

# Protection of Intellectual Property (IP)

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# What is IP?

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- Yours or Your Company's body of techniques, designs, ideas, methodologies etc., that give you a competitive advantage in your marketplace.
- Your IP is that part of your total capability that is unique to you, or so you hope

# How to Protect IP

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- Patents
- Trademarks
- Copyrights
- Trade Secrets

# Protection vs Secrecy

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- Patents, in particular, involve disclosure
- Trade-off between risk of failed protection vs benefits vs cost
- The goal of this presentation is to help you understand the issues well enough to make an informed decision

# Trademarks and Copyrights

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- Trademarks are often a marketing tool, protection of brand image, as opposed to protection of technical competitive advantage
  - “Blah-Blah <sup>tm</sup>”
    - Self-asserted statement that you own this name
    - No governmental sanction
  - ©
    - USPTO granted
    - Expensive and risky, need to use attorney
- Copyrights useful for software, manuals etc, can be hard to enforce

# Patents

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- What is a Patent?
- Why would you want a Patent?
- What can you Patent?
- Who owns a Patent?
- How do you get a Patent?
- What do you do with a Patent once you have one?
- How much does it cost and how long does it take to get a patent?

# What is a Patent?

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- A Grant by the US (or other) Government for a temporary monopoly within the government's jurisdiction on the right to produce, sell or practice some new and useful thing, the monopoly given in exchange for an enabling disclosure on how to make or do the new and useful thing

# What is a Patent?

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- Goes back to Thomas Jefferson
  - Encourage disclosure as opposed to secrecy in the economy
  - In theory the disclosure stimulates others' thinking on how to extend or work around your patent, thus encouraging further innovation and economic expansion.
- Legally, a patent defines property rights, essentially the right to exclude others from your protected area, and thus a patent can be bought, sold and traded as property

# Why would you want a Patent?

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- The temporary monopoly provides a competitive advantage which exceeds both the direct and opportunity costs associated with getting the patent.
- Pride
- Looks good to investors
  - Post Dotcom-bust investors like to see some tangible value, patents one way for small entrepreneurs to show value
  - Some venture capital sources insist on a patent strategy as part of your business plan

# What can you Patent?

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- Something new, created by man and capable of producing a tangible change in the world
- Cannot already be in the public domain

# What can you Patent? Something New

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- Something not a direct, obvious extension or obvious combination of something that already exists, In Patent Terms:
  - Anticipated (USC 102)
    - All elements of your invention can be found in one concept, process or device from the body of public human knowledge (prior art) which existed at the time you made your invention
  - Obvious (USC 103)
    - Someone “Skilled in the Art” could have easily inferred all elements of your invention from one or more existing concepts or devices if the need was apparent. Discovering a need is not sufficient to obtain a patent (usually).

# What can you Patent? Created by Man

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- Patentable subject matter
  - Device, mechanism, widget of any kind
  - Electronic circuit
  - Computer program or algorithm that acts on data to produce a result
  - Process, including manufacturing, chemical, business (new ground)
  - Artificial composition of matter, including chemical or biological compounds, gene sequences
  - Ornamental design
  - Designed Plants, such as hybrids

# What can you Patent? Created by Man

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- Non-Patentable subject matter
  - Any naturally occurring substance (but a process to synthesize the substance would be)
  - Laws of Nature
  - Mathematical Theorems
  - Live animals or humans, (but a breeding process might be)

# What can you Patent? Not in Public Domain

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- If already available to public, Government has no need to give you monopoly in trade – one caveat you get a 12 month grace period – so no patent possible if subject matter, more than 12 months earlier, was:
  - Offered for sale
    - Direct sales
    - Shown at trade show
    - Described in marketing materials
  - Published
    - Written or verbal (presentations)
- So if you think you may want to patent something, keep quiet about it or keep track of these type of events and get patent in within 12 months. Err on conservative side.

# Who Owns a Patent?

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- In the US, for now, The Inventor(s) own a patent unless they assign (sell) the patent to someone
  - Most employees have a written, or in many states statutory, obligation to assign any patent rights developed on the job to their employers
  - In the rest of the world, the employer may apply for and own a patent directly, a proposed law to change the US to the international convention is under discussion (see editorial comment below)

# Who Owns a Patent?

## Defining Inventor

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- In the US, again for now, The Inventor(s) is the first person to conceive of the invention and show continuous diligence from conception to “reduction to practice”
  - Reduction to practice is either actual or constructive (filing the patent is constructive reduction to practice)
  - Internationally, the only criteria is first to file the patent, part of same proposed law is to change US to first-to-file
    - Editorial comment, Thomas Jefferson, emphasis on inventor, new laws benefit big businesses with resources, current US law inventor centric, current pro-business climate in Washington plus pressure to conform to International standards, first-to-file is simpler and gets rid of a whole lot of conflict resolution procedures such as interferences.

# Who Owns a Patent?

## Who is/isn't an Inventor

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- Named inventors in current US patent law should be people who made material contributions to invention, even a small part
  - Even if only one claim in a patent out of many was contributed to by an individual, that person should be named (and owns rights to all the claims)
  - A supervisor of the inventor(s) is not automatically an inventor
  - A lab person who carried out experiments or construction under the supervision of an inventor is not an inventor
  - If you are not sure, err on inclusive side, particularly if everyone is in the same organization with obligation to assign

# How Do You Get a Patent?

- Assume apply in US first
- Prepare and file an application
  - Provisional
  - Utility or Non-Provisional
  - Design
  - Plant
- Who can apply for and prosecute the application with the PTO
  - The inventor(s)
  - The assignee
  - A chosen representative who has passed the PTO bar exam
    - Agent or attorney
    - Must have technical background to sit for bar, most attorney's not eligible

# How Do You Get a Patent?

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- Design
  - Ornamental only, no functional elements
  - Coke bottle is a great example
  - Basically just a multi-view drawing
  - Like a trademark for a shape
  - Almost all fees, time periods etc less than for utility
- Plant
  - Somewhat obscure category for hybrid, but not genetically engineered plants

# How Do You Get a Patent?

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- Provisional and Utility application
  - “Enabling” disclosure including drawings if necessary
    - Enabling means someone “skilled in the art” could read the disclosure and reproduce the invention
    - So only details that truly need explaining need be explicitly included
    - For example, a new gate structure for an IC that could be processed using existing techniques need not detail the process steps
    - Disclosure must provide support for every claim (see below)
  - Identify inventors and include fee

# How Do You Get a Patent?

- Provisional Application
  - Exists to provide inventors with an inexpensive, easy way to get an early filing (priority) date for both subsequent US and foreign filings
    - Priority date important, particularly overseas (first-to-file) as it defines what is prior art
  - Attractive to start-ups, let's you say "patent pending" for little cost
  - NO claims required
  - No oaths or declarations
  - Not examined, PTO only checks for apparent completeness
  - Must be replaced with Utility (non-provisional, the real thing) within 12 months of filing
  - Pitfalls
    - Never looked at by PTO, but still must be fully enabling and provide support for eventual utility application claims
    - Most people get sloppy and add material and claims without support in the provisional when they file the utility, could really come back and bite you if the patent is ever in litigation
    - Bottom Line, Provisionals should be prepared with care, and the subsequent utility can only claim priority to material adequately covered in the provisional

# How Do You Get a Patent?

- Utility Application items required beyond provisional requirements
  - Disclosure and drawings, to same requirements as provisional
  - Claims
    - Disclosure tells how to reproduce invention, but claims define what is your property, what others cannot do without your permission
    - Claims must be supported, in other words explained, by the disclosure
    - The Claims and claims only define infringement, not the text of the disclosure
    - Claim drafting is a legal exercise. Lots of laws, rules, case law, and accepted practice – best reason not to prosecute patents on your own
    - Broad claims cover main concepts, most useful, narrow claims have lots of details
    - To infringe a claim, you must be doing at least every detail in the claim, so the narrower the claim the easier to get around
  - Oaths or declarations
    - Inventors must affirm in writing that they believe themselves to be the originators of the invention
  - Another, larger fee, dependent on number and type of claims

# How Do You Get a Patent?

- Utility Application cont.
  - Information Disclosure
    - Duty to Disclose relevant existing art you are aware of, patents, publications etc.
      - To your advantage, as anything cited during patent prosecution usually cannot be brought up during litigation
      - Can be accused of not disclosing on purpose during litigation- inequitable conduct or even fraud- as inventors can often be portrayed as experts in their field and expected to know about prior art
    - Should you Search?
      - See above, new expedited patent process is risky
      - Not cost effective to try to find everything, but can usually find most relevant art in a few hours of searching
    - Can submit information to PTO anytime up to when the patent issues, with increasing fees and justification required the deeper you are in the process

# How Do You Get a Patent?

- Prosecuting a Utility Application
  - Office Actions from the USPTO
    - One to 4 years before you get first substantive action
      - Usually rejection based on anticipation and/or obviousness, claim by claim
      - Written response required to every point
    - Second action usually final, if examiner not convinced by your response
    - Should be looked at as negotiation, the examiner's job is to narrow the scope of your patent if possible, as the narrower the patent, the better chance it has of being valid.
  - Strategies if replies to actions unsuccessful
    - Telephone or in-person interviews with examiner
    - Send more money (RCE)
    - Appeal, process (somewhat painful) to go over the examiner's head
    - Court of Appeals, last resort

# How Do You Get a Patent?

- Other Varieties of Utility Application
  - Continuation
    - Exact same disclosure and drawings as original
    - Retains original priority date
    - Can be filed at any time original is still in prosecution
    - Useful to get claims either not in original but justified by disclosure or to continue to prosecute claims not allowed by the examiner in original
    - Rules may change
  - Continuation-in-Part
    - Most of the same material as original, but some new material
    - New Material does not get original priority date
    - Saves time and money, and usually wait-time for PTO examination if original forms most of the basis for the application
  - Divisional
    - Examiner decides claims are to more than one invention, eg both a novel material and the process to make it claimed, and “restricts” the examination to a subset of the claims
    - Remainder of the claims can be prosecuted in divisional application, which retains original priority date
  - Continuations and Divisionals usually terminate at the same time as original if original issues
  - Expedited, action guaranteed within one year, applicant responsible for prior art

# How Do You Get a Patent?

- Coverage in Other Countries
  - You have 12 months from US filing to file in other countries and keep US priority (filing) date
    - If you have not gone public in any way (public domain rules similar in most countries) this may not matter
    - However, unless you state you will never file anywhere overseas, US application will be published ~18 months after filing, so 12 month time is usually critical
  - Two Options
    - File PCT application, reserves right to file in most countries of the world later and keeps priority date
      - Gives you another 18 months, or 30 months if PCT is first application
      - Expensive, but much less than filing in several individual countries
      - You also get a mini examination and search, so many people choose EPO for this to get another look at the patent (EPO PCT search is expensive)
    - File in individual countries
      - Expensive
      - Will have to be done eventually anyway, but by then maybe your business will have taken off and you will have a better idea of the value of the patent

# What Do You Do With a Patent?

- Maintain it
  - Pay maintenance fees
- Change it
  - Re-examination
    - You find out about new prior art and prefer to have it on record and considered
  - Re-issue
    - You want to change the claims, must be within 2 years of issue to broaden the claims
- Make Money from it
  - Assign, ie to sell, give up your rights for value received
  - License, give someone else permission use the invention for a price, maintaining your ownership
    - Exclusive
    - Non-exclusive

# What Do You Do With a Patent?

- Enforce it
  - Warning letters for suspected infringers
    - Must be doing or contain at least every element in your claims, or close equivalent
    - Strengthens your eventual claim to damages if you inform as early as possible
    - However informing allows competitor to prepare case against your patent
    - Strategy and desired outcomes must be carefully thought through
  - Initiate infringement litigation
    - Should be very very carefully thought through
    - Cost is typically \$1M or more in attorney fees (not typically done on contingency)
    - Requires significant support time from company
    - Exposes you to personal attack and possible personal liability, common defensive accusations which have potential personal consequences:
      - Inequitable conduct
      - Fraud
      - Violation of Anti-Trust (a patent grants a government sponsored monopoly, so a patent acquired through fraudulent actions is an anti-trust violation)

# Cost? Time?

- Costs are highly variable and depend on who you use as representation and how good a job you do at providing material to your representative
- Approximate Costs
  - Initial US application preparation and filing
    - \$5K - \$25K
  - Prosecution Costs, no appeal necessary
    - \$2k - \$10K
  - Prosecution Costs with appeal
    - \$10k - \$20K
  - PCT application
    - \$3K to \$8k
  - Filings in other countries
    - \$10k - \$20K per country
  - Maintenance fees
    - ~\$7K over the life of the patent
- Opportunity Costs should be considered

# Cost? Time?

- Relevant Time periods
  - ~1 – 4 years after filing before prosecution begins, ie first office action (less if use expedite option)
  - ~12 months after filing continuation or divisional before first action
  - ~6 months after prosecution begins to issue without appeal
  - ~18 -24 months after filing before publication
  - 12 months after filing of provisional or utility to retain priority for overseas filing
  - 20 years after filing or 17 years after issue to patent expiration (with some caveats)

# Conclusion

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- IP protection is an important business decision
  - Costs
  - Benefits
  - Risks
- Since it is often a requirement for small businesses seeking investment, your best approach is to become knowledgeable
  - Throwing the problem at a firm or individual without the ability to monitor and manage the effort is not a good idea