

Washington Science & Engineering Fair  
March 29, 2025  
Bremerton High School, Bremerton, WA

# **What?, Who?, Wherein? How?**

**What High School Innovators In an Institutional  
Setting Need to Know about “What is” IP, “Who is”  
Inventor/Creator, “Wherein lies” Ownership,  
and “How Tos” of Protection**

Paul R. Juhasz  
Juhasz Burge, PC

# CASE STUDY 1

- Anybody Heard of Marc Andreessen ?
- Of Eric Bina?
- Of Netscape?
- Did you Know ownership of Netscape IP was challenged by the University of Illinois?

# CASE STUDY 2

- Anybody Heard of Larry Page?
- Of Sergey Brin?
- Of Google?
- Did you Know Google Founder Page had IP ownership issues with Stanford

# CASE STUDY 3

- Anybody Heard of Mark Zuckerberg?
- Of Winklevoss twins (Cameron and Tyler) and Divya Narendra?
- Of Facebook?
- Did you Know not Harvard but Harvard students contested IP ownership in Facebook?

# CASE STUDY 4

- Anybody Heard of Petr Taborsky?
- Of Progress Technologies Corporation (PTC)?
- Did you Know Taborsky lost IP ownership to PTC through the University of Florida?

# Netscape – IP Ownership Dispute



- While an *undergraduate and part-time assistant* at the National Center for Supercomputing Applications at U of Illinois, Andreessen became familiar with internet and web on Unix which was tool of academia and engineers and expensive
- Andreessen intended to make Web useable by everyone and designed Mosaic browser designed to display HTML documents, image tags that allowed images to be displayed on page, and hyperlinks
- Andreessen and partner Bina started up Mosaic and U of Illinois sued for misappropriation of their IP
- In 1994, Mosaic changed name to Netscape and paid \$3M in settlement
- Netscape was bought by AOL and later replaced by other browsers like MS Explorer



# Google

- While a **grad student** at Stanford, Page developed Google algorithm largely on computers, mainly provided by National Science Foundation NSF-DARPA-NASA-funded Digital project at Stanford
- Under Bayh-Dole technology transfer act, research and non-profits like Stanford got to hold patents subject to government march-in rights if not commercialized
- Stanford was granted first Google patent and exclusively licensed Google
- In 2015, Stanford made \$336 million on the sale of stock holdings in Google

(12) **United States Patent**  
Page

(10) **Patent No.:** US 6,285,999 B1  
(45) **Date of Patent:** Sep. 4, 2001

(54) **METHOD FOR NODE RANKING IN A LINKED DATABASE**  
(75) **Inventor:** Lawrence Page, Stanford, CA (US)  
(73) **Assignee:** The Board of Trustees of the Leland Stanford Junior University, Stanford, CA (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.:** 09/004,827  
(22) **Filed:** Jan. 9, 1998  
**Related U.S. Application Data**  
(60) Provisional application No. 60/035,205, filed on Jan. 10, 1997.  
(51) **Int. CL<sup>7</sup>** ..... G06F 17/30  
(52) **U.S. CL** ..... 707/5; 707/7; 707/501  
(58) **Field of Search** ..... 707/100, 5, 7, 707/513, 1-3, 10, 104, 501; 345/440; 382/226, 229, 230, 231

(56) **References Cited**  
**U.S. PATENT DOCUMENTS**  
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5,450,535 \* 9/1995 North ..... 395/140  
5,748,954 5/1998 Mauldin ..... 395/610  
5,752,241 \* 5/1998 Cohen ..... 707/3  
5,832,494 \* 11/1998 Egger et al. .... 707/102  
5,848,407 \* 12/1998 Ishikawa et al. .... 707/2  
6,014,678 \* 1/2000 Inoue et al. .... 707/501

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E. Garfield, "Citation analysis as a tool in journal evaluation," 1972, Science, vol. 178, pp. 471-479.  
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N. Geller, "On the citation influence methodology of Pinski and Narin," 1978, Inf. Proc. And Management, vol. 14, pp. 93-95.  
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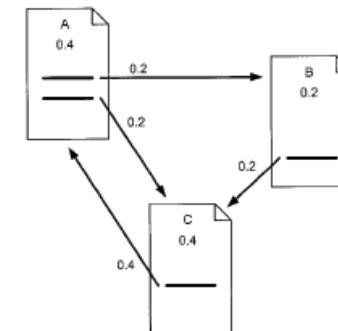
(List continued on next page.)

**Primary Examiner**—Thomas Black  
**Assistant Examiner**—Uyen Le  
(74) **Attorney, Agent, or Firm**—Harrity & Snyder L.L.P.

(57) **ABSTRACT**

A method assigns importance ranks to nodes in a linked database, such as any database of documents containing citations, the world wide web or any other hypermedia database. The rank assigned to a document is calculated from the ranks of documents citing it. In addition, the rank of a document is calculated from a constant representing the probability that a browser through the database will randomly jump to the document. The method is particularly useful in enhancing the performance of search engine results for hypermedia databases, such as the world wide web, whose documents have a large variation in quality.

**29 Claims, 3 Drawing Sheets**

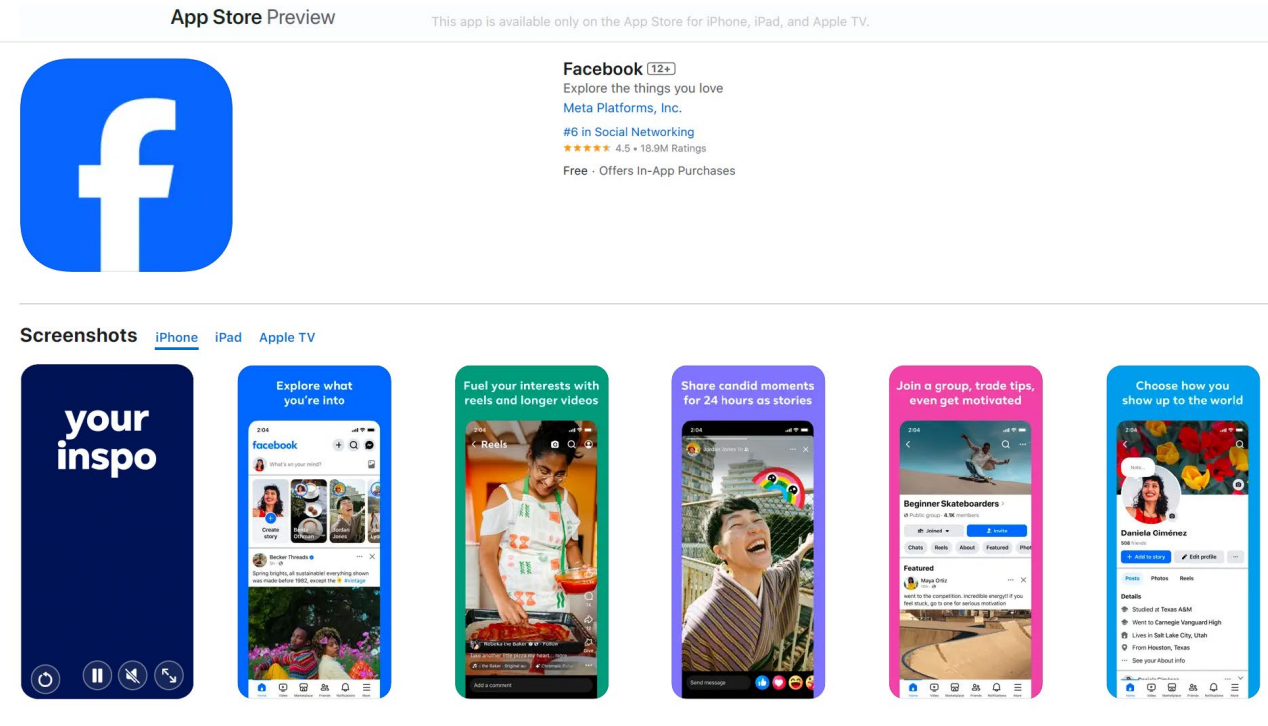


# Facebook

- While an ***undergrad student at Harvard***, Zuckerberg developed in his dorm room a social media site that allows people to create a profile with personal information to reach out with a request to connect with friends and family and others to share photos, videos, and join groups
- Used Harvard resources and infrastructure to launch and host site
- Facebook was sued not by Harvard but by Windervoss brothers and settled

3/26/25, 3:36 PM

Facebook on the App Store



- Copyright Facebook

# Taborsky

- University of Florida (USF) contracted with Progress Technologies Corporation (PTC and affiliate PWT) to provide research in area of municipal wastewater management and treatment
- USF and PTC agreement requiring research remain proprietary and confidential to PTC
- Taborsky was an ***undergraduate research assistant working on the research project under confidentiality agreement with PWT***
- Taborsky left USF; never returned as a student; took his lab books containing the proprietary and confidential research; refused to return lab books; and even got a patent on it
- USF (with rights from PTC and PWT) sued to prevent Taborsky from using confidential information
- Taborsky was sentenced to one year of house arrest, fifteen years probation and 500 hours of community service. As a condition of Taborsky's probation, the judge expressly prohibited him from using the stolen research for any purpose.

# Decisive Factors on IP Ownership Question

- Netscape
  - Extensive part-time assistant access and use of National Center for Supercomputing Applications at U of Illinois
  - Result: U Illinois Ownership Settlement
- Google
  - Extensive graduate level access and use of National Science Foundation NSF-DARPA-NASA-funded Digital project
  - Result: Stanford ownership of original Google patent plus exclusive license fees therefrom
- Facebook
  - Extensive undergraduate Harvard dormitory internet use and Harvard host site
  - Result: Harvard never raised ownership; albeit Windervoss brothers did and settled
- Taborsky
  - Extensive undergraduate research assistant engagement on a research project under confidentiality agreement with PWT
  - Result: 1 year house arrest, 14 years probation, 500 hours community service, injunction on use

# 3 W's to Help You Control Your IP

- What is IP?
- WHO is the inventor/creator?
- WHEREIN lies ownership?

# What is IP

- Types of property – Real, Personal, IP
- IP is Property formed in the Mind
- Types of IP
  - Patent
  - Copyrights
  - Trademarks
  - Trade Secrets
  - Unfair Competition/Misuse/Antitrust/Privacy/Data including Medical

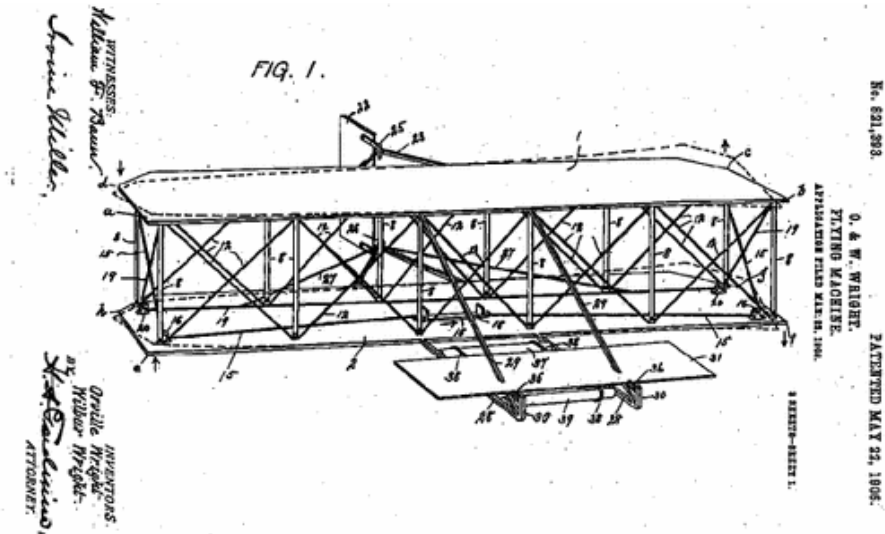
# What is a Patent?

- An invention
- Types
  - Utility
    - processes
    - machines
    - articles of manufacture
    - compositions of matter
  - Design
  - Plant

# Patents

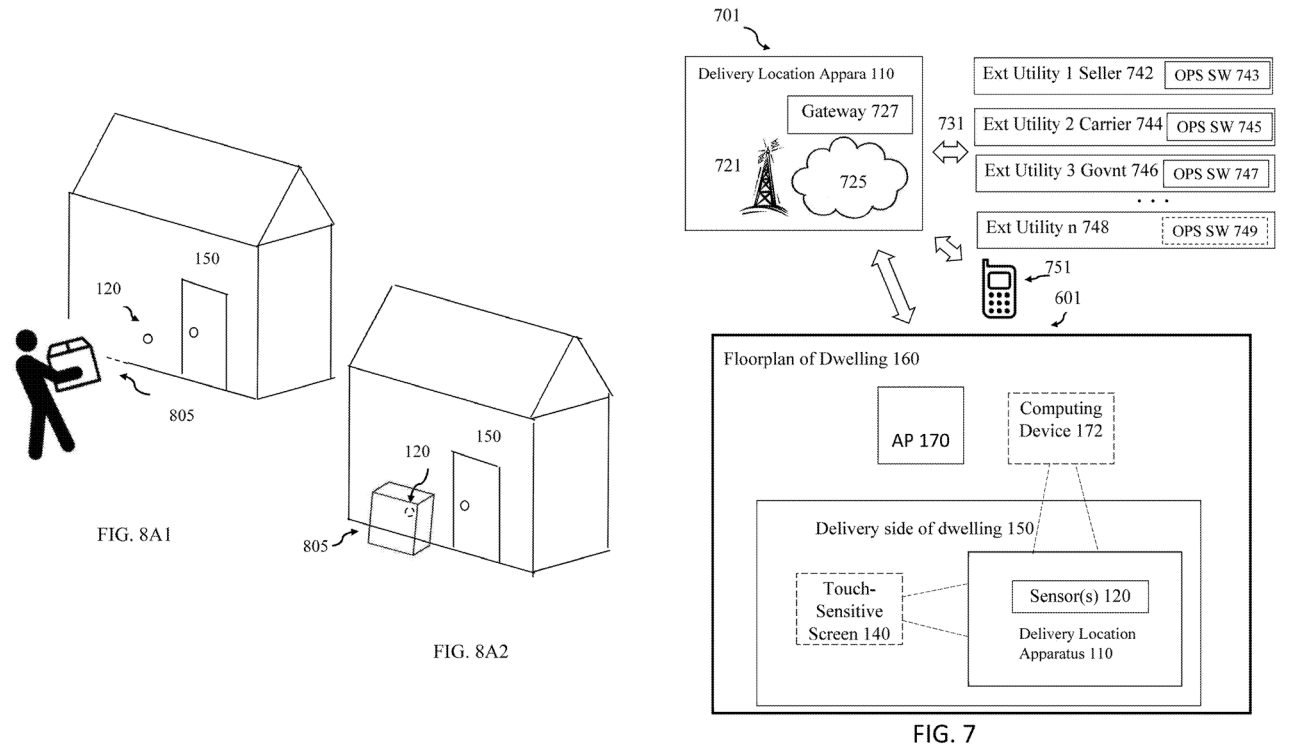
## Mechanical Patent

- Wright Brothers Flight  
US 821,293



## Electrical Patent

- Porch Piracy US 11,202,526



# Patents

## Biotech

- Cancer Detection US10613090

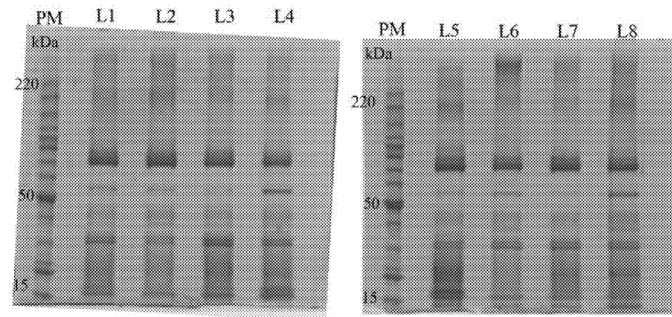


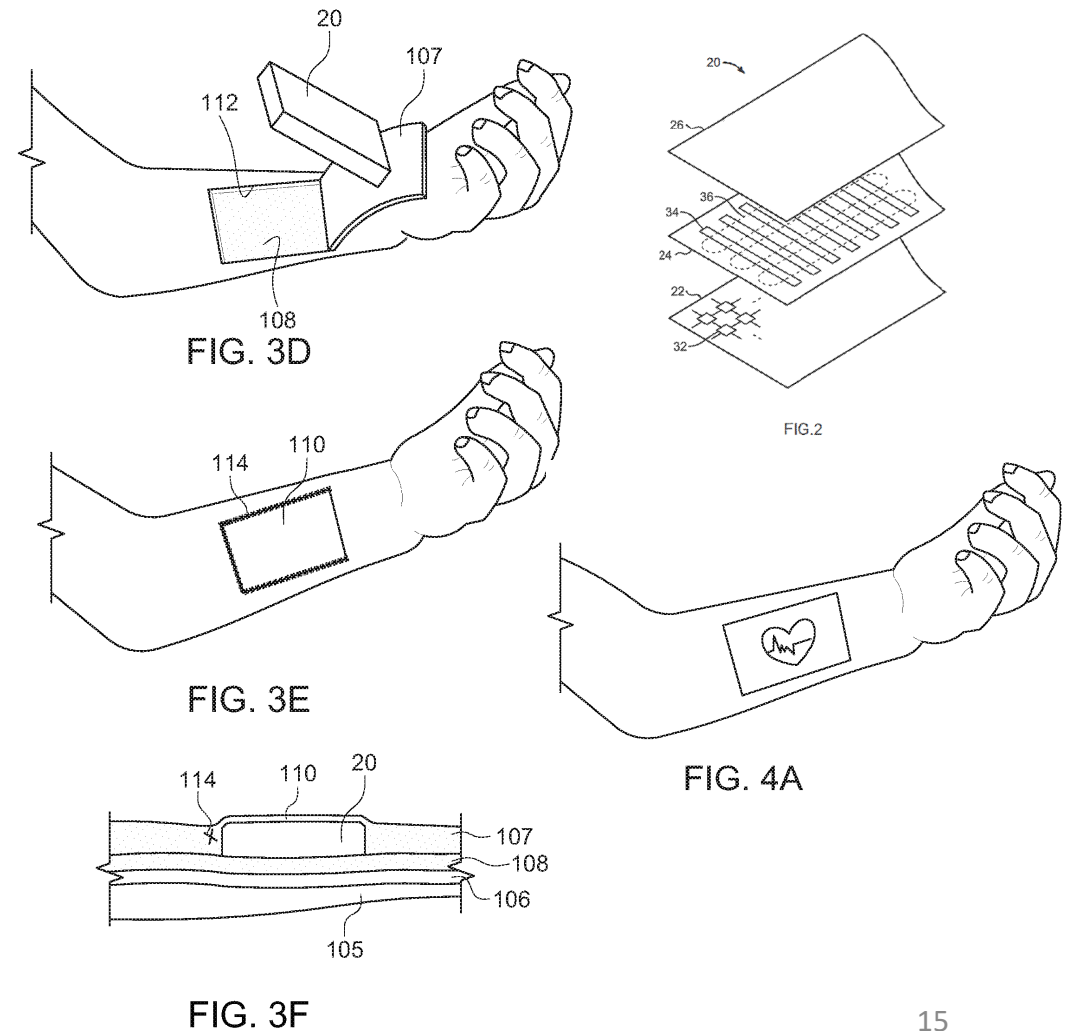
Figure 1

We claim:

1. A method of detecting markers in lacrimal secretions from a human subject, comprising:
  - obtaining a lacrimal secretion sample from the human subject, wherein the human subject has breast cancer, or has a palpable lump in the breast suspected of being cancerous;
  - contacting the lacrimal secretion sample in an immunoassay with antibodies that specifically bind to at least two protein markers, wherein the at least two protein markers comprise A1BG and at least one protein marker provided in Table 2A or Table 2B; and
  - detecting the levels of the at least two protein markers in the immunoassay by detecting the antibodies bound to the markers.

## Biomedical

- Interactive Skin US 11,864,899



# Design Patents

- iPhone Design US D593,087

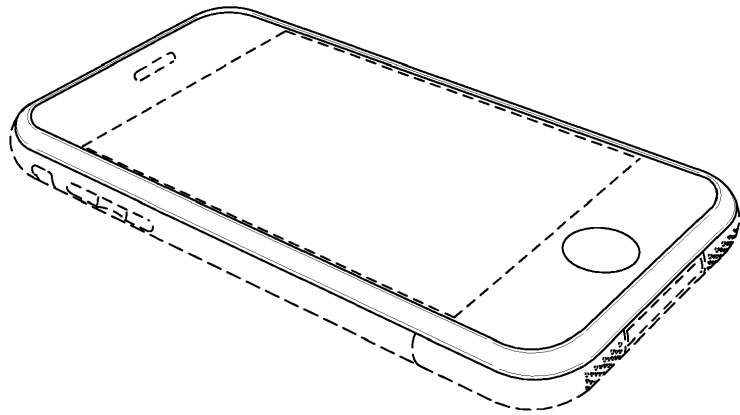


FIG. 1

- Bartholdi Design US D11,023

D19-34.5      AU 2901      EX  
FIP: 05/96      XR      D011023

DESIGN.  
A. BARTHOLDI.  
Statue.

No. 11,023.      Patented Feb. 18, 1879.



LIBERTY ENLIGHTENING THE WORLD.

*Eschsch*  
*J. B. Carpenter.*

*Auguste Bartholdi*  
*by*  
*A. B. Carpenter.*

# Plant Patents

inventing or discovering plants that can be reproduced asexually



# Artificial Intelligence

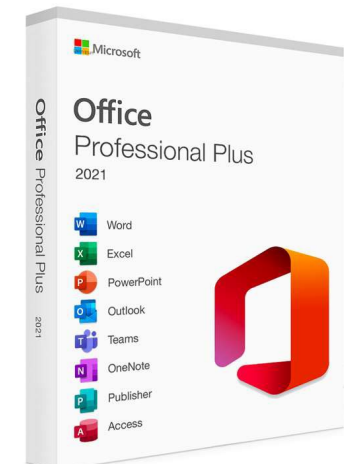
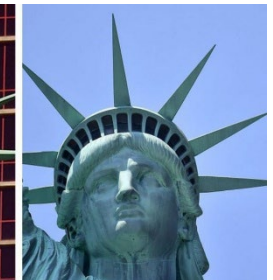
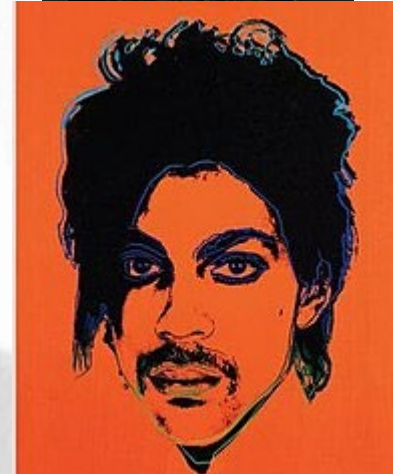
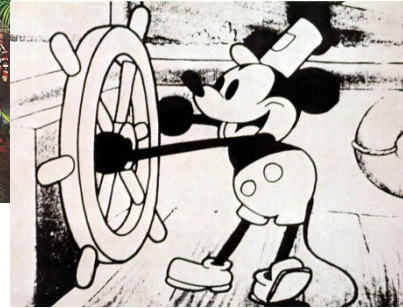
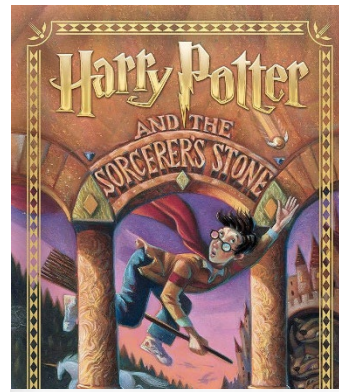
- AI inventions can be patented, but only if at least one natural person (a human) has made a "significant contribution" to the invention
- The AI system, of course, cannot be listed as an inventor.

# Copyright

- Artistic expression
- Fixed in a tangible medium

# Copyright artistic expression fixed in a tangible medium

- Book Harry Potter
- Audio visual Game of Thrones
- Music
- Drawings
- Photos
- Paintings
- Prints
- Sculpture
- Software



# Transformative Use and AI

## Increasing Importance of Transformative Use

- Authors Guild v. Google *snippet case*
- Oracle v. Google *java scripts*
- Balance of four factors determining copyright fair use:
  - the ***purpose and character of the use***
  - the nature of the copyrighted work
  - the amount and substantiality of the portion used in relation to the copyrighted work as a whole, and
  - the effect of the use upon the potential market for or value of the copyrighted work

## Artificial Intelligence

- The use of AI to assist in the process of creation or the inclusion of AI-generated material in a larger human-generated work does not bar copyrightability.
- The outputs of generative AI can be protected by copyright only where a human author has determined sufficient expressive elements.
- This can include situations where a human-authored work is perceptible in an AI output, or a human makes creative arrangements or modifications of the output, but not the mere provision of prompts.

# What is a Trademark?

- A word, name, symbol, sound, color or combination that distinguishes a good or service
  - The mark must be adopted to the good or service
    - For a good, the mark should be on packaging or can be on website next to purchase button
    - For a service mark must be used offering for sale the services
  - When people see the mark, they should think about the source of those goods
    - E.g. – when you see Apple mark you know it is a product of high quality from Apple

# Marks

## Trademark



## Service Mark



# Trade Dress

- Visual appearance of a product that identifies a source
  - The look and feel packaging “skin” of a product
  - E.g. labels, packaging, so on



# Other Forms of IP

- Trade Secrets
  - confidential business information, formulas, patterns, devices, methods, or processes that give a company a competitive edge
  - reasonable efforts have been made to keep secret.
- Unfair Competition
  - economic injury to a business
  - through deceptive or otherwise unfair acts
- Data including Medical
  - when original
  - Creative
  - part of a unique database or compilation

# WHO is the inventor/creator?

- Patent creation
  - Conception
  - Reduction to practice
- Conception is key – a contributor to claim
- Whoever contributes to conception is inventor
- Copyright creation
  - Creation
  - Fixing in tangible medium
- Creation is key
- Whoever contributes to creation is author
- Trademarks
  - Creation of mark
  - Adoption to goods, services
- Creation is key
- Whoever contributes to creation is creator of mark
- Trade Secrets
  - Creation of confidential
  - Provides competitive advantage
- Creation is key
- Whoever contributes to creation is creator of mark

# WHEREIN lies ownership?

- Independent Consultant
- Work for Hire
- Employee

# Legal Forms in which You Can Innovate



## Independent

- Works for Yourself on your own business
- Self determines when and how they work
- Typically use own tools or those made available without restriction
- You onboard and train yourself
- You pay yourself with income from your labors
- You provide yourself benefits from your labors
- Handles own taxes
- Responsible for own career development
- Termination is based on what happens in the business

## Independent Consultant

- Works for one or more clients
- Self determines when and how they work
- Typically use own tools or those made available without restriction
- Does not require onboarding and training
- Paid in accord with agreement
- Not entitled to benefits
- Handles own taxes
- Responsible for own career development
- Contractor agreement dictates termination

## Work for Hire

- Either Independent Consultant or Employee outside scope of hire
- Work prepared by employee within scope of employment OR work specially ordered or commissioned
- Other aspects are those of independent contractor or employee as case may be

## Employee

- Works for one employer
- Job description defines when and how they work
- Typically uses tools provided by Employer
- Extensive onboarding and training
- Hourly or salaried
- Entitled to benefits
- Employer withholds taxes
- Receives career development opportunities
- Labor laws dictate termination

# Ownership of Innovation Depends on Form Within Which Innovation Occurred

## **Independent**

- You own it

## **Independent Consultant**

- You own it
- Unless your contract transfers ownership to client

## **Work for Hire**

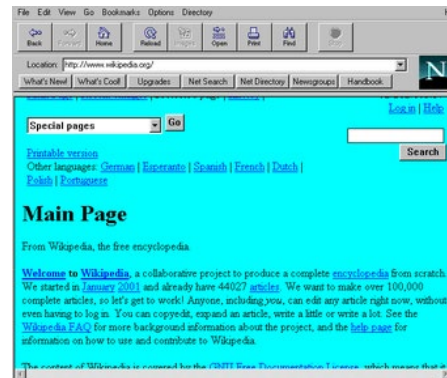
- Employer or Client who commissioned your work on a work for hire basis owns it
- Unless employer provides carve-outs giving ownership to employee
- By contract

## **Employee**

- Employer will own it
- Unless employer provides carve-outs giving ownership to employee
- By contract

# Netscape – IP ownership result

- While an undergraduate and part-time assistant at the National Center for Supercomputing Applications at U of Illinois, Andreeseon became familiar with internet and web on unix which was tool of academia and engineers and expensive
- Andreeseon intended to make Web useable by everyone and designed Mosaic browser designed to display HTML documents, image tags that allowed images to be displayed on page, and hyperlinks
- Andreeseon and partner Bina started up Mosaic and U of Illinois sued misappropriation of their IP
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## Form Innovation Occurred

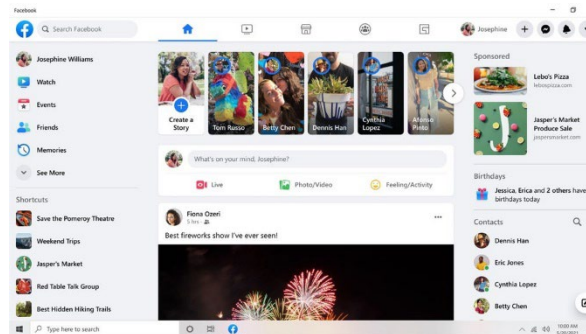
### Likely Employee

- Works for one employer
- Job description defines when and how they work
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- Receives career development opportunities
- Labor laws dictate termination
- Employer will own it
- Unless employer provides carve-outs giving ownership to employee
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# Facebook

- While an undergrad student at Harvard, Zuckerberg developed in his dorm room a social media site that allows people to create a profile with personal information to reach out with a request to connect with friends and family and others to share photos, videos, and join groups
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## Form Innovation Occurred

### Likely Independent

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- You pay yourself with income from your labors
- You provide yourself benefits from your labors
- Handles own taxes
- Responsible for own career development
- Termination is based on what happens in the business
- You own it

# Taborsky

- University of Florida (USF) contracted with Progress Technologies Corporation (PTC and affiliate PWT) to provide research in area of municipal wastewater management and treatment
- USF and PTC agreement requiring research remain proprietary and confidential to PTC
- Taborsky was an undergraduate research assistant working on the research project under confidentiality agreement with PWT
- Taborsky left USF; never returned as a student; took his lab books containing the proprietary and confidential research; refused to return lab books; and even got a patent on it
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## Form Innovation Occurred

### Likely Employee

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- Labor laws dictate termination
- Employer will own it
- Unless employer provides carve-outs giving ownership to employee
- By contract

# Take-Aways on Key Factors

- Know your institutional policies on IP and objectives
- Know what you own/not-own under student-institution contract
- Know what contracts/representations/commits you make with others
  - See Facebook
- The more significant use made of the institution's resources the greater claim the institution has to innovation
  - Is cost to institution for you developing the innovation negligible or significant
  - *Compare* Netscape/Google/Taborsky *to* Facebook
- Steer your IP away from the above as much as possible

# Take-Aways on Key Factors

- Are you building on Research or Taught Courses
  - Research environment favors institution
  - Taught course favors student
- Are you building on Project work, Mandatory coursework or Extracurricular
  - Project work favors institution
  - Mandatory coursework favors student
  - Extracurricular favors student

# Roadmap for Protecting Your IP

## Patents

- Know your institutional policies on IP and your contracts
- Develop a strategy to protect your invention
- Decide if you want to patent it since reverse engineerable or keep it a trade secret
- Maintain invention confidential
  - until filing,
  - until commercialization to get confidentiality advantage
  - of first-to-market, or want to keep as trade secret
- Use confidentiality agreements for that
- File provisional application to lock in priority date
- File nonprovisional application to get application examined and allowed
- File for foreign protection typically within 1 year of priority date
- Mark your products for damages on device, system claims
- Police the industry for use of your patent
- Enforce your patent

## Copyrights

- Know your institutional policies on IP and your contracts
- Develop a strategy to protect your copyright
- Decide what to copyright register since US gives statutory damages if registered and if not a copyright created in Berne country outside US enforceability in court
- File copyright application to get copyright examined and registration granted
- File for foreign protection
- Mark your creative work of art with a notice to put public on notice of copyright and for enhanced damages
- Police the industry for use of your copyright
- Enforce your copyright

## Trademarks

- Know your institutional policies on IP and your contracts
- Develop a strategy to protect your trademark
- Decide what to trademark
- File intent-to-use application if trademark not yet in use
- File federal trademark application to get trademark examined and registration granted throughout US
- File state trademark application to get trademark examined and registration granted if use is only intra-state
- File for foreign protection
- Use your trademark correctly as a mark on goods or in selling services or if in print as an adjective followed by “noun” product or service the trademark is used with the adjective prominently noted for people to appreciate it is a mark
- Mark your trademark with a notice to put public on notice of trademark and for enhanced damages
- Police the industry for use of your trademark
- Enforce your trademark

## Trade Secrets

- Know your institutional policies on IP and your contracts
- Develop a strategy to protect your trade secret
- Develop a program to maintain the information a trade secret
- Maintain trade secret confidential
- Use confidentiality agreements for that
- Police the industry for use of your trade secrets
- Enforce your trade secrets

# Beyond Netscape/Google/Facebook/Taborsky

- Scenario 1
  - Develop idea for business in dorm room
  - using no university course materials
  - Using no university assignments
  - Using your own and not university internet
  - Using no university resources except dorm lighting and electricity
  - The institution has no IP policy that gives institution all innovation produced on campus
  - You signed no contract that gives institution all innovation produced on campus
- The innovation should be yours

# Beyond Netscape/Google/Facebook/Taborsky

- Scenario 2
  - Develop idea for business in dorm room
  - using no university course materials
  - Using no university assignments
  - Using ~~your own and not~~ university internet
  - Using no university resources except dorm lighting and electricity
  - The institution has no IP policy that gives institution all innovation produced on campus
  - You signed no contract that gives institution all innovation produced on campus
- The innovation should be yours - see Facebook

# Beyond Netscape/Google/Facebook/Taborsky

- Scenario 3

- Develop idea for business in dorm room
  - using ~~no~~ university course materials
  - Using ~~no~~ university assignments
  - Using **your own** ~~and not university~~ internet
  - Using no university resources except dorm lighting and electricity
  - The institution has no IP policy that gives institution all innovation produced on campus
  - You signed no contract that gives institution all innovation produced on campus
- The innovation should be yours

# Beyond Netscape/Google/Facebook/Taborsky

- Scenario 4
  - Develop idea for business in dorm room
  - using ~~no~~ university course materials
  - Using ~~no~~ university assignments
  - Using ~~your own and not~~ university internet
  - Using no university resources except dorm lighting and electricity
  - The institution has no IP policy that gives institution all innovation produced on campus
  - You signed no contract that gives institution all innovation produced on campus
- The innovation should be yours – see Facebook

# Beyond Netscape/Google/Facebook/Taborsky

- Scenario 5
  - Develop idea for business in dorm room
  - using ~~no~~ university course materials
  - Using ~~no~~ university assignments
  - Using ~~your own and not~~ university internet
  - Using ~~no~~ significant university resources such as supercomputers or special equipment or significant expertise contribution of faculty ~~except~~ including dorm lighting and electricity
  - The institution has no IP policy that gives institution all innovation produced on campus
  - You signed no contract that gives institution all innovation produced on campus
- The innovation may be owned or co-owned by university absent university waiver – see Netscape and Google

# Beyond Netscape/Google/Facebook/Taborsky

- Scenario 6

- Develop idea for business as part of special project of university
- using ~~no~~ university course materials
- Using ~~no~~ university assignments
- Using ~~your own and not~~ university internet
- Using ~~no~~ significant university resources such as supercomputers or special equipment or significant expertise contribution of faculty ~~except~~ including dorm lighting and electricity
- The institution has no IP policy that gives institution all innovation produced on campus
- You signed no contract that gives institution all innovation produced on campus
- The innovation may be owned or co-owned by university absent university waiver given heavier university involvement in project – see Netscape and Google

# Beyond Netscape/Google/Facebook/Taborsky

- Scenario 7

- Develop idea for business ~~as part of special project~~ employee of university
- using ~~no~~ university course materials
- Using ~~no~~ university assignments
- Using ~~your own and not~~ university internet
- Using ~~no~~ significant university resources such as supercomputers or special equipment or significant expertise contribution of faculty ~~except~~ including dorm lighting and electricity
- The institution has no IP policy that gives institution all innovation produced on campus
- You signed no contract that gives institution all innovation produced on campus
- The innovation may be owned or co-owned by university absent university waiver given heavier university involvement in project – see Taborsky

# Final Thoughts

- **TODOS**
  - **KNOW** your institutional policies on IP and your contracts
  - **DEVELOP** a strategy to protect your IP
  - **TAKE STEPS** to protect your IP such as filing for patent or implementing procedure for trade secret protection
  - **POLICE** the industry for unauthorized use of your IP
  - **ENFORCE** your IP
- **ACTIONING THE TODOS** should put you in a good position to control the destiny of your IP
- **Closing Remarks**