

Intellectual Property Issues for Engineers



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Importance of Intellectual Property (“IP”) to a Company



- Increasingly important as a business asset
- May constitute the most valuable asset in early stage technology based companies

Why do Companies Care about IP?



- Freedom to Operate – make sure someone else’s IP will not prevent your company from carrying out its business objectives
- Competitive Advantage – protect your company’s IP so it can be used to gain a competitive advantage in the marketplace through precluding others from utilizing the IP

Ways to Protect IP



- Copyrights – original works of authorship, including software
- Trademarks – word, symbol or device that identifies the source of goods
 - Company logos
- Patents – right to exclude others from making, using, or offering for sale the invention
- Trade Secrets – secret information that gives owner a competitive advantage
 - KFC's secret recipe
- Contractual Protection – nondisclosure agreements (NDA), joint development agreements (JDA), employment agreements, etc.

Hershey's Kisses



This candy holds:

- Trademark for its shape (#1,584,608)
- Patent for its method of reducing fat levels in cocoa used (#5,464,649)
- Copyright for commercials made to advertise (PAu-697-741)
- Trade secret on its recipe for producing the milk chocolate candy
- Employment agreements and nondisclosure agreements protect the trade secret

US Utility Patent – Definition



- RIGHT TO EXCLUDE others from making, using, selling, or offering for sale the invention in the U.S. or importing the invention to the U.S.
- Can have a patent but not be able to use the invention if it would infringe on another patent
- Generally US patents last 20 years from when application filed with USPTO

Patents – Requirements



- Useful and fit into one of the following categories:
 - Process, machine, manufacture, composition of matter, ornamental design, or biological plant
- Novel – must not already be in the public knowledge or in public use
- Nonobvious in the view of prior art and knowledge to a person having an ordinary level of skill in the pertinent area

Patents – Issues Prior to Filing Application



- Is there already a patent or a patent pending for a similar device?
- What is the life-span of the invention?
 - A short life-span may make a patent impractical
- Is a patent the appropriate protection?
 - Would disclosing the information required to patent give an advantage to competitors?
 - Would company goals be better served by holding the information as a trade secret?

Patents – Prior to Filing Application



- US a first to invent country (rest of world first to file)
- Documenting date of invention (conception and reduction to practice) important – use witnessed laboratory notebooks and invention disclosure forms

Patents – Bars to Patentability



- US Patent – must file U.S. application within one year of public disclosure of the invention
- Foreign – most foreign patent applications must be filed prior to public disclosure of the invention
- Use of nondisclosure agreements is important in order to prevent public disclosure
- Section 102 is complex and has bars to patentability that include printed publications, sales or offers for sale, public use, public knowledge, and invention by another – check with patent attorney prior to taking action with respect to potentially patentable invention

Patents – Multiple Inventor Issues



- If someone contributes to the conception of one claim, that person will be an inventor and, in the absence of an obligation to assign, a co-owner
- Co-owners of a patent have equal rights in the patent
- A co-owner could grant a non-exclusive license with no duty to account to other owners for royalties
- Co-owner cannot prevent another co-owner from practicing the invention

Patents – US Provisional Patent Application



- An option that can be utilized to avoid, for a certain time, loss of patent rights through public disclosure
 - Example: article containing enabling disclosure of the invention will be published in scientific journal
- Filing date as of the date of filing the provisional application
- Must file a regular application within one year or lose your filing date (and ability to obtain a patent if public disclosure made)
- Does not count against the 20 year term

US Utility Patent – Duration



- Previously 17 years from issue
- Now 20 years from filing
- Must pay maintenance fees

Years from Issue	Large Entity	Small Entity
3 ½ years	900	450
7 ½ years	2300	1150
11 ½ years	3800	1900

Laboratory Notebooks



- ❑ All entries in permanent ink
- ❑ Bound system with numbered pages and an index
- ❑ Any changes or additions initialed and dated
- ❑ Dates when idea was conceived and when work was started and completed
- ❑ Details of experiments
- ❑ Detailed description of experiments
- ❑ Each page should be signed and dated by the inventor and signed by a witness
- ❑ Difficulty in admitting electronic records into evidence suggests that hard copies should be maintained in addition to any electronic records

Ownership of Patent Rights



- Have written agreements with employees which indicate the employee will assign inventions to the employer
 - In absence of written agreement with an employee to the contrary, employees generally own any inventions they make, subject to a shop right
 - Shop right gives the employer the right to use (but not license or sell) the employee's invention
 - Courts will sometimes infer an obligation on the part of the employee to assign to the employer even in the absence of a written agreement
 - Illinois employee patent act provides limits on how aggressive the employer can be in the language of the employment agreement and requires that the employer provide written notice of the act
- An assignment should be executed by each inventor/employee for each patent
 - The assignment should be recorded with the patent office

Patent Litigation



- Can be a high stakes game
- Cease and desist letter
- Complex and costly litigation
 - Millions of dollars in attorney fees
 - Hundreds of millions of dollars in damage awards
- Polaroid vs. Eastman Kodak \$870M

Trademarks – Source of Goods



- Trademark: a word, symbol or device that identifies and distinguishes the *source of goods* of one party from those of others
 - Service Mark – similar to trademark except that it identifies services as opposed to goods
- Allows first actual or constructive (i.e. federally registered) user to *prevent others from using the trademark* for goods or services on same or related goods or services

Trademarks – Items That Can be Protected



■ Can protect:

- product names and logos
 - the name Nike and the Nike swoosh
- sales slogans
- container shapes and distinctive packaging
 - Shape of a Coke bottle
- Sounds
 - Intel chime

Trademarks – Obtaining and Keeping



- Perform a Search
 - Make sure the potential trademark is not already being used
- Avoid generic or descriptive terms
 - Arbitrary marks that have no relation to the product stand the best chance of being recognized as a mark
- Make wide use of the trademark and make sure that it is used and marked properly
- Register your trademark at the federal and state levels

Trademarks – Common Law



- Acquire through use
- Can use the TM symbol to assert trademark status
- Limited geographically
- Must continue to use it to maintain it

Trademarks – Illinois Registration



- State level – protection limited to that state, internet means limited usefulness
- Illinois search by phone
- Relatively low cost and simple form
- Must have three actual example of use in commerce to file

Trademarks – Federal Registration



- Perform search
- Select classification and description of goods or services
- Must be actually using mark in commerce; if not have to file an intent to use application
- Higher fee than for state registration
- Once registered should use the ® symbol

Trademarks – Duration



- Can last indefinitely if the owner continues to use the mark on or in connection with the goods or services and if all necessary renewals are filed
- Must police use of your mark by others
- If trademark becomes part of the common language and used as a noun, can lose protection as a trademark (examples – aspirin, zipper)
 - Better to use as an adjective (Apple computer)

Copyrights



- Exclusive Rights of Copyright Owner
 - Reproduction
 - Prepare derivative works
 - Distribute copies
 - Public performance or display

Copyrights – Original Works of Authorship



- A copyright is a form of protection offered by the government for “original works of authorship”
- Copyrightable works include:
 - *Software*, advertisements, art work, sculptures, photographs, speeches, teaching materials, etc.
- Fixed in a Tangible Medium of Expression
 - Can't be an impromptu work, it must be fixed
- It is the expression of an idea, *not the idea itself* that can be copyrighted
- Does not protect inventions

Copyrights – Ownership of Work of Others



- Employers – gain copyright over works of employees if the work was created *within the scope of employment*
- Work for Hire – company commissioning the work may or may not become the owner
- Prudent to document these issues in a signed agreement which also contains language addressing assignment of copyright

Copyrights – How to Gain Protection



- Protection exists from the date the work is created in fixed form even without publication or registration
- Marking a work with the © symbol provides notice to the world that the work is protected but is not required for newer works
- Registering a work with the U.S. Government provides the highest degree of protection, allowing for the recovery of statutory damages in addition to injunctive relief

Copyrights –Duration



- Protection lasts a long time
- For works created on or after Jan. 1, 1978, copyright protection lasts for the authors life plus an additional 70 years
- For a joint work prepared by 2 or more authors not under a work for hire arrangement, the term lasts 70 years after the last surviving author's death
- For works made for hire and for anonymous and pseudonymous works, the duration will be 95 years from publication or 120 years from creation, whichever is shorter
- Different rules apply for works created prior to Jan. 1, 1978

Trade Secrets – Definition



- Any formula, pattern, device or compilation of information used in a business that gives the trade secret owner an *opportunity to obtain an advantage* over competitors who do not know it. The trade secret can not be public knowledge.
- Examples: KFC secret recipe, Coke formula

Trade Secrets – Protection



- If information is secret and *reasonable measures are taken to keep it secret*, it will be protected by law
- The law does not create a monopoly for use on the secret like other protections of intellectual property, but it only *protects* the secret from being *improperly appropriated*
- Unlike patents, trade secrets may be “reverse engineered” and thus no longer secret

Trade Secrets – Protection



- Businesses need to take proper steps to ensure the security of their trade secrets
 - Security within the plant or office
 - Contractual safeguards with employees and business partners such as non-competition agreements and confidentiality agreements
 - Workplace controls to prevent the dissemination of trade secrets to individuals that do not need access to them

Trade Secrets – Economic Espionage Act of 1996



- Makes it a federal criminal offense to:
 - Convert (steal) a trade secret
 - Receive or buy a trade secret of another known to have been stolen
- Violation by an individual can result in fine of not more than \$500,000 and imprisonment of not more than ten years
- Corporation can be fined up to \$5 million
- Penalties steeper if foreign government benefited

Contractual Protections



- Non disclosure agreements (NDAs)
- Employment agreements and independent contractor agreements with IP provisions
- General business contracts with IP provisions
- Joint development agreements

Contractual Protections – NDAs



- Sign before disclosing confidential information
- Understand the terms of the NDA
 - Duration of protection
 - Unilateral vs. mutual
 - Information covered
 - Jurisdiction and venue of court where disagreements would be resolved

Contractual Protections – Joint Development Agreements



- Smaller company and larger company may jointly develop a product
- Each party's own IP is typically preserved as such
- Treatment of jointly developed IP needs to be addressed
 - Equal ownership may not be fair ownership if one party has superior channels of distribution and manufacturing since, in the absence of agreement to the contrary, a joint owner would have the right to practice the IP
 - Prudent for smaller company to build in minimum license rights

Contractual Protection – Employment Agreements



- Protection of confidential information (like NDA)
- Assignment to company of rights in inventions and other IP
- Covenants not to compete and not to solicit employees
- Duty not to improperly take IP owned by another and utilize it on behalf of the company

Licensing Issues



- An agreement not to assert the IP right against another
- Exclusive vs. Nonexclusive
- One or a few fields of use vs. all fields of use
- Territory – worldwide vs. geographic restrictions
- Right to sublicense
- Royalty rate and sharing of sublicensing revenues
- Term or duration
- Who pays to sue infringers

Licensing Issues in a University Setting



- Inventor in University setting required to disclose invention to University
- University will evaluate and decide whether to patent
- If University pursues patent it will become the owner of the patent

Licensing Issues in a University Setting



- University will frequently license the patent to startup company owned by inventor if the startup is serious about commercializing the technology
 - Be a company
 - Be capable of meeting market demand
 - Have written plan to commercialize the technology
 - Address conflicts of interest (time constraints for faculty, influence over students, influence on junior faculty, effect on research)

Licensing Issues in a University Setting



- Due Diligence milestones
- Minimum royalty payments
- Repayment of patent costs advanced by University
- Equity in startup to be taken by University?
- Issue fee
- License of trademarks

Hot Topics – Patent Trolls



- Companies or individuals who purchase patents that are not currently being practiced and then sue companies that are or may be infringing on the patents
- Trolls never have an intention to practice the invention

Hot Topics – IP Audits



- Identification, organization and review of a client's intellectual property assets and potential liabilities
 - Ownership
 - Recordation of transfers
 - Perfection of security interests
 - Compliance with statutory formalities
 - Infringement on third party rights
 - Client's rights being infringed

Hot Topics – IP Audits



- Audit can include all IP assets or focus on specific technologies or issues
 - Issued Patents
 - Prosecution File History
 - Validity Opinions
 - Company's Ownership
 - Actual Assignments
 - Implied Assignments
 - Implied Licenses

Hot Topics SBIR



- Phase I often \$75,000
- Phase II often \$750,000
- Amounts can vary
- “Free” money in the sense that you do not have to pay it back and you do not have to give up stock in the company
- If your particular contract is in line with the direction your company wants to grow, can be a way to have the government fund development of a particular product
- May not be a good fit if product is a “one off” from the direction your company should go

Hot Topic – IP Protection under SBIR Contracts



- Contracts may differ from agency to agency
- Company typically retains ownership in what it develops or invents
- Government typically has royalty free license to use results of funded research for government purpose
- Typically company will have an ability to utilize IP generated for commercial markets

SBIR – Resources



- www.zyn.com/sbir
- www.sbirworld.com

Ownership of IP



- Make sure all “company” IP is owned by the company
- Have written agreements with employees and third parties which indicate the company will own the IP
- Obtain assignments of patent rights from inventors

Licensing Issues in a University Setting



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- Repayment of patent costs advanced by University
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- www.otm.uiuc.edu

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