CSCI 215
Social and Ethical Issues in Computer Science

Intellectual and Intangible property

Google vs Oracle

Watch before Thursday's class:
https://www.youtube.com/watch?v=uGzrgMIXLpk

Intellectual Property

- Definition of intellectual property
  - a work or invention that is the result of creativity, such as a manuscript or a design, to which one has rights and for which one may apply for a patent, copyright, trademark, etc.
  - 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.
  - Intellectual property is a property right that can be protected under federal and state law, including copyrightable works, ideas, discoveries, and inventions. The term intellectual property relates to intangible property such as patents, trademarks, copyrights, and tradesecrets.

Copyright

- Copyright protects original works of authorship fixed in any tangible medium of expression.
  - To include literature, music, drama, pantomime, graphic art, sculpture, motion pictures, sound recordings, and architecture
- As soon as someone's copyrighted creation appears in a fixed medium, it is automatically protected by copyright
- The default length is the lifetime of the author plus 70 years
  - The author is all creators, including choreographers, architects, etc

Does not cover ideas, facts or common knowledge

Copyright

- Includes the right to
  - reproduce the copyrighted work
  - prepare derivative works based upon the copyrighted work
  - distribute copies of the copyrighted work to the public by sale …
  - perform or display the copyrighted work publicly

Google vs Oracle

- 2010 - copyright infringement claim made by Oracle against Google for 11,500 lines of Java API copied code
- 2012 - intellectual property lawsuit. Both sides cited the fair use law and utilized the “transformative use” angle to justify their respective cases.
- In short Google could have purchased a Java API license from Oracle and built on that, but they did not. Rather they used an (albeit small) portion of Oracle’s API code.
- Google claimed they had adapted it to a mobile platform, thus making use of “transformative use” of the Java code so that under the fair use law, they were exempt from requiring Oracle’s approval to begin with.

Taken from https://it.toolbox.com/blogs/ramisass/3-key-takeaways-from-the-oracle-vs-google-copyright-case-071618

Google vs Oracle

- May, 2012 – Calif. judge ruled that APIs are not subject to copyright
- May 30, 2013 – Oracle appealed
  - May 9, 2014 – decision reversed – Java APIs are copyrightable

Google vs Oracle

- The transformative argument was rejected by the U.S. Court of Appeals,
  - Google made a claim to the quantitative, rather than qualitative, aspect of their copyright infringement. Google argued that the amount of code that they copied was insignificant compared to the millions of lines of code in Android.

Taken from https://it.toolbox.com/blogs/ramisass/3-key-takeaways-from-the-oracle-vs-google-copyright-case-071618

Google vs Oracle

- Oct 6, 2014 – google filed a petition asked SCOTUS to review federal courts decision
- June 2015 – SCOTUS denied Google's petition
- May 2016 – back to district court, jury unanimously agreed that Google's use of the Java APIs was fair use
- Oracle filed an appeal

Google vs Oracle

- March 2018 the Federal court reversed the district court's decision
- Google petition for court to rehear case
  - Aug 2018 Federal court denied Google's petition
- Jan 2019 Google petitioned SCOTUS to review both federal court decision
- Oct 2020 – SCOTUS heard oral arguments
  - Decision expected by June 2021

Google vs Oracle

- If won, Oracle's case against Google puts tens of thousands of Android developers who regularly use this Java API for app development at risk of license infringement, which they likely do not know they are violating.
- Oracle's Java API package is not all-purpose free code. Oracle clearly restricts its use to "General Purpose Desktop Computers and Servers."

Taken from https://it.toolbox.com/blogs/ramisass/3-key-takeaways-from-the-oracle-vs-google-copyright-case-071618

Google vs Oracle

- What is your opinion on this case?

What is Fair Use?

- **Fair use** is a doctrine in the **law** of the United States that permits use of copyrighted material without having to first acquire permission from the **copyright** holder.
- Link: https://en.wikipedia.org/wiki/Fair_use

Copyright Endings

- *The Great American Novel* by William Carols Wiliams and 100,000s of others entered the public domain on January 1, 2019
  - first published in the United States during 1923.
- first time since 1998 for a mass shift to the public domain of material protected under copyright.
- It's also the beginning of a new annual tradition: For several decades from 2019 onward, each New Year's Day will unleash a full year's worth of works published 95 years earlier.

From https://www.theatlantic.com/technology/archive/2018/04/copywritten-so-dont-copy-me/557420/

What happened in 1998?

- Works from 1922 and older came into public domain
- 1923 works scheduled to expire at the beginning of 1999.
- But then Congress passed the Sonny Bono Copyright Term Extension Act. It added 20 years to the terms of older works, keeping 1923 works locked up until 2019.

From https://arstechnica.com/tech-policy/2019/01/a-whole-years-worth-of-works-just-fell-into-the-public-domain/

Copyright Endings

- Allows any individual or company to release them freely, mash them up with other work, or sell them with no restriction
  - Computer Technology – what could be the implications of this?

Why did this take so long?

- Changes in copyright law throughout the years
  - Change from number of years to life of author plus number of years
    - to be in step with other countries (1886)
      - result – applying patches to end date
  - Due to authors pushing for longer term of value
    - a small minority of famous works from the 1920s and 1930s were still generating significant revenues in the 1990s.
    - Retroactively extending copyright terms meant an enormous windfall for the companies and families that owned the copyrights.

From https://arstechnica.com/tech-policy/2019/01/a-whole-years-worth-of-works-just-fell-into-the-public-domain/

Copyright Ends

- Next January, George Gershwin's *Rhapsody in Blue* will fall into the public domain. It will be followed by *The Great Gatsby* in January 2021 and Ernest Hemingway's *The Sun Also Rises* in January 2022.
- On January 1, 2024, we'll see the expiration of the copyright for *Steamboat Willie*—and with it Disney's claim to the film's star, Mickey Mouse. The copyrights to Superman, Batman, Disney's Snow White, and early Looney Tunes characters will all fall into the public domain between 2031 and 2035.

From https://arstechnica.com/tech-policy/2019/01/a-whole-years-worth-of-works-just-fell-into-the-public-domain/

Copyright Ends

- The expiration of copyrights for characters like Mickey Mouse and Batman will raise tricky new legal questions. After 2024, Disney won't have any copyright protection for Mickey's original incarnation. But Disney will still own copyrights for later incarnations of the character—and it will also own Mickey-related trademarks.

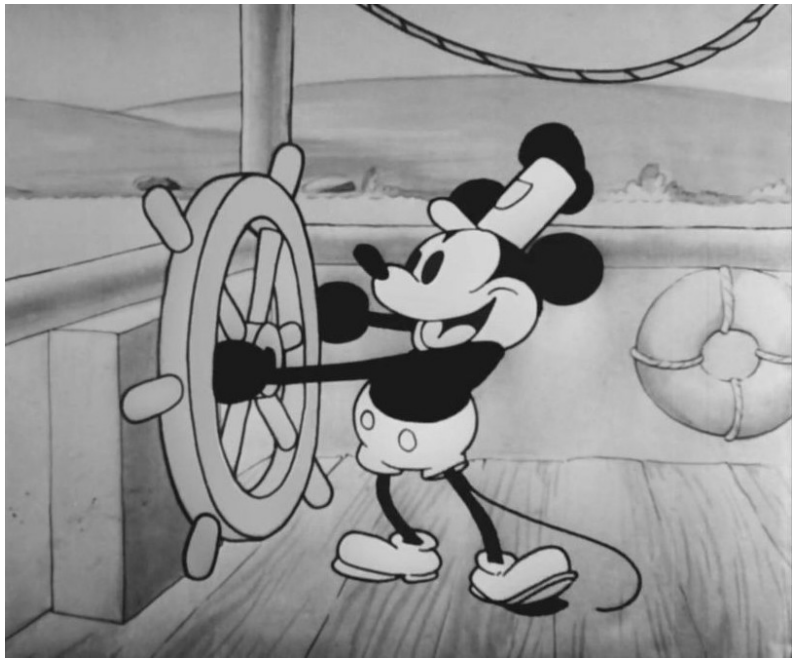
From https://arstechnica.com/tech-policy/2019/01/a-whole-years-worth-of-works-just-fell-into-the-public-domain/

Copyright Ends

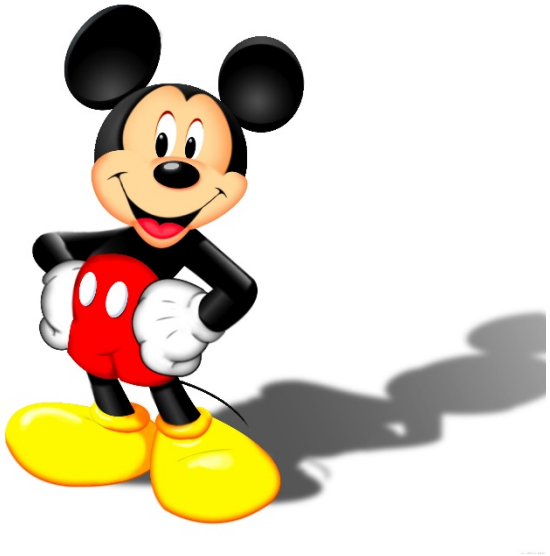
- James Grimmelmann, a copyright scholar at Cornell Law School, says this is an uncharted area of law because licensing practices for modern characters are "so much more intensive and so much more comprehensive now" than in the 1920s and 1930s. "We never had megacharacters in the same way" prior to the 1920s, he says.

From https://arstechnica.com/tech-policy/2019/01/a-whole-years-worth-of-works-just-fell-into-the-public-domain/

Disney Copyright Ends Jan 1, 2024



THIS



NOT THIS

Why aren’t companies fighting for copyright extension now?

- Because they know they won’t win
- The rise of the Internet and its remix culture means that a lot of people now benefit from a growing public domain in ways that weren't true in 1998.
  - Big companies: Google
  - Others?

In groups

- What are the long term impacts of these copyrighted items (like mickey mouse, like superman, like The Great Gatsby) coming into the public domain?

Plagarism

- Copying that the copier claims is original with him and the claim causes the copier's audience to behave otherwise than if would it if knew the truth
- Any other definitions?
- Does not necessarily imply copyright infringement
  - if you are given permission to copy the work
- Example: someone allowing you to turn in the same paper they wrote
  - Student claimed it was his own work
- and vice versa

IEEE

Institute of Electrical and Electronics Engineers

- An association dedicated to advancing innovation and technological excellence for the benefit of humanity, is the world's largest technical professional society. It is designed to serve professionals involved in all aspects of the electrical, electronic, and computing fields and related areas of science and technology that underlie modern civilization.
- IEEE's roots go back to 1884
- It is now a global institution that uses the innovations of the practitioners it represents to enhance IEEE's excellence in delivering products and services to members, industries, and the public at large. Publications and educational programs are delivered online, as are member services such as renewal and elections. By 2010, IEEE comprised over 395,000 members in 160 countries. Through its global network of geographical units, publications, web services, and conferences, IEEE remains the world's largest technical professional association.

Taken from https://www.ieee.org/about/ieee-history.html

IEEE Journal Plagarism Consequences

- **Level One** pertains to the uncredited verbatim copying of a full paper, or the verbatim copying of a major portion (> 50%), or verbatim copying within more than one paper by the same author(s).
- **Level Two** pertains to the uncredited verbatim copying of large portion (between 20-50%) or verbatim copying within more than one paper by the same author(s).
- **Level Three** pertains to the uncredited verbatim copying of individual elements (paragraph(s), sentence(s), illustration(s), etc.) resulting in a significant portion (up to 20%) within a paper
- **Level Four** pertains to uncredited improper paraphrasing of pages or paragraphs
- **Level Five** pertains to the credited verbatim copying of a major portion of a paper without clear delineation (e.g., quotes or indents)

Taken from https://www.ieee.org/publications/rights/plagiarism/plagiarism-faq.html

IEEE Journal Plagarism Consequences

- There are several possible Corrective Actions that are available. Depending on the level of misconduct, one or all may be applied:
- Notice of violation in Xplore
- Prohibition from publishing in IEEE or periodical
- Rejection and return of papers in review and queues
- Referral to the IEEE Ethics and Member Conduct Committee
- Repeat offenders subject to increased penalty

Taken from https://www.ieee.org/publications/rights/plagiarism/plagiarism-faq.html

In groups

- What can this mean to a researcher?
- Do you think IEEE is too stringent or not enough?

Patents

- Patents
  - Refers to Inventions
  - Novelty
  - Nonobviousness
- In groups
  - How do you think software is patented?
  - What problems are there with getting software patented?
  - Why not copyright instead of patent?

Software Patents

- Link: https://www.ipwatchdog.com/2013/02/16/a-guide-to-patenting-software-getting-started/id=35629/

- In United States patent law, the **machine-or-transformation test** is a **test** of patent eligibility under which a claim to a process qualifies for consideration if it (1) is implemented by a particular **machine** in a non-conventional and non-trivial manner or (2) transforms an article from one state to another.

Super clear and helpful right? Didn't think so. We discuss each of these requirements in more detail below.

(1) The "abstract idea" requirement – A software based invention is patent eligible if it "**improves computer functionality**" by, for example,

- enabling computations that were previously unavailable or could not be performed by computing devices,
- speeding up previously available computing processes, or
- reducing the number of computing resources that are required execute a task.

(2) The "transformation" requirement – If software does not tend to "improve computer functionality," it may still be patent eligible if one or more of the following factors are met:

- **necessarily rooted in computer technology**" (i.e. the problem does not arise in a traditional brick-and-mortar context);
- solves that problem by using "**unconventional" components**, or by arranging conventional components in an "**unconventional" way**;
- the patent claims do not preempt every application of the idea.

Patent Expiration

- **Patent** terms, if maintained correctly, vary but generally go for up to 20 years. After the **patent expires**, the invention can be used by others as much as they wish. For those seeking to use the **patent** after its **expiration**, knowing this **expiration** date is essential.

https://www.upcounsel.com/why-do-patents-expire

Amazon's One Click

- Patent protection provided in late 1990s
- Amazon fiercely protected the 1-Click patent, suing Barnes & Noble for implementing a similar technology back in the late '90s and licensing it out to companies including Apple.
- Expired in Sept 2017

Best Technology Patents

- https://interestingengineering.com/15-of-the-most-interesting-patents-acquired-in-the-past-5-years

What other technology patents do you think are amazing?

Trademark

- trademark
  - legally registered word, phrase, symbol or other item that identifies a particular product, service or corporation
- TMobile has a trademark on the color magenta it uses
- Tivo has a trademark on 6 pops – sound
- Coca cola has a trademark on the shape of its bottles

Trademarks

- In groups
  - Find a trademark and tell us if you agree it should be trademarked