# Intellectual Property – Patents, Copyright, Trade Secrets, and Trademarks

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## How is this relevant to me, an Engineer?

- Reading competitor's patents
  - Want to "design around" your competitor's patent
  - Want to gauge what your competitors are working on
- Filing information disclosure forms
  - How to communicate what is novel about what you have invented
- Meetings with patent attorney's/in-house counsel
  - Want to understand the "legalese" of the patent attorney's or the in-house counsel
  - Want to communicate what is novel about what you have invented

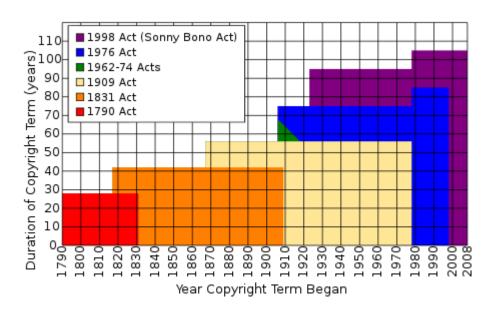
## Copyright

- Based on power given to Congress in U.S. Constitution, Article 1, § 8, Cl.8
- Can be applied to literary works, musical works, dramatic works, pictorial works, architectural works, and more
  - Excludes facts, history, blank forms, recipes, titles, and typeface designs
- Copyrights don't grant exclusive right to the idea, only the expression of the idea



## Copyright Cont.

- Copyrights are granted for the life of the author plus 70 years
  - This is continually being extended
- Copyright is enforced by filing a lawsuit in federal court to enforce your rights
  - This is not enforced for you by the government
- Relatively easy to register a work
  - Attorneys often not needed
  - File an application
  - Appropriate fees (\$45)



#### **Trade Secrets**

- To be considered a trade secret something must:
  - Be commercially valuable because it is secret
  - Be known to a limited group of persons
  - Be subjected to reasonable steps to keep it secret
- Unauthorized acquisition, use, or disclosure contrary to honest commercial practices is regarded as unfair practice and violation of trade secret protection



#### Trade Secrets Contd.

- Trade secrets do <u>not</u> protect against independent discovery
- Backed up by two different federal laws
  - Economic Espionage Act of 1996 which makes the theft or misappropriation of a trade secret a crime
  - Defend Trade Secrets Act of 2016 which created a federal cause of action for misappropriating trade secrets

#### Trademarks

- Indicates the source or origin of the goods
  - Trademarks are there to protect the consumer
- Can take the form of word, slogan, name, letters, numbers, and more
- Trademarks can be broken down into Trademarks, Service Marks, Certification Marks, and Collective Marks.
- Moderately costly
  - Typical costs for registration and prosecution will run ~\$1k

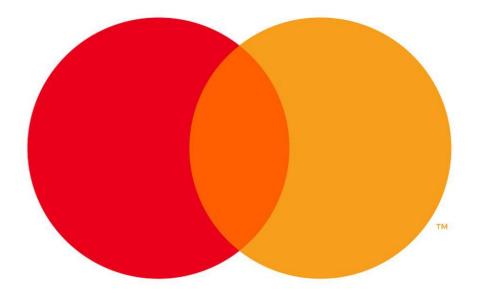
### Trademark

• Identify and distinguish the goods of one company from those of another



### Service Mark

• Identify a service provider



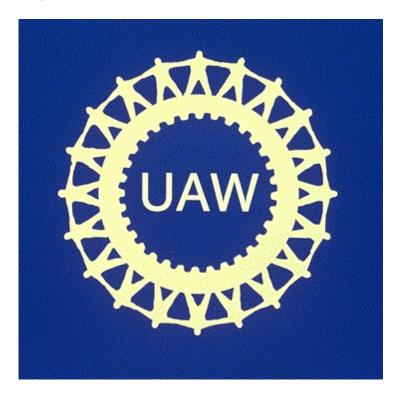
### Certification Mark

• Identify a product that meets a standard or regulation



### Collective Mark

• Identify members of a union, cooperative, or other collective organization



## Categories of Trademarks

- Fanciful
- Arbitrary
- Suggestive
- Descriptive
- Generic

#### Fanciful Trademarks

• Made up works which are invented to be used as a trademark name



## Arbitrary Trademarks

 Words that have a real, common meaning but they are completely unrelated to the product or service



## Suggestive Trademarks

• Named after a characteristic of the product/ service.



## Descriptive Trademarks

• Description of the product or service



### Generic Trademarks

- Generic description of the product or service
  - Dry Ice, Escalator, Linoleum, Band-Aid

## How to obtain/lose a Trademark

- Must register the Mark with the USPTO and then use the Mark.
  - Registering the Mark helps thwart counterfeiting and establishes date of First Use
- Some Marks may not be Registerable
  - Marks can be contested by third parties if the third party believes it conflicts with their mark
- Marks are lost through abandonment
  - No use (3 years), failure to protect, licensing without quality control, or changing the Mark

#### Abandonment of a Trademark

• Trademarks not actively used, will be lost

• The Trademark for Standard oil is owned by Chevron who maintains one standard oil gas station in each

of the 16 states in which it operates



#### Patents

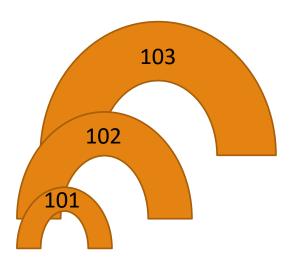
- Based on power given to Congress in the U.S. Constitution
- Patent process was revised in 2011 with the Leahy-Smith America Invents Act
  - This harmonized the U.S. process with international standards
  - Switched to a first to file system
  - Eliminated interference proceedings

#### Patents contd.

- Patents allow the patent owner to exclude others from making, using, selling offering for sale, or importing the protected article for 20 years from earliest filing date
  - In return, you must disclose how the device works and what the best way to use it is for everyone to see
  - As with copyrights, the government will not enforce a patent for you
  - Patents provide the strongest protection as they do not require intentional copying or misappropriation to be infringed
- Quite costly
  - Typically, \$10,000+ per invention to prepare, file, prosecute, and issue a patent
  - Similar costs for each international filing

## Requirements for a patent

- The invention must satisfy the following requirements
  - 35 U.S.C. § 101 Invention must be useful
  - 35 U.S.C. § 102 Invention must be new/novel
  - 35 U.S.C. § 103 Invention must be non-obvious



### 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."
- Thus, industrial machines, industrial processes, computer software, methods of doing business, medical devices, and more can all be claimed
  - Described in case law as "anything under the sun invented by man"
- This part of the statute excludes
  - Inventions which are impossible such as perpetual motion machines
  - Laws of nature, natural phenomena, and abstract ideas

### 35 U.S.C. § 102

- •"102(a)Novelty; Prior Art.—A person shall be entitled to a patent unless:
  - 102(a)(1)the claimed invention was patented, described in a printed publication, or in public use, on sale, or otherwise available to the public before the effective filing date of the claimed invention"
- 102 covers situations where nearly the same disclosure has been patented before by someone else before you

### 35 U.S.C. § 103

- "A patent for a claimed invention may not be obtained, notwithstanding that the claimed invention is not identically disclosed as set forth in section 102, if **the differences** between the claimed invention and the prior art are such that the claimed invention as a whole **would have been obvious** before the effective filing date of the claimed invention to a person having ordinary skill in the art to which the claimed invention pertains."
- 103 covers situations where your disclosure has been patented before by a combination of others before you and it would have been obvious to one of skill in the art to combine them

## Types

- Utility patent
  - Provisional
  - Non-provisional
- Design
- Plant

#### Provisional Patent

- Quite inexpensive
  - \$70-\$280 (micro entities large entities)
- Establishes a priority date
  - Priority dates are the first date that you can swear back to in order to overcome prior art
- Not examined by the patent office

#### Non-Provisional Patent

- Can claim to provisional if within one year
- Non-Provisionals will proceed through prosecution at the USPTO and can lead to a utility patent
  - Prosecution is where a patent attorney/agent or an inventor will argue with the patent office about why
    their invention is novel
- Non-Provisionals in the US must include description, preferred embodiments, drawings, and claims
  - One of the preferred embodiments must be the "best-mode"
  - The description and drawings must be "enabling" in that someone skilled in the art could perform the patent as described

## Design Patent

- Legal protection on the ornamental appearance of an article of manufacture including the shape/ configuration or surface ornamentation.
- There are a few differences when compared to utility patents
  - Design patents last 15 years from date of grant
  - No maintenance fees
  - Only a single claim is allowed

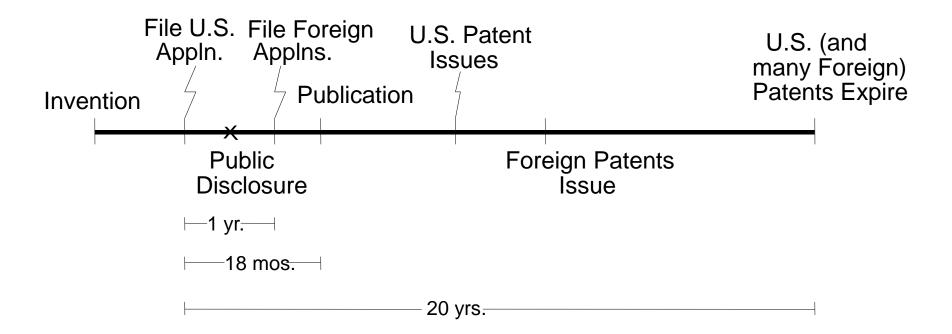
#### Plant Patent

- Patent given on plants that are invented and asexually reproduced
  - No plant patents on potatoes!
- Algae and macro-fungi are considered plants, but bacteria are not

## Timing

- In the U.S. you have 1 year after a disclosure or offer for sale
- In foreign countries there is an absolute novelty bar
  - This means that any disclosure would bar patentability

## Timing



## Summary

- Four main types of intellectual property protection
  - Copyright
    - Weak, easy to obtain protection
  - Trade Secrets
    - Best for difficult to reverse engineer products
  - Trademarks
    - To protect the consumer from confusing similar products
  - Patents
    - Difficult, strong protection but must disclose everything

### Questions?

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