Intellectual Property Module

Chronological Guide for Inventors

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(Information in this module does not provide nor is it intended to provide you with legal advice. All legal advice should be obtained from a qualified intellectual property attorney. This module provides definitions, examples, and resources, a starting point of sorts, for your information gathering journey as a technology developer.)

Resource:
Leahy, J. (2000). Fundamentals of Inventing. *RESNA Press, pp* 300 – 302.

Resource:
The U.S. Patent and Trademark Office. http://www.uspto.gov.

The road you are about to travel as an inventor or technology developer is a complex journey. Along the way you will be introduced to new terms and processes and exposed to a business world that may be totally foreign to you. In this module we hope to answer some of the questions you may have, and provide you with a good, basic knowledge foundation for starting your invention journey.

To begin, let's look at the changes in U.S. Patent Law – from a "First to Invent" system to a "First Inventor to File" system.

Leahy – Smith America Invents Act (AIA)
The America Invents Act was signed into law September 16, 2011 and was fully implemented March 16, 2013. An inventor can no longer claim and prove an invention is his or her own based on signed and dated log books. Now, first disclosure, prior art, and the date you filed for a patent is the most important. Patentability can be barred by actions and prior art due to public use, sales, publications, and other disclosures available to the public in any country as of the filing date. Exceptions to this include prior art by the inventor within one year of filing (inventor's "publication-conditioned grace period"). Additional changes to prior art under this act include the language "otherwise available to the public" to indicate that public disclosure is prior art but that secret sales or activities do not qualify as prior art. Also, there is no longer a requirement of "by others" for prior art meaning that disclosure does not need to be "by others" to constitute prior art. Remember, however, that inventors have a one year grace period from first public disclosure to file for a patent (described above).

Now, let's take you through a ***Sample Invention Timeline*** and provide definitions, examples, and resources as we go.

Day One: The Idea Light Bulb Turns On: What do I do?
You may read about, hear or experience something that causes you to get an idea for a device or service that you think doesn't exist, and that you think is possible to create. All of these things that you are thinking are really assumptions that you will have to certify objectively further down the road. As onerous as it may sound, once inspiration hits, an **inventor** needs to be a detail oriented individual. The inventor must become a detective in seeking out and documenting all the clues needed to put together that successful product puzzle. The following are a few tips on how to go about being that detail oriented, puzzle solving technology inventor whose device makes it to market.

Let's start by defining Intellectual Property. **Intellectual property** is defined by the United States Patent and Trademark Office (USPTO) as "Creations of the mind – creative works or ideas embodied in a form that can be shared or can enable others to recreate, emulate, or manufacture them."

Intellectual property (your original idea) can be protected in different ways through **patents**, **trademarks**, **copyrights** and **trade secrets**. In this module, we will concentrate our efforts on explaining patents and confidentiality or **non-disclosure agreements** and how they apply to an inventor. We will touch on trademarks, copyrights and trade secrets providing definitions of those terms and examples on where those courses of protection are appropriately utilized.

Definition: **Patent** refers to the property right granted by the Government of the United States of America to an inventor "to exclude others from making, using, offering for sale, or selling the invention throughout the United States" for a limited time in exchange for public disclosure of the invention when the patent is granted. (www.uspto.gov)

Definition: A **Trademark** protects words, names, symbols, sounds, or colors that distinguish goods and services from those manufactured by others and to indicate the course of the goods. Trademarks, unlike patents, can be continuously renewed for they are being used in commerce. (www.uspto.gov)

Definition: A **Copyright** protects the form of expression of a creator against copying. Literacy, dramatic, musical, and artistic works are included within the protection of U.S. copyright law. (www.uspto.gov)

Definition: A **Trade Secret** refers to information that companies keep secret to give them an advantage over their competitors. (www.uspto.gov)

Definition: A **Non-Disclosure Agreement** allows the creator to be able to discuss the idea with others while keeping it secret, by asking the other parties to sign a contract to keep the shared information secret.

Definition: An **Inventor** is the first to think or make something. (http://www.hyperdictionary.com/)

First, get a notebook (what you will probably call your logbook) and document the day that "the light bulb went on". The notebook should be of the bound type with pre-numbered pages. Your first dated, signed entry should be a description of your idea. All your notes, drawings, any information regarding your invention from the date of conception onward should be placed in this, your invention diary. It is at this point that you need to start being protective of your invention. This logbook is the beginning of claiming ownership of your idea. While the United States no longer awards patents to the first inventor and now is under a "first-inventor-to-file" system, log books can still be very useful. At some point in your patent process, you may need to prove when you invented all or parts of your invention. Also, as a "first-inventor-to-file" system, you may need to prove that you are the inventor.

Day Five: Protecting your Idea so you can discuss it with others.
You will need to draft a non–disclosure or confidentiality agreement that will have to be signed by others prior to discussing your invention with them. Or if you are a university based inventor/ technology developer, your university's Technology Transfer office will have their approved agreements for you to use. We will have a more in depth discussion of university TTO's at *Day Thirty*. If you are an independent inventor, examples of agreements are readily available in many of the inventor books currently on the market, at websites, or you may wish to contact a patent attorney and have one drafted specifically for your invention.

Resource:
The United Inventors Association. http://www.uiausa.com/Nondisclosure.htm.

Time out!

What's a non-disclosure or confidentiality agreement?
A non-disclosure or confidentiality agreement is basically a legal document that states that the person signing it will not disclose any information regarding your invention or technology covered by the document, nor use any of the information shared by the inventor with the signee for any other purpose than what may be stated in the agreement. What this means is that the person signing the confidentiality agreement cannot divulge information regarding your invention to anyone else nor can they go out and produce it themselves.

Why do I need one? What happens if I discuss my invention with others without a Confidentiality Agreement in place? What is co-invention?
Co-invention is when an inventor is named with at least one other inventor in a patent application, wherein each inventor contributes to the conception (creation) of the invention set forth in at least one claim a patent application. ***Be Careful - Protect Yourself!*** You need to have people sign your non-disclosure agreement prior to you disclosing or discussing your invention with them, so that ownership stays with you. Without the signed confidentiality agreement in place, people you discuss your invention with are able to discuss it with others, use it for their own purposes, or claim co-invention (joint ownership) if they offer suggestions on improving or modifying your invention.

Back to our Timeline…

The logbook's initial entries should be read, signed and dated by at least one, preferably two individuals whom you trust and who are not relatives or **co-inventors**. ***Be Careful - Protect Yourself!*** Prior to having your logbook read, signed and dated by someone, have them sign your confidentiality, non-disclosure agreement. The United States patent system is one that is based on first to file for a patent rather than on first to invent. However an inventor should keep good and complete dated records.

Definition: A **Co-Inventor** is someone who shares in being the first to think of or make something, joint ownership.

Resource:
To order an inventor's logbook and for more detailed explanations, guidelines, and information visit The Book Factory at www.bookfactory.com

Day Ten: Homework time.
You need to check to see if your product/idea is already in the marketplace. You can begin this effort by searching the internet, catalogs, and stores. You need to focus on companies who make similar products to yours or who you would envision making your product. Visit retailers and professionals to learn how individuals currently address that function or need your device addresses through products currently in the market. Contact **prospective users** of your device, seeking information about how they, the consumer, currently address that function. ***Be Careful - Protect Yourself!*** At this stage your conversations with individuals or companies should focus on the function or need your product addresses, and not design information regarding your invention.

Definition: A **Prospective User** is the person who will use your product and who comprises the target market. The target market is the specific group of customers that a company aims to capture. They have been identified as people with needs or wants that can be met with the products or services from this company.

Definition: **Function** refers to the specific need(s) that your device addresses or satisfies.

Example: If you were inventing the first calculator, your questions would focus on how prospective users are currently performing the calculations you envision your device performing. The responses you would have received were adding machines, slide rules, pencil and paper. You do not reveal what your invention is or how it performs its function; i.e. you are not providing any **enabling information**. An example of enabling information in this case would include discussions regarding how integrated circuits were used to create a calculator.

Definition: **Enabling Information** is the pertinent information on how to build or replicate your device or what functions your device performs.

An existing invention review program for the field of assistive technology has found that over 60% of the device submissions received from inventors were re-inventions of existing products. It is best for an inventor to spend the time and effort at this stage to learn if their idea is currently embodied by some existing device or service in the marketplace. It is better to be disappointed at this stage than to expend resources on **prototype** development and attempted **patenting** of something that already exists.

Definition: A **Prototype** is an early working model of your idea. This model generally serves as a basis for continued development.

Definition: **Patenting** is the act of trying to obtain the property right granted by the Government of the United States of America to an inventor "to exclude others from making, using, offering, for sale, or selling the invention throughout the United States or importing the invention into the United States" for a limited time in exchange for public disclosure when the patent is granted (www.uspto.gov).

Day Thirty: Crossroads: Time to Identify Which Path You Must Travel!!

Okay, you have verified that your product/idea is unique and currently not available in the marketplace. Now what do you do? There are very different and distinct paths an inventor or researcher will take depending on their status. If you are a funded researcher (ex. OSERS, NIH, or your university), ownership and intellectual property issues are very different than if you are an independent inventor or technology developer working with your own personal funds. The Patent and Trademark Law Amendment Act of 1980, primarily known as the Bayh-Dole Act set the guidelines for ownership and licensing or transferring technologies developed at universities with federal funds.

Resource:

For an in-depth look at the Bayh-Dole Act there is a brief guide available on the Internet from the Council on Governmental Relations (association of research universities) at: http://www.cogr.edu/viewDoc.cfm?DocID=151744

Path 1: Funded Researcher or Technology Developer

If you are a university researcher and you developed your invention on university time and using university resources, ***ownership*** of your product/idea does not actually belong to you. Your university employment contract or handbook states that legal rights to any invention generated through your occupation belong to your university. You work for your employer so all rights belong to them. If the invention was developed through a Federal grant, there are three things you should know that are typically not clearly explained to faculty when they write a grant proposal. First, although you may be the Principal Investigator or the Project Director, the grant is actually awarded to your university, not to you personally. The university is the entity responsible for ensuring that the grant activity complies with all Federal guidelines. Second, since the money comes from the Federal government, the "string" attached to the money is that the government has the right to future use of any invention resulting from their funding – should they choose to pursue it. Third, since the university is the grant recipient, the university has the first right to either take ownership of any invention or to decline ownership. Therefore, whatever product or technology you develop with Federal funding and through a host institution, you are third in line to claim ownership. That's both bad news and good news. Let's explain.

If you are working at a university and receive federal grant money from a government agency (ex. OSERS) for your work, the product or invention you develop will have to be disclosed to your university's Technology Transfer Office (TTO). After all, the invention really belongs to them. Your university's TTO will have invention disclosure forms for you to fill out, their own confidentiality forms, and an ownership policy in place regarding concepts developed by university employees. Normally your university will claim the majority of ownership and the majority of any subsequent royalties generated from licensing any invention or product you develop. You and your home department typically share in the royalties. It is a pretty good deal since you have already been compensated through your salary and the university will bear all cost and risk associated with protecting and commercializing the invention.

For the sake of our example, let's assume you have developed a unique learning tool for including Special Education students into general high school math classes. Your university's TTO will evaluate your disclosure and try to ascertain the market for the technology. If it is something the university believes will generate a high royalty return, they will want to lay claim (ownership) to the device. However, prior to their being able to do so, they must petition your grant funding agency (ex. USDE) asking them to waive ownership back to the university. They must do this within two months of your disclosure to the university. Upon receipt of that ownership waiver, your university's Technology Transfer Office will then add it to the portfolio of products they are attempting to license for the university.

There is also a chance that if the expected returns on your invention are so low that your funding entity (USDE) and your host institution (university) may decide to waive all ownership rights back to you personally. But that's both good and bad news also. It is good news if you are motivated to commercialize the invention, and if what these institutions consider a small return is big enough to keep you happy. On the downside, you won't have the institutional expertise and resources to protect and commercialize the invention. At this point, you have to consider all of the findings and determine if you think it is worth your time and effort to continue independently.

Now for the good news!

There is a bright side to being a funded technology developer or inventor based at a university. Your university's Technology Transfer Office (TTO) is a tremendous asset that will take the worry out of being an inventor. They already know the steps to take to protect your concept or idea. They have done it time and time again. They have Confidentiality and non-disclosure agreement templates already drafted for you to use. They will ascertain whether or not the product you develop is new and unique or is already out there in the marketplace or already patented. They will value your invention by projecting the target market and potential sales to see if patent protection is fiscally the prudent way to go. If it is, your university may bear the costs for that patent and will do all the paperwork necessary to apply for a patent. They will handle the ownership issues with your funding sponsor. Once they have ascertained the uniqueness and need of your technology or product, they will most likely develop a commercialization package and present it to potential licensing companies. Once a company is interested in licensing your device, your TTO will handle the negotiations and draft the license agreement. It doesn't stop here. Once your invention or product is licensed, the TTO will be your watch dog for product sales and royalty payments.

While your university may take a significant portion of the royalties from licensing your device, they have also taken the worry out of having your invention stolen or rights to it being lost and have really done a lot of the work an inventor may normally have to do on their own. In a sense,

your intellectual property claims (e.g., patent or copyright) are only as good as your ability to protect them. You may need "deep pockets" to defend your claim, even if you are right and the infringer is wrong. If a company infringes on the claim, the university has its own attorneys to enforce the patent, whereas you alone would have to find and hire legal representation out of your own pocket. In the competitive world, a company may not hesitate to infringe on claims held by an individual, but may think twice about the cost of legal action taken by a university.

The ***bottom line*** here is that if you are a university based researcher, ***contact your university's Technology Transfer Office early on*** in your technology development journey. Use their resources. Use their resources and their experience to guide you through this process. In the end, you have no choice but to disclose the invention, so you might as well get them involved from the very moment you realize you've had an idea with potential value.

Example: The following is an example of university involvement as related to development of a technology that created browsers, specifically Mosaic. As an undergraduate student and part-time assistant at the National Center for Supercomputing Applications (NCSA) at the University of Illinois, Marc Andreesen was familiar with the Internet. At the time (1992), most of the browsers were for Unix machines and were expensive. Andreesen decided to design a browser that was more graphically enhanced and easier to use by all. In order to do this, Eric Bina, another co-worker, was recruited. Together, the two developed the browser Mosaic. In 1993 Andreesen and Bina graduated and re-located to Silicon Valley to start a business. In 1994, Mosaic Communications Corp. began and one accomplishment was the introduction of Netscape. Success seemed likely until the University of Illinois claimed that Andreesen had stolen Mosaic from them and demanded they change their name and quit distributing their product. Mosaic did change its name to Netscape Communications Corp. but would not stop distributing software. A settlement was reached where the University of Illinois made no further claims on Netscape and they received a financial settlement, which cost Netscape a substantial amount of money. (http://web.mit.edu/invent/iow/andreesen=bina.html)

Path 2: Independent Inventor or Technology Developer

If you are an independent inventor, using your own resources, you don't have to worry about sharing ownership of your product/idea. Conversely, you also don't have a resource rich partner to help bring your product/idea to the marketplace. As an independent inventor, you will chart your own course and travel down your own path. Make your early choices wisely, as each option has long-term and irrevocable consequences. At this point you may wish to contact a qualified patent attorney for some general guidance on how to proceed.

Back to our Timeline…

Before you decide a patent is the way to go for you and your idea, you need to perform some serious and thorough homework, which the corporate and legal world calls **due diligence**. First, do your own **preliminary patent search** on the internet. Both the U.S. Patent and Trademark Office (USPTO) and Delphion have excellent sites for performing this task. When performing this search use general, generic terms, not the cute marketing name you may have given your device. For example: If your device is a calculator for teaching children how to count money, call it a children's calculator or money calculator. If your product or patent

search comes up a hit (your idea is already a product or is patented), you will probably want to stop here. If not, continue on.

Definition: **Due Diligence** means that all parties will conduct the appropriate background analysis to be fully informed and to provide the input necessary to achieve the shared objectives. Each party is accountable and responsible for their share of the deal.

Definition: A **Preliminary Patent Search** is the act of searching the world wide web, including sites like the U.S. Patent and Trademark Office (USPTO) and Delphion websites, looking for patents already filed and/or products that are related to or serve the same function as your device that are already in the marketplace.

Resource:
The U.S. Patent and Trademark Office. http://www.uspto.gov.

Resource:
Delphion. http://www.delphion.com.

You may also wish to contact patent attorney at this point and have them do a professional search and patentability opinion. This opinion could cost anywhere from $1,000-$2,000 based on the complexity of the search. ***Be Careful - There is a risk here since the opinion rendered is just that – an opinion.*** This search and opinion will be based on issued patents and prior art. However, there may be patent applications in process that are not visible to you or your patent attorney. A patent on a device identical to yours may be issued by the USPTO a day after your search had been completed. Again, if the patent search comes up with a hit (your device has already been patented), the cost you incurred for the professional search may be well worth it because it stopped you from investing more time and resources in fabricating a prototype. Continue to search the patent sites as you move forward with your invention.

Okay, time out. We need to define a few terms and answer a question that may have popped into your mind here.

What is a patent?

A patent is a grant by the United States Federal Government that permits its owner to exclude others from making, using or selling the claimed invention. One point which we will be making time and time again is: A patent does not give the owner the right to make, use, or sell his invention, or does the issuance of a patent imply that there is a market for the device.

What types of patents are there?
In the United States there are three kinds of patents: **utility patents, design patents,** and **plant patents.** In the United States, the term of a utility patent depends on when the patent application was filed. If the patent is issued from an application filed prior to June 8, 1995, the term is the later of (1) 17 years from the date of issuance of the patent, or (2) 20 years from the first U.S. filing date for the patent. If the patent is issued from an application filed on or after June 8, 1995, then the term is 20 years from the first U.S. filing date for the patent. This complicated

rule for the term of a utility patent is the result of the transition from the old term (17 years after issuance) to the uniform term prescribed by GATT (General Agreement on Tariffs and Trade) (20 years after filing). It applies to all patents still in force on June 8, 1995. Design patents in the United States have a term of 14 years from the date of issue, while plant patents have a term of 20 years from the date of application.

Definition: A **Utility Patent** may be granted to anyone who invents or discovers any new, useful, and non obvious process, machine, article of manufacture, or composition of matter, or any new and useful improvement thereof. (www.uspto.gov)

Definition: A **Design Patent** may be granted to anyone who invents a new, original, and ornamental design for an article of manufacture. (www.uspto.gov)

Definition: A **Plant Patent** may be granted to anyone who invents or discovers and asexually reproduces any distinct and new variety of plant. (www.uspto.gov)

What can be patented?
The question "what is patentable" is a complicated one. Here is a simplified answer. In order to be patentable, an invention must pass four tests:

1. The invention must fall into one of the five "statutory classes" of things that are patentable:
   - processes
   - machines
   - manufactures (that is, objects made by humans or machines)
   - compositions of matter, and
   - new uses of any of the above
2. 1The invention must be "useful". One aspect of the "utility" test is that the invention 1 cannot be a mere theoretical phenomenon.
3. 1The invention must be "novel", that is, it must be something that no one did before.
4. 1The invention must be "unobvious" to "a person having ordinary skill in the art to which said subject matter pertains". This requirement is the one on which many 1 patentability disputes hinge.

Whenever the USPTO considers the patentability of an invention, it searches the prior art. The starting point for such searches is generally with patents that have already issued in the same art area as your claim.

Back to our Timeline…

Day 45: Prototype Time: Time to see if your idea works in practice.
Okay, so there is nothing like your invention on the market and on your preliminary patent search you didn't find anything close to your idea being patented. What next? Well, you need to look at components, materials and feasibility. Build a prototype and see if your idea is plausible. Concepts like the famous Star Trek transporter are great ideas but not all the components or exotic materials have been invented yet. A great deal of effort and time goes into building the prototype, but it is time and effort well spent when it comes to answering the questions potential manufacturing licensees will ask. And of course, if you do decide to patent your invention, a **working prototype** will assist tremendously with creating the drawings and describing the claims.

Resource:
Components of Patent Applications. http://www.123patent.com/patents.html

Definition: A **Working Prototype** is simply a working or functional model that demonstrates the feasibility of your idea – it proves that your idea works in practice.

In the United States in the 1800's, there was a requirement that the patent applicant provide a working model of the invention. The requirement that each applicant submit a model was dropped by the late 1800's, although many of the models may now be seen in the Smithsonian and elsewhere are a fascinating glimpse into the creative efforts of inventors from the past century. Examiners in the U.S. Patent Office do, to this day, have the power to require submission of a working model in a particular case, but the requirement is imposed very rarely, usually in cases where an applicant claims to have invented something that is known to be infeasible (e.g. anti-gravity device or a perpetual motion machine). When you get to the point of seeking a manufacturing partner, the working model makes for a much stronger presentation than simply the written description of your claim in the issued patent document. A picture may be worth a thousand words, but a prototype proves your point.

Day 120: What next?
You now have documented your idea, verified it is unique, fabricated a prototype, and are ready to make your first million, right? Wrong. The work has only begun. Now you must prove its marketability by performing a market analysis. This analysis is the next necessary step in your due diligence homework. The market analysis includes critical issues such as identification of the target market, market projections, market growth, distribution channels, and a competing product matrix benchmarking (contrasting) competing products versus your device's characteristics. Some of this information may be available through published sources in paper or electronic form. Secondary market research is discussed in greater detail in Technology Transfer Training module five. However, since we've already established that your invention is unique, you will probably have to find related market information and make inferences to apply it to your unique circumstances.

One way to obtain market information which is tailored directly and exclusively to your invention is to perform Primary Market Research (which is covered in great detail within *Primary Market Research Training Module*). One form of Primary Market Research involves talking directly to potential customers for your product. You may wish to obtain and include consumer input through focus groups held on the device to determine possible product enhancements and priority ranking of characteristics, purchase intent and price point. ***Be Careful - Protect Yourself!*** Your old friend the confidentiality agreement needs to make another appearance. Prior to having input from consumers, you need to have them sign your confidentiality, non-disclosure agreement. Offering an unpatented product for sale (even asking people in focus groups if they would buy it) starts the one year patentability time bar. At this point you will wish to consider filing for a provisional or utility patent.

Definition: An **Unpatented Product** is an original, full-scale, and usually working model of a new product or new version of an existing product that is protected by a patent.

Okay, time out again.
We need to answer a few questions that may have popped into your mind here.

What is a Provisional Patent? What are its drawbacks?
Effective June 8, 1995 it became possible to file a Provisional Patent Application with the U.S. Patent and Trademark Office. The Provisional Patent Application is intended to be a relatively low-cost way of postponing the cost and effort of drafting and filing a full patent application. The provisional application need not contain claims, and the filing fee is modest relatively. Once the Provisional Patent is filed, the applicant may then wait almost a full year before filing a full patent application. The twenty-year patent term that runs from the first U.S. filing date does not start with the provisional application, but instead begins only with the date of the subsequent patent application. As a result, one may postpone the start of the 20-year patent term by up to one year by the use of a provisional patent application. The provisional application may serve as a priority document for non-U.S. convention filings.

The provisional patent application is subject to the same regulations and requirements as a patent application. This means that the provisional application must be complete enough to enable one skilled in the art to practice the invention, and means that the application must disclose the best mode known to the applicant for practicing the invention. These requirements are likely to lead to difficulties for those who file sketchy provisional applications. One who files a provisional application (and who fails to satisfy the requirements of § 112) would be making a mistake to sit back and rely on that application as a justification for waiting eleven months before taking the time and trouble to prepare and file a full patent application.

A second potential drawback of the provisional filing is that it postpones, by a year, any hint or clue from a patent examiner as to whether or not the invention is likely to be patentable. No search report or office action will come during the one year time period of the provisional application; they will only be received after the filing of the patent application.

For the applicant who is considering whether or not to file patent applications in countries outside of the U.S., the use of a provisional application virtually guarantees that no clues to patentability will be received from the U.S. Patent Office that might assist in deciding whether or not to spend the money on foreign filing. The applicant who files a patent application (rather than a provisional application) may, in contrast, receive an Office Action before the year is up for making foreign-filing decisions, and the content of the Office Action may be helpful in deciding what to do about foreign filing.

Why would I need a patent?
A patent is a legal instrument that may be used by the patent holder to attempt to exclude others from using the patented invention, for a limited and specified period of time (currently twenty years). “Except as otherwise provided in this title, whoever without authority makes, uses, offers to sell, or sells any patented invention, within the United States or imports into the United States any patented invention during the term of the patent therefore, infringes the patent.”

The exclusionary rights described in the preceding may be exploited in three specific ways. First, a patent holder may commercialize the invention him/herself, and use the patent to exclude all potential competitors from developing a similar product. Second, a patent holder may license the patent (exclusively or non-exclusively) to others in return for royalties and/

or licensing fees. The license is equivalent to a lease – where you grant use of the patent for defined period of time and under a defined set of conditions. Much like you lease a car for three years and agree to not drive more than twelve thousand miles per year. You might license your invention to one company to make products for the field of public education (instructional software), to another company to make products for the field of recreation (video game software), and to the Department of Defense for military applications (training simulators). There is an obvious cost and benefit trade-off between exclusive rights where one company can turn around and sub-license to multiple applications, and non-exclusive rights where you control where the license is used. Third, a patent holder may sell outright all rights to the patent (known as an assignment). This is a sale in every sense of the word. By selling the rights to the patent, you are waiving your rights to own, control, modify or further develop the invention described within the patent document. Your sale price should take into account the other options for making money from the invention, so that the money you receive from the buyer is roughly equal to the other options, taking into account the time value of money (what you get today is expected to be worth more than what you get in five years), and your ability to cash out (walk away with no further effort or obligations).

Choosing between these three options should be a calculated decision rather than a gamble. You commercialize it yourself if you have the time, resources and interest, you license it to companies who have the time, resources and interest to make it a successful product, or you sell it if you think the cash value is roughly equal to the other options. In all cases, it is up to the patent holder to enforce a patent. The Patent and Trademark Office only issues patents; enforcement is typically handled in the courts.

A good reason to apply for a patent if you are planning on licensing your device is the fact that many companies will only consider protected inventions. The patent adds a value to the invention that can be realized via royalties in a license agreement or in payment through a sales agreement. With the patent in hand, all of the options are available for you to consider. Without any patent protection, it is simply a race to see who reaches the commercial market first, and with the best version of the product.

What type of patent fits what I am doing?
In all probability you will be seeking to file a utility patent. The exceptions are of course if you have some type of ornamental design you are seeking to protect or if your invention is a new plant species.

Should I consider getting a patent? 1
How do I know if it will be cost effective? 1
Now here's the ol' rub. If you are a university based inventor working with grant funding, you're in pretty good shape here. Your university's Technology Transfer Office will value your invention, ascertain if patent protection is the way to go and pay for issuance of the patent if it deems it appropriate. If you are working independently then the entire burden – and future rewards – rests on your shoulders. Your marketing report and device valuation will tell you if a patent is cost effective, which will probably cost between $5,000-$12,000 to do well. Even there, there is no guarantee of commercial success. In addition, it will cost another $5,000-$12,000

to apply for a utility patent in the United States. Again, there is no guarantee that you will be granted a patent. You may spend upwards of $20,000 and a couple of years time, and in the end have nothing to show for it. Even if your idea is viable and you receive a patent, you are now only at the bottom of a very large hill of future expenses to design, produce, market and sell your product. Your sales figures and anticipated profits must justify all of these expenses in the event of success, multiplied by the risk of failure.

There is an option here that is made more attractive by this level of required investment. If you are considering licensing your invention or technology to a company you may elect to have the company bear the patent costs. The drawback here is as you are contacting potential licensing companies you will have to have them sign your confidentiality agreement before you disclose your invention to them for consideration. In addition, companies will normally pay much higher royalty rates on patented inventions than on non-patented inventions.

One other caveat here: A patent is only as good as your financial ability to defend it in a court of law.

Should I apply for a patent myself?
You can apply for a patent yourself. It is called applying pro se. Perhaps one-fifth of all issued U.S. patents were applied for pro se, and some of them are actually well written.

Most inventors find, however, that an experienced patent agent or attorney can add value in many ways in preparing a patent application, both in bringing past experience to bear in drafting claim language, and in assisting the inventor in appreciating all the inventive aspects of the invention. Furthermore, the agent or attorney is likely to be methodical about following and meeting Patent Office due dates, where a pro se applicant might miss a due date at some point during prosecution.

Resource:
If you wish to explore the possibility of applying for a patent pro se, then a good starting point is *Patent It Yourself* by David Pressman, from Nolo Press (2003), which you can purchase from Amazon Books (www.amazon.com).

The publisher says the book "is a must for any inventor who wants to get a patent -- from the patent search to the actual application. Patent attorney and former patent examiner David Pressman covers use and licensing, successful marketing and infringement." The book is, in fact, good reading even for the inventor who plans to hire patent counsel; it helps the inventor to be a more knowledgeable customer.

Are there any other hidden patent costs?
Well, they are not really hidden. They are called maintenance fees. Failure to pay your patent maintenance fees will ultimately result in your patent being deemed in the **public domain** or in effect it can be used by anyone with no royalties being paid to you. For the fee schedule, please go to www.uspto.gov/patents/process/maintain.jsp. These fees only address your domestic U.S. patent rights. If you are concerned about international rights, you have to apply in other countries and pay their maintenance fees as well.

Definition: **Public Domain** refers to intellectual property that is openly available for use by anyone without requiring permission or payment.

What technicalities do I have to be aware of that may prevent me from patenting my invention?
Researchers, under pressure to publish the findings of their work, sometimes rush to print a description of their invention in technical journals or magazines. You should be aware that publishing information regarding your invention begins a time bar of one year. During this one year period, you must file your patent or risk having your invention becoming public domain. That is you will no longer be able to patent your device after one year from date of publishing and anyone can use the information you disclosed.

What's a time bar?
The United States patent statute grants a one year grace period from the time of public use or disclosure to file a patent application on a technology that has been publicly disclosed. For example, if you publish a paper on December 15, 2013 in which you describe how your technology works in a manner that would permit others to copy it, you have until one year later to file your patent application. And not one day later. If you file your application on December 17, 2014, it will be denied. You missed the one year time frame so you are now "barred" from protecting the intellectual property. The idea now resides in the public domain and anyone is free to use it for their own purposes without any payment or acknowledgement to you. The same is true if you disclose your technology at a consumer focus group and do not have the participants sign a confidentiality and non-disclosure agreement. Public disclosure basically means any disclosure other than in your secret inventor's log book or where others have agreed to maintain secrecy through the non-disclosure agreement. In any case, you have one year from the date of public disclosure to file your patent application.

What if I think performing a market analysis and getting consumer input is beyond my personal interests or capabilities? What are my options?
An option is to have an organization who is in tune with your target industry, which routinely presents products to those companies, represent you. Finding that organization will take some effort and creative digging on your part, but it is possible. Once finding that organization, they potentially could also handle the presentation, negotiation, and licensing of your invention. This group should monitor the sales of your product and process royalty payments to you. If this all seems like too much effort then you are probably right. You should stop work. If it's not worth your time and money, it is certain to have even less value to others.

Day 180: The Journey Continues 1
For purpose of this module we will break off of patents here and speak of Trademarks, 1
Copyrights and Trade Secrets.

What is a Trademark?
A trademark is a word, phrase, symbol or design, or combination of words, phrases, symbols or designs, which identifies and distinguishes the source of the goods or services of one party from those of others. A service mark is the same as a trademark except that it identifies and distinguishes the source of a service rather than a product. (In some cases a trademark can also be a sensory mark: a sound, a color or a smell.) Normally, a mark for goods appears on the product or on its packaging, while a service mark appears in advertising for the services. The terms "trademark" and "mark" are used commonly to refer to both trademarks and service marks.

Example: Intellitools®, Inc. is an example of one company that trademarks each product that it produces, including the program code.

Example: Scholastic Trade Books is an award winning publisher of original children's books. The beloved series Clifford the Big Red Dog® and the Magic School Bus® are examples of trademarked products.

Example: In the case of "Apple" computer, Apple owns the word "apple." This principle holds when applied to the context of computers, although "apple" is an ordinary word used in everyday conversation. (http://www.templetons.com/brad/copymyths.html)

Trade names or business names are the names used to identify a particular company or corporation. Trademarks are names that identify a business's goods or services in the marketplace. Business names can become trademarks when they are used in the marketplace to identify a product or service.

Under U.S. trademark law, the R-in-a-circle symbol (®) may only be used in connection with a mark if that mark is a federally registered trademark. By "federally registered" we mean that the trademark owner has not only filed a trademark registration application with the U.S. Patent & Trademark Office, but has been granted a registration. In contrast, the trademark (TM) and service mark (SM) symbols may be used freely without respect to whether or not there is a federal trademark registration. If you are offering goods or services, you may freely use the TM or SM symbol to denote trademarks or service marks that you use to indicate the origin of your goods or services.

Searching for Trademarks
The United States Patent and Trademark Office provides limited searching of U.S. trademark applications and registrations at no charge on the Internet. But, as discussed by the USPTO on its web site, the searching capability is limited. For example the USPTO service is not very up-to- date especially as compared with the commercial trademark databases discussed below. Notwithstanding this, the free USPTO trademark search service may be useful at least as part of a preliminary screening or searching process.

The USPTO also offers a very useful system providing status of pending trademark applications and registered trademarks. Online databases available through Dialog include trademark applications and registrations in the United States, Canada, and many countries of Europe.

Resource:
For more information about online databases, please visit the following sites:

Trademark search Atlas at http://www.trademark-search.com

Micropatent's trademark checker at http://www.micropat.com/static/trademark_page.htm
Trademarks Online at http://www.trademarksonline.com
TMWeb at http://www.tmweb.com/

Unlike patent applications, which in many cases must be filed in advance of a particular date, there is no specific date by which a trademark application must be filed. Instead, the time constraint is in a different direction. In the United States an ordinary so-called "use" trademark application can only be filed after the goods or services have been in **interstate commerce**.

Definition: **Interstate Commerce** is commerce between any place in a state and any place outside of that state, or within any possession of the United States (not including the Canal Zone) or the District of Columbia, and commerce between places within the same state but through any place outside of that state. (http://definitions.uslegal.com/i/interstate-commerce/)

Intent to Use
A few years ago the U.S. Patent and Trademark Office established a new kind of application called an "intent-to-use" or ITU trademark application. To be able to file this application, the applicant need not have used the mark in interstate commerce (as would be required for a use-type trademark application) but need merely have a good-faith intention to use the mark in interstate commerce. The intent-to-use law does not, however, permit "reserving" trademarks for indefinite periods of time. In particular, an intent-to-use trademark application goes abandoned if the applicant does not perform actual use within a specified time interval after the filing date of the application. The period of time allowed for filing a declaration of use in an allowed intent-to-use application is initially six months. This period may be extended by six-month intervals for up to three years, provided some effort is being made to put the mark to use in interstate or international commerce and fees are paid.

What is a Copyright?
A copyright is a legal monopoly. It is a grant of exclusive rights, guaranteed by the United States government, to a work of authorship. The law concerning copyrights is the Copyright act of 1976 (Title 17 of the United States Code). The exclusive rights granted by a copyright are as follows:

1. The exclusive right to reproduce the work.

2. The exclusive rights to prepare derivative works such as translations and abridged versions.

3. 1The exclusive right to distribute copies of the work to the public by sale or rental.

4. 1The exclusive right to perform the work publicly such as for music, plays, dances, pantomimes, and motion pictures.

5. 1The exclusive right to display the work publicly such as for paintings, sculptures, or photographs.

A copyright only protects you from others who may copy your work. Copyright applies broadly to educational material, videos, web sites and CD-ROMS, including literary works, musical works, pictures, graphics, dramatic works, and sound recordings. If someone

independently creates the exact same work, without knowing of your work, both of you can obtain a copyright of your works. Of course, it would be up to a court to decide if the works were in fact created independently or if one of you copied the other.

Example: In a well known case, Lexmark International, Inc. invoked copyright laws to prevent a competitor from making computer circuits that allow cheaper inkjet cartridges to work on its printers. One court ruled in Lexmark's favor in 2002, but an appeals court in October overturned that decision and allowed rival Static Control Components to sell its inkjet cartridge parts. Copyrights only protect the expression of that idea, usually the written code that tells the computer what to do.

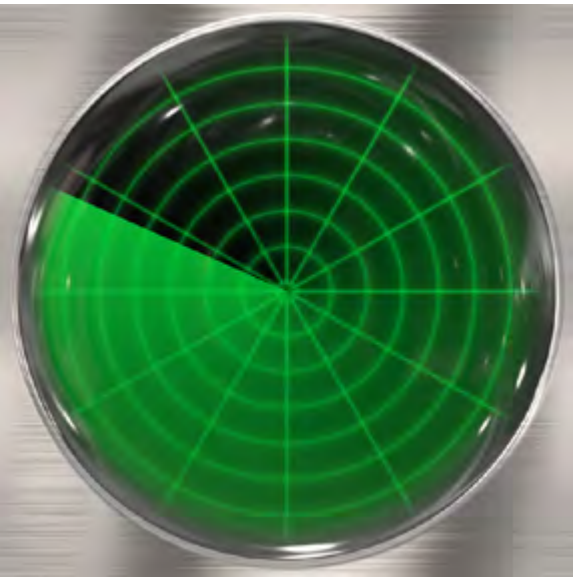
There are some limitations to these exclusive rights, such as the rights of others to "fair use" of the work or to obtain a compulsory license. Fair use includes such things as copying small excerpts, quoting parts in reviews and critiques, making parodies and use by educators.

A compulsory license is the right of someone to make copies of phone records if they pay a royalty which is set by law. Definition: Compulsory license provides that the owner of a patent or copyright licenses the use of their rights against payment either set by law or determined through some form of arbitration. In essence, under a compulsory license, someone seeking to use another's patented idea does not need to seek consent, but has to pay the rights holder a set fee for the license.

What is Trade Secret?
Trade Secret is the legal term for confidential business information. A good non-legal definition of a trade secret is a secret belonging to a business. This information allows your company to compete effectively. Examples of trade secrets include customer identities and preferences, vendors, product pricing, marketing strategies, company finances, manufacturing processes and other competitively valuable information.

Under the Uniform Trade Secret Act, information must meet three criteria to qualify as a trade secret. First the information must not be "generally known or readily ascertainable" through proper means. Second, the information must have "independent economic value due to its secrecy." And third, the trade secret holder must use "reasonable measures under the circumstances to protect" the secrecy of the information. Information is protectable as long as the information fits the definition of trade secrets. This can be moments or decades. Trade secret laws are state granted rights although many states have adopted the "Uniform Trade Secret Act" which attempts to make the trade secret laws the same state to state.

Resource:
A common misconception is that the patent gives its owner the right to make, use, or sell the invention. It only gives the owner the ability to exclude others from making, using or selling the invention. The patent owner may be forbidden from using the invention, usually due to the existence of another patent, or sometimes due to other legal restrictions.



Patent Searching

IBM has established a search site for U.S. patents, and the U.S. Patent and Trademark Office has set up a site, which is discussed below. Those who do not find it inconvenient to travel to the United States Patent Office in Crystal City, Virginia, will find that the public search room at the Patent Office, which is available free of charge, can be a very fruitful resource for patent searching. Searching in the public search room of the U.S. Patent Office permits you to see physical patents, complete with the figures. Depending on the technological area being searched, the figures can be very valuable as you attempt to figure out which patents are relevant to your area and which ones are not. The patents are available in physical groupings called "shoes", each of which contains all the patents in a particular subclass. This means that after you have finished looking at one patent you simply flip past it to the next one in the same subclass, without delay. In contrast, some of the other ways of searching patents do not let you look at the figures, and impose considerable delays as you go from one patent to the next.

Another patent searching resource available to the general public may be found in patent depository libraries, located in many major cities around the United States. These libraries contain searching resources that enable you to view the titles of patents located in a particular numerical classification. You can then jot down the patent numbers that might be of interest based on the titles and then view the patents one by one on microfiche. This approach can be very cumbersome, and runs the risk of missing important patents. For example, there might be a patent that is very important to you or has a title that does not particularly indicate the importance of the patent. Another drawback to depository library searching is that it can be a bit of a waste of time to go through the microfiche slides one by one to find the particular patents on your list.

Yet another way of to do patent searching is through any of several online computer databases. The online pay services offer the advantage that they cover patents issued outside of the U.S., as well as published patent applications from countries other than the U.S. The U. S. Patent Office has their own searchable site at www.uspto.gov.

It should be noted, however, that not all types of searching can be done effectively through online databases. After all, many online databases only carry text information and thus do not provide figures. It should also be noted that online patent databases differ from one to the next in their geographic coverage, their comprehensiveness, how far back they go, how up-to-date they are, and in other ways.

To illustrate this principle, consider the following common case: Person 1 patents an invention. Person 2 later patents an improvement to the invention. In order to make use, or sell the improved invention, one may need permission from 1 (due to the patent on the original invention), and also permission from 2 (due to the patent on the improvement). For example, suppose person 1's patent has a claim covering apparatus comprising a seat and legs (a chair). Suppose person 2's patent has a claim covering apparatus comprising a seat, legs, and two curved rails (a rocking chair). Someone who would hope to make apparatus comprising a

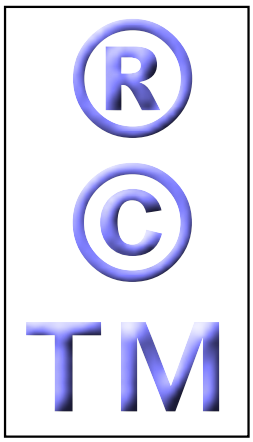
seat, legs, and two curved rails will have to get permission from both person 1 and person 2. Another choice is to wait for person 1's patent to expire; then permission is needed only from person 2. Still another choice is to wait for both patents to expire. The U.S. Patent Office publishes a good brochure about patents entitled General Information Concerning Patents.

Conclusions

Copyrights, trademarks and patents are often confused, even in news reports. However, each is completely different from the others in the types of property protected and the rights granted.

A copyright is protection given to "original works of authorship" such as written works, musical works, visual works, or performance works. But one cannot copyright titles, names, slogans, or works not fixed in tangible form. A copyright gives the author and his/her heirs the exclusive right to his work for the life of the author plus 70 years. Additionally the following rules apply to published and unpublished works created on or after January 1, 1978:

- If there is only one author, the work has copyright-protection for the life of the author plus 70 years.
- If there are joint authors, the work is protected for the life of the surviving author plus 70 years.
- If the work was made for hire, it is protected for 95 years from the first publication or if the work was 120 years from the date of its creation, whichever is less.
- If the work is anonymous or pseudonymous, it is protected for 95 years from the first publication or 120 years from the date of its creation, whichever is less.



Copyrights are registered with the Register of Copyrights at the Library of Congress. Examples of works which should be copyrighted are books, paintings, songs, poems, plays, drawings, sculptures, and films.

A trademark is a name or symbol used to identify goods or services. It can consist of letters, numerals, packaging, labeling, musical notes, colors or a combination of these. A trademark lasts indefinitely if it is used continuously and renewed properly. Trademarks are registered in the United States Patent and Trademark Office.

A patent is protection given to new and useful inventions and designs. To be entitled to a patent, a work must be completely new and "unobvious." A patent is granted to the first inventor who files for the patent. Once an invention is patented, no one else can make use of it, even if they discovered it independently after years of research.

The term for a patent for inventions is 20 years, and for designs is 14 years. Patents cannot be renewed. The patent application must clearly explain how to make the invention so that when the patent expires it will be available for others to freely make and use. Patents are registered in the United States Patent and Trademark Office.

A trade secret is some information or process that provides a commercial advantage which is protected by keeping it a secret. Examples of trade secrets may be a list of successful distributors, a formula, such as for Coca-Cola or some unique source code in a computer program. Trade secrets are not registered anywhere; they are protected by the fact that they are not disclosed. They are protected for as long as they are kept secret.

Some things just can't be protected. Such things as ideas, systems and discoveries are not protected by any law. If you have a great idea, such as selling packets of hangover medicine in bars, you cannot stop others from doing the same thing. If you invent a new medicine, you can patent it. If you choose a distinctive name for a medicine, you can trademark it. If you create a unique picture for the package of a medicine, you can copyright it. But your basic business idea cannot be protected.

It is important to consider all of these types of protection before deciding which one to rely on for protection of your work. For a formula such as Coca-Cola, trade secret protection would be better than a patent since a patent would have expired after only 20 years. For some computer programs, a patent might be better than a copyright since it would keep others from developing the process independently. The shorter period of protection offered by a patent would not matter since computer software evolves so rapidly. While the name of a book cannot be copyrighted, you may trademark a name which distinguishes your book from others.