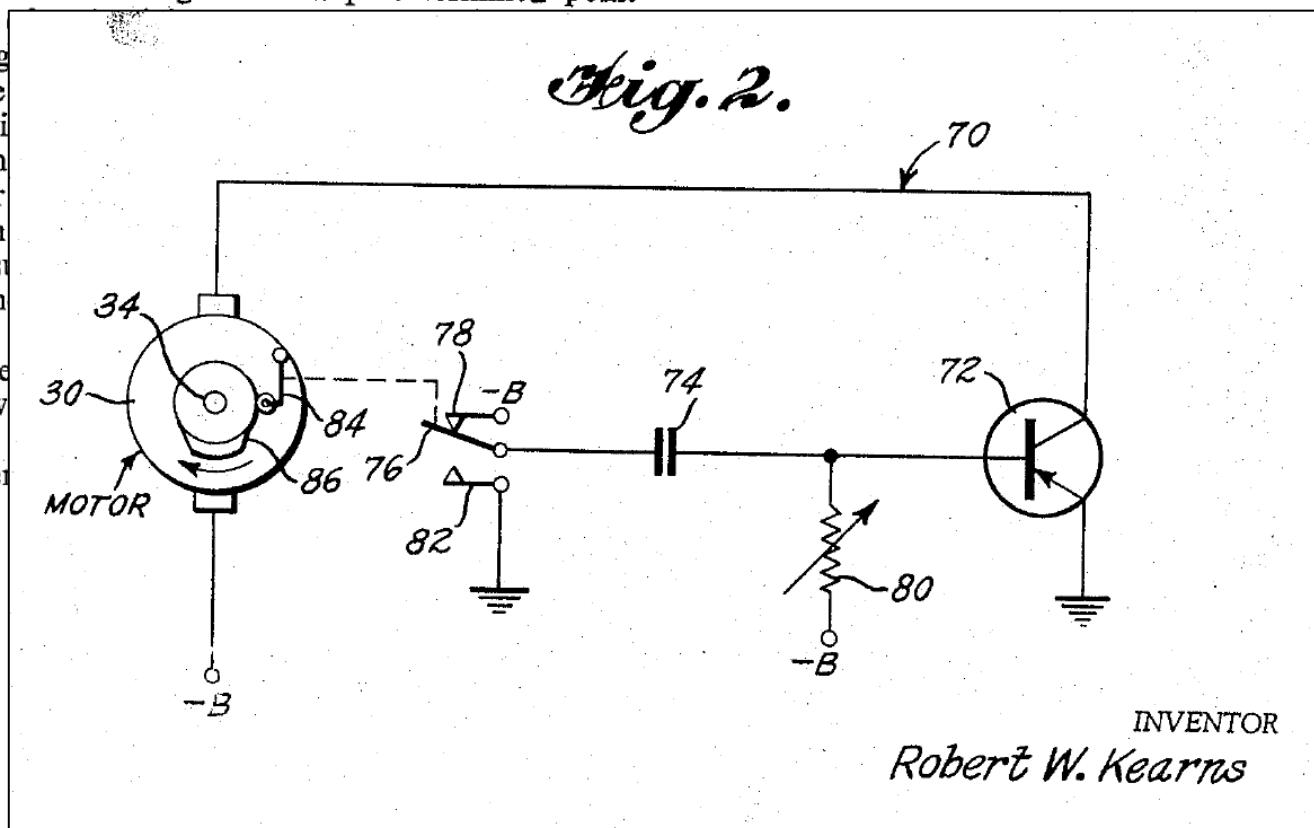
The present invention relates to windshield wiper systems and more particularly to a windshield wiper system of the intermittent type in which the wiper dwells for a time interval during a portion of each cycle of wiper operation.

Under certain conditions, such as light rain or splash-back produced by other vehicles on wet roads, the condition of the windshield is often in what may be termed a wet-dry condition. Continuous windshield wiper operation with such a windshield condition may cause smearing to obscure the vision of the driver. The wiper element also may be inadequately lubricated, causing undue wear on the wiper blade. To overcome these problems, it is de-

2

by the wiper blades moving over the windshield to determine whether the wiper blades are stopped for a dwell period at the end of each cycle or whether the dwell period is skipped to provide continuous operation. In accordance with one embodiment of the invention involving an electric windshield wiper system for automotive vehicles, the electric motor is deenergized at a predetermined point near the end period during

10 a small angle the deceleration of the wiper blades moving on the motor shield. When 15 windshield, sufficiently lubricated and the wiper blades exerting a braking force on the windshield during a dwell period so as 20 fewer number of cycles. By selecting



INVENTOR

Robert W. Kearns

What rights do a patent entitle the patent holder to?

... is it the right to make or sell the invention?

NO!!!

35 U.S.C. 154

(1) CONTENTS.—Every patent shall contain a short title of the invention and a grant to the patentee, his heirs or assigns, of the **right to exclude others from making, using, offering for sale, or selling the invention throughout the United States or importing the invention into the United States,**

and,

if the invention is a process, of the **right to exclude** others from using, offering for sale or selling throughout the United States, or importing into the United States, **products made by that process**, referring to the specification for the particulars thereof.

Why get a patent?

- deter others from stealing ideas
- deter others from entering market
- attract investment
- license or sell patent others (make money without making product)
- published patents of inventions puts knowledge out to public

Four Reasons Entrepreneurs May Not Want to Get a Patent Right Away

It could depend on your finances and the nature of your idea

By Barbara Haislip

May 9, 2023 11:00 am ET

It may cost too much right now

However, for a fledgling startup, a patent may pose one basic hurdle: expense. The overall cost of filing can range from \$10,000 to \$40,000, says David Hsu, the Richard A. Sapp Professor of Management at the Wharton School, University of Pennsylvania. Entrepreneurs who are seriously strapped for cash might be better off investing in necessities first, he says.

You have to be the police

The expenses don't end there. Once you've got a patent, you may end up spending a lot of money—and, just as important, time—making sure nobody infringes on it. Patents aren't self-enforcing, Dr. Hsu says, and holders need to keep abreast of the marketplace to watch for potential copycats. That can mean hiring another firm to do the watching for you, and then taking on legal costs to pursue action if necessary.

Just keeping a secret may work better

However, in other cases, a patent doesn't make as much sense. "If your idea is something that can be kept secret, such as a recipe or complex process that cannot be reverse-engineered, perhaps keeping it as a trade secret makes more sense," he says.

an important caveat...

A patent is not set in stone... anyone can challenge the validity of a patent, and the patent can be ruled invalid after a re-examination by the patent office or in a federal court trial.

(12) **United States Patent**
Chaudhri et al.

(10) **Patent No.:** US 8,046,721 B2
(45) **Date of Patent:** *Oct. 25, 2011

(54) **UNLOCKING A DEVICE BY PERFORMING GESTURES ON AN UNLOCK IMAGE**

(75) Inventors: **Imran Chaudhri**, San Francisco, CA (US); **Bas Ording**, San Francisco, CA (US); **Freddy Allen Anzures**, San Francisco, CA (US); **Marcel Van Os**, San Francisco, CA (US); **Stephen O. Lemay**, San Francisco, CA (US); **Scott Forstall**, Mountain View, CA (US); **Greg Christie**, San Jose, CA (US)

(73) Assignee: **Apple Inc.**, Cupertino, CA (US)

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Apple sued Samsung for infringement... and won!

WSJ

Jury Orders Samsung to Pay \$119 Million to Apple in Patent Case

Damages Are Far Short of the \$2.2 Billion Apple Had Sought

By Daisuke Wakabayashi [Follow](#) and Ian Sherr [Follow](#)

Updated May 2, 2014 10:55 pm ET

Apple's swipe-to-unlock patent

But Samsung appealed... and Apple's patent was ruled invalid!

United States Court of Appeals for the Federal Circuit

APPLE INC., A CALIFORNIA CORPORATION,
Plaintiff-Cross-Appellant

v.

SAMSUNG ELECTRONICS CO., LTD., A KOREAN CORPORATION, SAMSUNG ELECTRONICS AMERICA, INC., A NEW YORK CORPORATION, SAMSUNG TELECOMMUNICATIONS AMERICA, LLC, A DELAWARE LIMITED LIABILITY COMPANY,
Defendants-Appellants

"We reverse the judgment of infringement and no invalidity"

Who can “have” a patent to an invention?

35 U.S.C. 101:

Only the inventor can “obtain” a patent!

Whoever invents or discovers any new and useful process, machine, manufacture or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

Only an inventor can “obtain” a patent... but non-inventors can own the patent

- the inventors can “assign” ownership to “assignee” (which may be a company)
- the assignment is often obliged by a contract

Q: Many people might work on a project...Who are the “inventors”?

A: “Inventors” are only those contributing to the conception of the idea

Does anyone really care about these distinctions?!?!

What the Moderna–NIH COVID vaccine patent fight means for research

Vaccine collaborators are locked in a high-stakes dispute over which researchers should be named as inventors on a key patent application.



Moderna has said that it offered the NIH co-ownership of the patent in September, and that the agency could then license the patent "as they see fit". But this is different from inventor status: terms of co-ownership would need to be negotiated, and could come with strings attached, says Morten.

The NIH could choose to bring a lawsuit and argue in court that Moderna inappropriately left off NIH researchers. If the court determines that the NIH is correct, and that the omission was an unintentional oversight, the patent might be corrected. But if the court finds that Moderna knowingly deceived the patent office about the NIH's contribution, the patent would no longer be valid.

Who owns this patent?

(12) **United States Patent**
Hillman et al.

(10) **Patent No.:** US 10,674,722 B2
(45) **Date of Patent:** Jun. 9, 2020

(54) **ANTIMICROBIAL AND FOAMABLE
ALCOHOLIC COMPOSITIONS**

(71) Applicant: **GOJO Industries, Inc.**, Akron, OH
(US)

(72) Inventors: **Evan D. Hillman**, North Canton, OH
(US); **Daniel J. Lacks**, Shaker Heights,
OH (US); **Mitchell J. Cohen**,
Salisbury, NC (US)

(73) Assignee: **GOJO Industries, Inc.**, Akron, OH
(US)

(*) Notice: Subject to any disclaimer, the term of this
patent is extended or adjusted under 35
U.S.C. 154(b) by 0 days.

(21) Appl. No.: **16/177,489**

(22) Filed: **Nov. 1, 2018**

(65) **Prior Publication Data**

US 2019/0069540 A1 Mar. 7, 2019

Related U.S. Application Data

(63) Continuation of application No. 14/380,183, filed as
application No. PCT/US2013/027314 on Feb. 22,
2013, now abandoned.

(60) Provisional application No. 61/602,834, filed on Feb.
24, 2012, provisional application No. 61/621,763,
filed on Apr. 9, 2012, provisional application No.
61/644,595, filed on May 9, 2012.

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An example of a consulting agreement:

In the event that patentable, copyrightable, mask works or trade secret subject matter is developed as a result of this Agreement, whether jointly or solely by any party, **COMPANY X shall (a) own any and all such rights in the patent(s),** copyright(s), mask work(s) and trade secret(s) throughout the world; (b) have the right to file applications throughout the world to obtain patent, copyright, and mask work protection; (c) disclose any information relating to the PRODUCT in such applications; and (d) bear all costs relating those applications. In the case of copyright and mask works, the parties agree that works that may be classified as such will be considered as works made for hire for the benefit of COMPANY X.

COMPANY X shall have the right to utilize any inventions covered by said patents, copyrights, mask works, or trade secrets without the payment of a royalty to Consultants.

What if AI was the “inventor”?

WSJ | OPINION

OPINION COMMENTARY [Follow](#)

New Patent Guidance on AI Could Quash Innovation

Artificial intelligence helps researchers accelerate progress, but the Biden administration wants to limit inventions created with it.

By Andrei Iancu and David Kappos

July 11, 2024 6:04 pm ET

“The patent office threatens to deny any patent application in which it is deemed that the inventor used AI if it is determined that the invention didn’t have a ‘significant contribution’ by a ‘natural person.’”

What things can be patented?

35 U.S.C. 101:

Whoever invents or discovers any new and **useful process, machine, manufacture or composition of matter**, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

The invention must be useful (presently... not potentially useful in the future)

"process, machine, manufacture or composition of matter" excludes:

- Ideas, concepts
- Laws of nature
- Naturally occurring objects
- Physical phenomena
- Mathematical algorithms (this is a gray area)

6
7 UNITED STATES DISTRICT COURT
8 NORTHERN DISTRICT OF CALIFORNIA

9
10 BARBARO TECHNOLOGIES, LLC,

11 Plaintiff,

12 v.

13 NIANTIC, INC.,

14 Defendant.

15 Case No. 18-cv-

16 **ORDER GRANTING
17 JUDGMENT C**

18 **I. INTRODUCTION**

19 Interactive virtual thematic environments which render real-time information are the backdrop of this patent dispute. Such environments are used, for pre-gaming. Plaintiff Barbaro Technologies, LLC holds two closely related patents on such environments, US 7,373,377 (“377 Patent”) and US 8,228,325 (“325 Patent”). The ‘377 Patent is more general; the ‘325 Patent focuses on the specific case of integrating real-time location information into a three-dimensional virtual environment. Barbaro contends defendant Niantic

20
21
22 Inc.’s Ingress and Pokemon Go games infringe on both patents. Niantic now moves for judgment on the pleadings, pursuant to Rule 12(c), alleging Claims 1, 3, and 6 of the ‘325 Patent are invalid because they claim ineligible subject matter under 35 U.S.C. § 101. Pursuant to Civil Local Rule

23
24
25 7-1(b), the motion is suitable for disposition without oral argument, and the hearing set for May

26 **V. CONCLUSION**

For the reasons set forth above, Claims 1, 3, and 6 of the ‘325 Patent are directed to abstract ideas and fail to recite inventive concepts. They therefore claim ineligible subject matter under 35 U.S.C. § 101.

IT IS SO ORDERED.

Dated: May 21, 2020



RICHARD SEEBORG
United States District Judge

Q4:

- You are an engineer working for a company that produces polyethylene, with manufacturing facilities in the US and Mexico.
- Your competitor produces polyethylene with a catalyst that is better than yours... and they have a US patent for the catalyst.
- How can you – legally and without a license – make the polyethylene with the better catalyst and sell the polyethylene in the US?

Hint: carefully read
35 USC 154

35 U.S.C. 154

(1) CONTENTS.—Every patent shall contain a short title of the invention and a grant to the patentee, his heirs or assigns, of the **right to exclude others from making, using, offering for sale, or selling the invention throughout the United States or importing the invention into the United States**, and, if the invention is a process, of the **right to exclude others from using, offering for sale or selling throughout the United States, or importing into the United States, products made by that process**, referring to the specification for the particulars thereof.

A patent waiver on COVID vaccines is right and fair

Wealthier countries must recognize that everyone benefits if vaccine manufacturing is distributed evenly around the world.

Every country should have the right to make its own vaccines during a pandemic. That's the principle underpinning the campaign to temporarily waive intellectual property (IP) protection on coronavirus vaccines. The campaign was initiated by India and South Africa, and is being backed by more than 100 countries, along with international organizations including the World Health Organization and the United Nations AIDS charity, UNAIDS. The goal is to reduce the barriers to countries producing their own vaccines – particularly for the lowest-income nations.

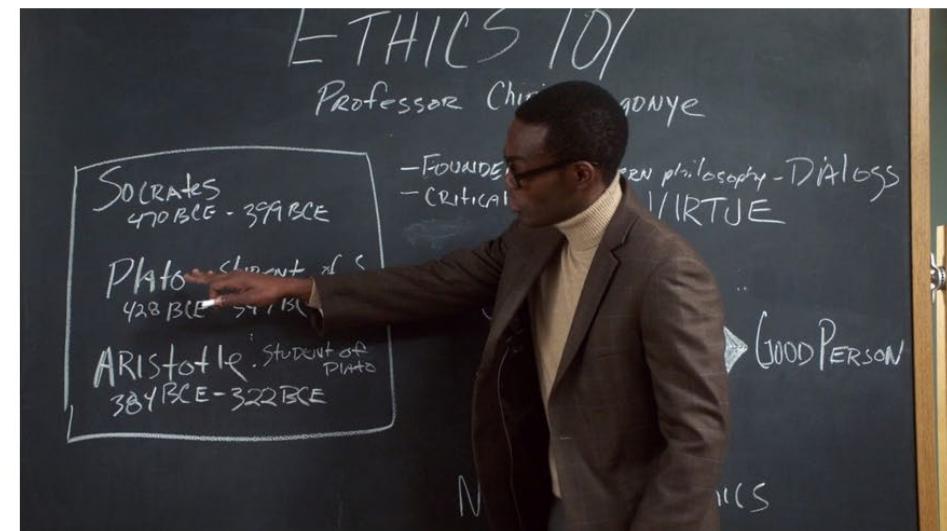
But perhaps the companies may not have made such large investments and efforts to develop the vaccines if the vaccines didn't have patent protection?

Recall from previous lecture...

Virtue Ethics: Aristotle's Golden Mean

The Golden mean: the most influential version of virtue ethics

- Virtues lie on a golden mean in between two extremes which are vices
- Examples:
 - Courage: between cowardice and recklessness
 - Generosity: between stinginess and extravagance
- Developed by Aristotle



Q5: Apply a virtue ethics approach to analyze the ethics of upholding patent rights for a vaccine during a pandemic