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CS349

COPYRIGHTS AND PATENTS

CONSIDER...

- ▶ You're up against a deadline and you've got some tricky code to write. You still have the files from your old company and you remember someone on the team solving this problem.
- ▶ Is it okay to:
 - ▶ Grab the old code and reuse it?
 - ▶ Look over the code and rewrite it?
- ▶ What if it's code you wrote at the previous company?

INTELLECTUAL PROPERTY (IP)

- ▶ “refers to creations of the mind, such as inventions; literary and artistic works; designs; and symbols, names and images used in commerce.”
- ▶ World Intellectual Property Organization (WIPO) <<http://www.wipo.int/about-ip/en/>>
- ▶ IP can be copyrighted, patented, or trademarked

WHY PROTECT IP?

- ▶ Facilitates creativity and innovation
- ▶ Allows for monetization of risky and/or longterm creative pursuits

COPYRIGHTS, PATENTS, TRADEMARKS, AND TRADE SECRETS

- ▶ What is the difference?

INSTAPOLL CHECK IN

- ▶ Which of the following is **not** protected under copyright?
 - ▶ Music
 - ▶ Blueprints
 - ▶ Code
 - ▶ Algorithms
 - ▶ Foreign movies

COPYRIGHTS

- ▶ Provides protection for authors of an original work
- ▶ Protects:
 - ▶ Literary works
 - ▶ Musical works
 - ▶ Dramatic works
 - ▶ Motion pictures
 - ▶ Pictorial works
 - ▶ Architectural works
 - ▶ etc...

COPYRIGHT PROTECTIONS

- ▶ Depends on the law of the particular country
- ▶ Copyright holders have the right to:
 - ▶ Reproduce their work
 - ▶ Distribute their work
- ▶ Copyright does not protect:
 - ▶ Ideas, procedures, methods, systems, etc
 - ▶ Titles, names, slogans
 - ▶ Works not fixed in a tangible form

COPYRIGHT LENGTH

- ▶ As of 1998 US copyright lasts the length of the author's life plus seventy years
 - ▶ Originally up to 28 years total
 - ▶ Current policy has to do with the Mickey Mouse Protection Act (not actually called that)
 - ▶ But we'll come back to that later!

WHEN IS SOMETHING COPYRIGHTED?

- ▶ Can be published or unpublished
- ▶ Must exist in a *tangible* form that someone outside of you can access
- ▶ Registration with the government exists but is not required

FAIR USE

- ▶ Fair use includes using copyrighted material for commenting, critical, or parody purposes (“transformative”) and often educational uses
- ▶ Allows someone to use copyrighted material without violating copyright
 - ▶ Does not require owner permission
- ▶ What is considered “transformative” is relatively ambiguous
 - ▶ i.e. A judge gets to decide

ARE THESE COPYRIGHTED?

- ▶ The song you and your friends created during a jam session?
- ▶ Your Star Trek/Star Wars crossover fanfiction?
- ▶ The code you wrote at your company?
- ▶ Whatever anime you watch on Crunchyroll? What about fansubs?

OKAY, BUT WHO OWNS THE COPYRIGHT?

- ▶ The song you and your friends created during a jam session?
- ▶ Your Star Trek/Star Wars crossover fanfiction?
- ▶ The code you wrote at your company?
- ▶ Whatever anime you watch on Crunchyroll? What about fansubs?

PATENTS

- ▶ Provides protection for creators of an original idea
- ▶ Protects:
 - ▶ Novel, useful, non-obvious inventions
 - ▶ Processes or methods
 - ▶ Manufactured articles
 - ▶ New compositions

PATENT PROTECTIONS

- ▶ Depends on the law of the particular country
- ▶ Patent holders have the right to:
 - ▶ Decide how their invention is used
 - ▶ What is distributed, imported or sold by others using the patent
- ▶ Patents do not protect:
 - ▶ Mathematical formula
 - ▶ Naturally occurring substances
 - ▶ Laws of nature
 - ▶ Processes done with the human body

PATENT LENGTH

- ▶ Patent is protected for 20 years from the earliest filing date
- ▶ Patent must be defended in court to remain exclusive to creator
- ▶ Technology enters public domain and is free for everyone after patent's expiration

WHEN IS SOMETHING PATENTED?

- ▶ Patent must be filed with, and approved by, the US Patent and Trademark Office
- ▶ Only offers protections within country that files the patent
- ▶ Attorney fees for filing can be \$5000+ plus the cost of a patent search (\$1000+)
 - ▶ Also must be protected in court if challenged

ARE THESE PATENTABLE?

- ▶ The work you did for your PhD?
- ▶ The algorithm you created at your company?
- ▶ The genes of an indigenous people you discovered?

OKAY, BUT WHO WILL OWN THE PATENT?

- ▶ The work you did for your PhD?
- ▶ The algorithm you created at your company?
- ▶ The genes of an indigenous people you discovered?

TRADEMARKS

- ▶ Distinctive brand names including words, names, symbols, etc
- ▶ Registration is not mandatory but usually required for pursuing legal action against infringement
 - ▶ Gives owner exclusive rights
- ▶ Must be used continuously to maintain trademark

TRADE SECRETS

- ▶ Confidential business information
 - ▶ Manufacturing, industrial, and commercial
- ▶ Can be considered a trade secret as long as it remains a secret
- ▶ Unauthorized persons cannot use this information
- ▶ Falls under legal umbrella of unfair competition or protections of confidential information

NONDISCLOSURE AGREEMENTS (NDA)

- ▶ Legal contract between holder of proprietary information and an outside party that has access to that information
- ▶ Outside party usually cannot share any information about this property with a third party
- ▶ Can be legally prosecuted if outside party violates the agreement

NON-COMPETE AGREEMENT

- ▶ Contract that employee may not engage in work that is competitive (related) to current company after leaving company
- ▶ Designed to protect trade secrets and confidential information
- ▶ Not always enforceable

HOW MUCH IP PROTECTION IS GOOD?



Piracy is not a victimless crime.

For more information on how digital theft
harms the economy, please visit

www.iprcenter.gov

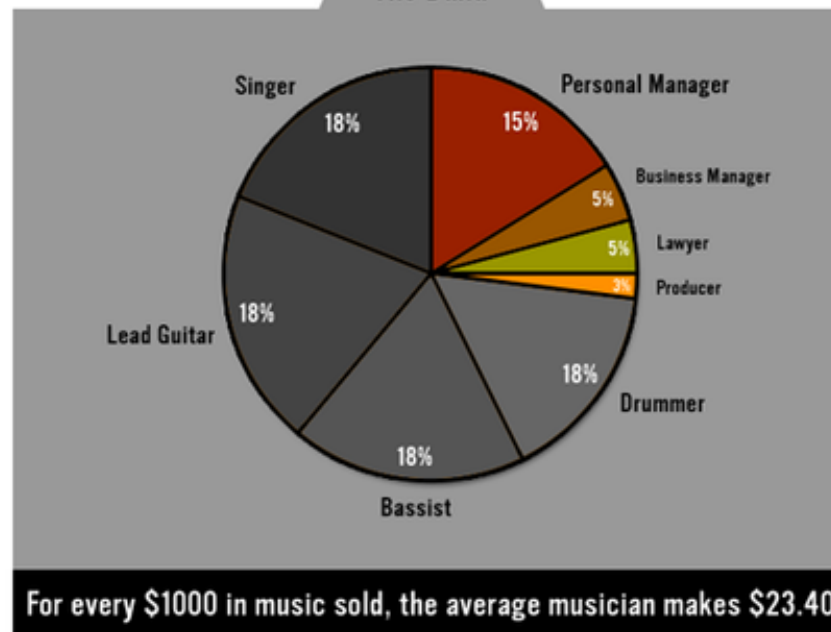
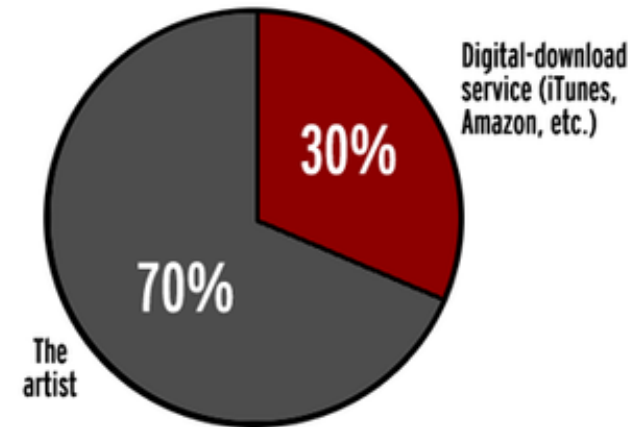
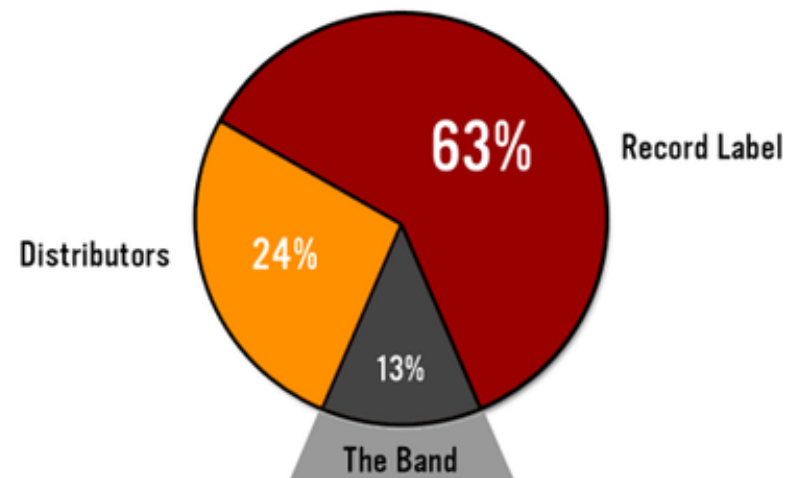
WHO MAKES MONEY ON THINGS?

The Great Divide

Who's getting paid (and how much) in the music industry.

vs.

Independently-released music through iTunes & Amazon MP3

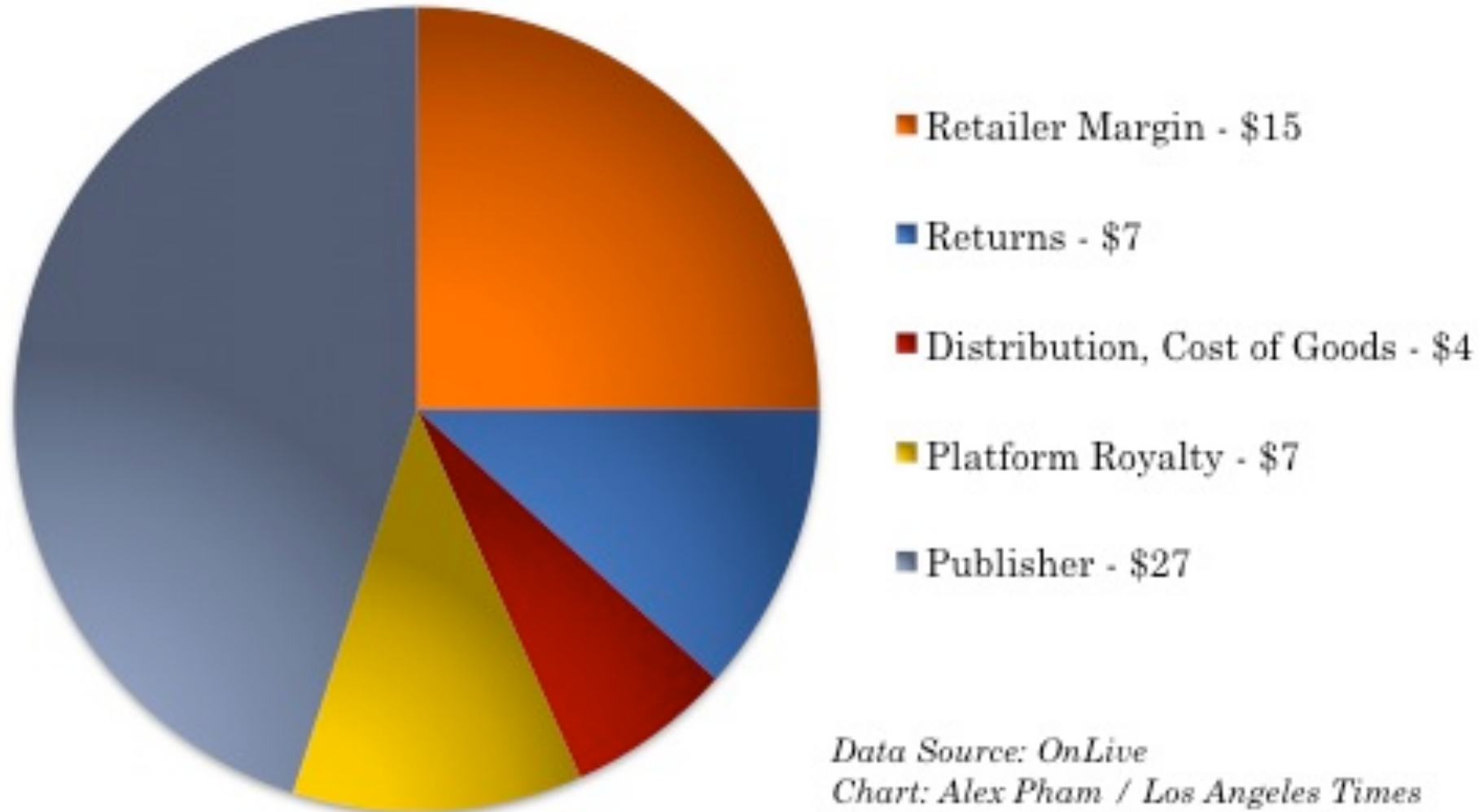


For every \$1000 in music that CRUDBUMP sells online, I make \$700.

Don't support record labels.
Support independent artists.

WHO MAKES MONEY ON THINGS?

Anatomy of a \$60 Video Game



Data Source: OnLive

Chart: Alex Pham / Los Angeles Times

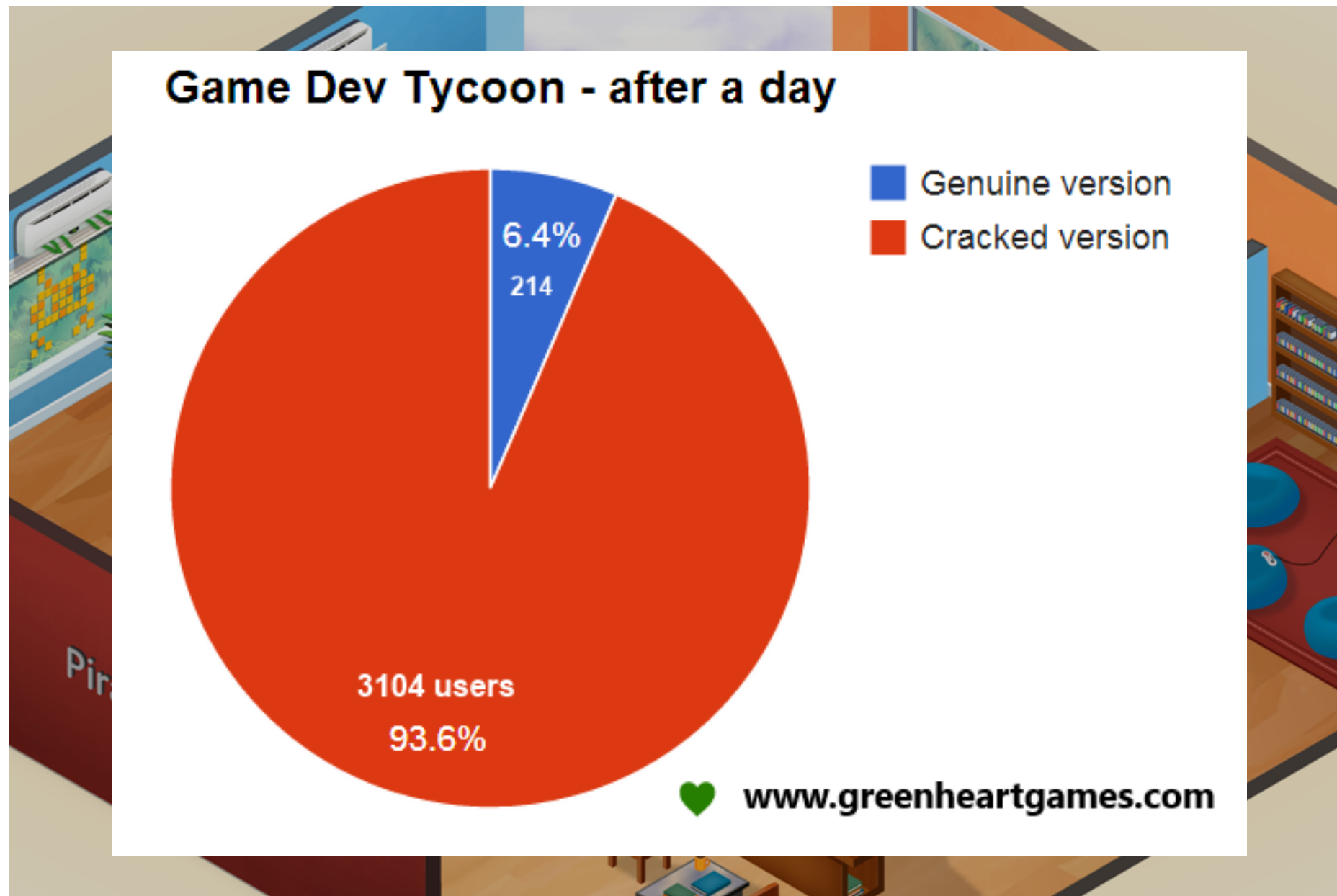
WHY PIRATE?

- ▶ You want it and your theft will have minimal impact
- ▶ Licensed software is expensive and often is used by people who don't make a lot of money
 - ▶ Adobe license (\$10/mo for one app)
 - ▶ Maya license (\$185/mo)
- ▶ Sticking it to the man
 - ▶ Music artists make most of their money on concerts
 - ▶ Microsoft profits still \$7B (Q4 2017) despite losses to piracy

WHY NOT PIRATE?

- ▶ If everyone steals theft does have impact
- ▶ Counterfeit rings run by cartels and organized crime
 - ▶ Buying from them supports human trafficking and gang violence
- ▶ Licensed software is expensive as it requires large teams of people to develop and maintain
- ▶ Small and independent developers are hurt by piracy as much (or more) than large corporations
- ▶ You may face legal prosecution

CASE STUDY: GAME DEV TYCOON



<http://www.greenheartgames.com/2013/04/29/what-happens-when-pirates-play-a-game-development-simulator-and-then-go-bankrupt-because-of-piracy/>

WHO IS RESPONSIBLE FOR PREVENTING PIRACY?

- ▶ Citizens?
- ▶ Website owners?
- ▶ The company itself?
- ▶ The government?
- ▶ International governments?

CAPITOL RECORDS V. THOMAS-RASSET

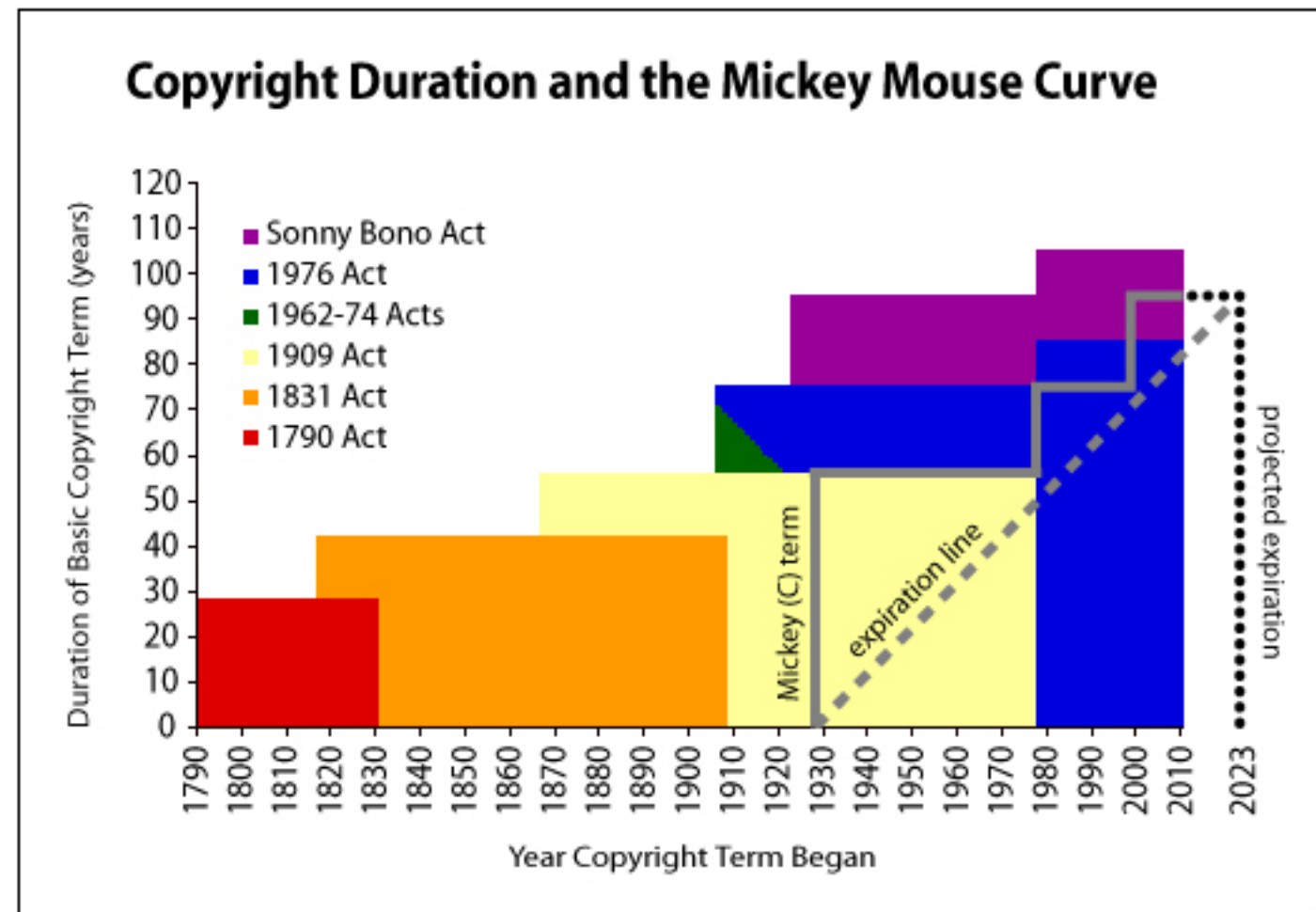
- ▶ First RIAA lawsuit against an individual to reach a courtroom
- ▶ Court found in favor of the RIAA
- ▶ Jammie Thomas, a 30 year-old single mom, ordered to pay \$220,000 to the RIAA for sharing 24 music files on Kazaa (\$9,250 per song)
- ▶ Two more retrials but Thomas lost all of them
- ▶ Ruling suggests “making available” copyrighted material counts as infringement

PIRATE BAY TRIAL

- ▶ Pirate Bay is Swedish P2P indexing site for media and software
 - ▶ Does not host actual torrent content
- ▶ Company was raided by Swedish police and charged with copyright infringement
- ▶ Defendants argued EU law does not hold information services responsible for information transferred by 3rd parties
- ▶ Found guilty as accessories to crimes against copyright law

MICKEY MOUSE PROTECTION ACT

- ▶ In 1998 Congress enacted Sonny Bono Copyright Term Extension Act
- ▶ This extension corresponds to Mickey Mouse copyright entering public domain
- ▶ Mickey Mouse to enter public domain in 2023
- ▶ No extension was requested in 2018



UNINTENDED CONSEQUENCES?

- ▶ Orphan works issue
 - ▶ Work is created on material that degrades before copyright expires
 - ▶ Archiving becomes impossible
- ▶ Prior artwork not available for modern artists and creators to reimagine
 - ▶ The classical music used in older Disney movies would not be useable under modern laws

PATENTING GENES?

- ▶ Genetic material can be taken from a body, used in research, which leads to biotechnical invention that is patented
- ▶ Biopiracy is the act of taking indigenous people's knowledge or genetics without permission and using it for profit
- ▶ Should genetic or natural material be patentable?
- ▶ Who should profit from it if it is?

JOHN MOORE AND DR. DAVID GOLDE

- ▶ John Moore had hairy-cell leukemia
- ▶ Removed spleen to slow the disease
- ▶ David Golde took discarded spleen for research and established cell line that was patented
- ▶ Moore sued but court decided he was not one of the inventors and therefore was not entitled to royalties
- ▶ Court also ruled that physicians could be sued if fiduciary duty to inform patient is violated

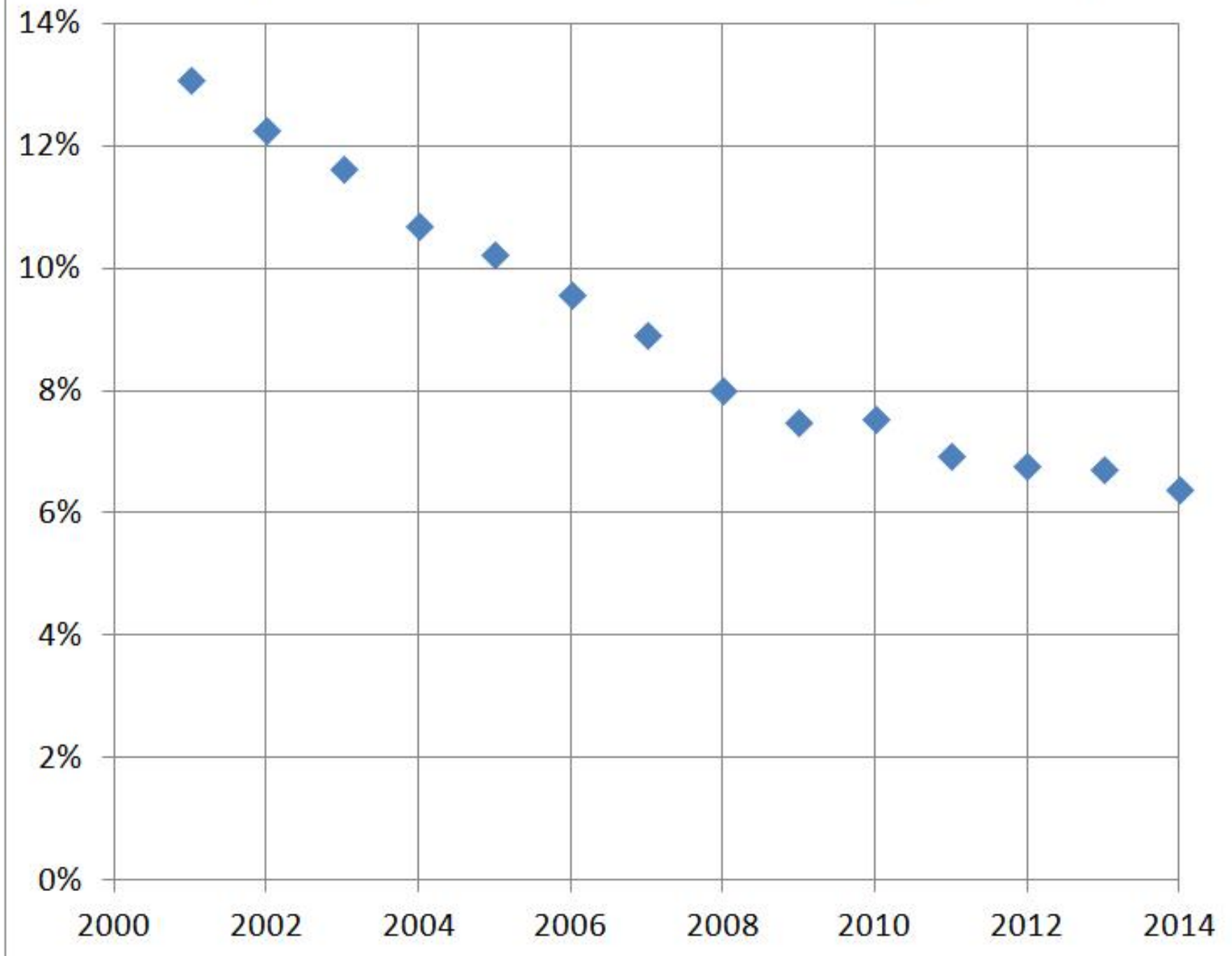
HAGAHAI PEOPLE

- ▶ Isolated, indigenous group in Papua New Guinea
- ▶ Sought international help because of a disease in their community
- ▶ Researchers discovered that the Hagahai had a natural “immunity” to leukemia
- ▶ National Institutes of Health tried to patent a cell line developed from Hagahai DNA
- ▶ Dropped patent due to international concerns about treatment of indigenous people and questions about patient consent

OTHER PATENT ISSUES

- ▶ Patent trolling is the act of buying patents to sue creators for developing related technology instead of creating or using patents to sell goods or services
- ▶ Patent law is extremely complex as is the patent system itself
 - ▶ Numerous approved patents in the patent office are too general to work in the spirit of the law
- ▶ Patents are mostly held by companies rather than individual inventors or creators

**Percentage of US Patents Awarded to Inventors
(As opposed to Corporate Owners or other Organizations)**



REFERENCES

- ▶ <<https://www.copyright.gov/circs/circ01.pdf>>
- ▶ <<https://www.uspto.gov/>>
- ▶ <http://www.wipo.int/wipo_magazine/en/2006/05/article_0008.html>
- ▶ <<http://routenote.com/blog/earning-potential-major-label-artist-vs-independent-artist/>>
- ▶ <<http://latimesblogs.latimes.com/entertainmentnewsbuzz/2010/02/anatomy-of-a-60-dollar-video-game.html>>
- ▶ <<http://www.nytimes.com/2010/11/07/technology/07piracy.html>>

ADDITIONAL REFERENCES

- ▶ <<https://atp.orangeni.us.com/how-mickey-mouse-keeps-changing-copyright-law/>>
- ▶ <<https://www.eff.org/issues/patents>>
- ▶ <<https://patentlyo.com/patent/2015/06/independent-inventors.html>>