

What Is Intellectual Property?

- Form of Property Rights That Can Be Sold, Bought, Traded, or Licensed
 - Laws Are Country Specific!
- What Are the Different Types of Intellectual Property?
 - Patent
 - Copyright
 - Trademark or Servicemark
 - Trade Secret

What is a Patent?

- Patents Protect Inventions
- A grant by the government allowing you to exclude others from "making, using, selling, offering to sell, or importing" your invention for a period of 20 years
- What is granted is not the right to make, use, offer for sale, sell or import, but the right to EXCLUDE OTHERS from making, using, selling, or importing the invention
- Patents Affect How Science is Carried Out and How Basic Science is Translated Into Business

What's required to get a patent?

- The invention must be: novel, useful & not obvious
- Determining what is obvious can be complex
- Patentable
 - Process or Method (Recombinant DNA)
 - Machine or Apparatus (PCR or Sequencing Machine)
 - Article of Manufacture (Transgenic Organism)
 - Composition of Matter (DNA Sequence)
 - Plant Varieties (Sexual or Asexual)
 - Improvements to Any of the Above

- Not patentable

- Obvious inventions, “Prior art”, laws of nature(includes math formulas), abstract ideas, naturally occurring substances that exist in nature - including cells, chromosomes, and genes

Patent Basics

- Patents are jurisdiction specific. For example, U.S. patents do not apply in Japan
- U.S. patents are issued by the U.S. Patent and Trademark Office (PTO)
- Obtaining a U.S. patent can cost tens of thousands dollars and international even more expensive
- Once issued, U.S. patents generally expire 20 years after the filing date

Provisional Patents

- A provisional patent filing is a lower cost filing that can be used to establish an early effective filing date, prior to starting the formal patent examination process by the PTO
- Initiates a 1 year period for filing non-provisional application. If late the benefit of provisional filing date is lost
- Once filed, later public disclosures do not count as prior art

Non-Provisional Patents

- Initiates the patent examination process
- Typically takes several years
- Subsequent disclosures do not count as prior art
- Back and forth between the examiner and the applicant
- The patent is issued if and when the examiner deems the claims to be “allowable”

Software Patents

- Software Patent Examples:

- Amazon “1-Click Purchase” *
- Priceline “Name Your Own Price” *
- iTunes *
- Microsoft Windows
- Apple OS X
- TurboTax *

- Computer-Related Examples:

- iPod
- iPhone
- MacBook

- Can “stand-alone” software be patented (process patent)?

- Country specific (USA easier, Europe not, Japan in between)

What Are the Different Types of Patents?

- Utility Patents (Most Common)

- Process or Method
Recombinant DNA or Stem Cell
- Machine or Apparatus
PCR or Sequencing Machine
- Article of Manufacture
Transgenic Organism
- Composition of Matter
DNA Sequence
- Improvements to Any of the Above

- Design Patents

- Must Ornament a Manufactured Article

New Shape of Car Fender

- Plant Patents (Least Common)
 - a. Asexually or Sexually Reproducing Plants

What is a copyright?

- A bundle of *exclusive rights held by the author of an original work* – protects works of authorship, such as writings, music, and works of art that have been tangibly expressed
- Bundle includes exclusive rights to:
 - Reproduce
 - Make derivatives
 - Distribute
 - Perform
 - Display
- Scope: *Ideas are not protected, their expression is*
- A copyright gives the owner of a creative work the right to KEEP OTHERS from unauthorized use of the work
- Gives the owner the EXCLUSIVE RIGHT to reproduce the copyrighted work, to distribute copies of the copyrighted work, to perform the copyrighted work publicly, or display the copyrighted work publicly

What is a trademark?

- A **trademark** Protects words, names, symbols (logos), sounds, or colors that distinguish goods and services (for example, shape of Coca Cola bottle, name Coca Cola, roar of MGM lion, Apple logo, Microsoft name)
- A service mark is the same as a trademark - except that trademarks promote products and service marks promote services (e.g., FedEx, MTV, McDonald's, Yahoo, Google, Amazon.com).
- The term “trademark” is often used to refer to both trademarks and service marks

- Trademark law-decisions of state and federal courts + US statutes- is applied to resolve disputes when competing businesses adopt similar product names or logos (Lanham Act)

What is a trade secret?

- Information that companies keep secret to give them an advantage over their competitors
- Any information that has commercial value, that has been maintained in confidence by a business, and that is not known to competitors
- For example, formula for Coca Cola, gene sequence database, genome sequences, software, cell lines, unpatented inventions, etc
- Trade Secret Law-decisions of state and federal courts + US statutes-plus-criminal anti-theft statutes

Examples of Intellectual Property Protections

Creative Work	Patent	Copyright	Trademark	Trade Secret
Biological Invention	√			
Idea				√
Database		√		√
Computer Design	√			√
Drawing		√		
Advertisement		√	√	
Formula	√			√
Logo			√	

Movie Script		√		√
Movie Film		√		
Writings		√		
Photograph		√		
Song		√		
Web Page		√	√	
Web Domain Name *Only if Used as Business			√*	

Creative Work	Patent	Copyright	Trademark	Trade Se
Gene in Plasmid	√			√
Gene Sequence (*being challenged)	√*			√
Gene Database		√		√
Software (*If Part of A Machine/Technical/Physical Result)	√*	√		√
Transgenic Organism	√			
Biotech Co. Logo			√	

DNA Perfume	√		√	
Knome Website (*as a business)		√	√*	
DNA Test to Detect CF (*being challenged)	√*			√
Research Article		√		
Stem Cell Line	√			√
PCR Technique	√			√
Genome Project Website		√	*Not a Business	
Genes in Human Cell				
Antisense or RNAi Drug	√		√	√