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Thing to consider

- Objective of Senior Design Class is to create, build, make something new to perform a function or solve a problem.
- In the process you may create something that could be really useful and of commercial value.
- Then what do you do?
- Penn's Patent Policy, Patents, and Copyright

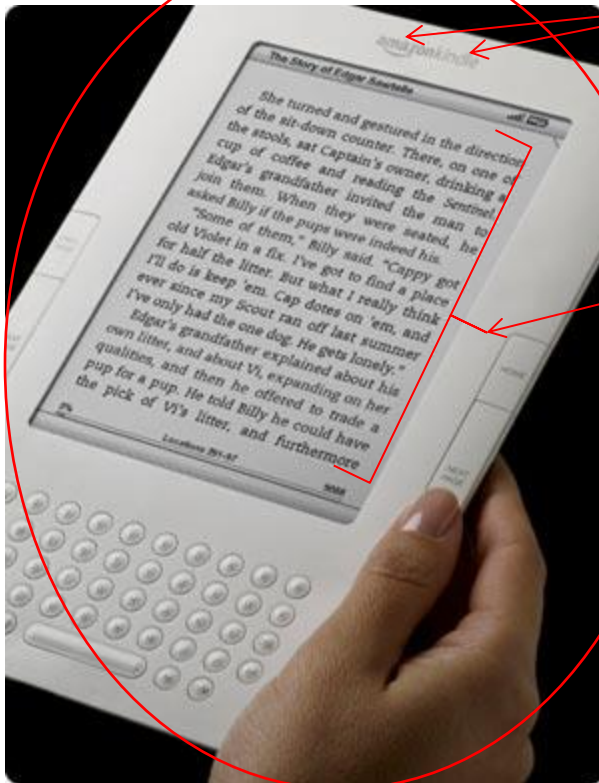
<http://www.upenn.edu/research/RevisedPatentPolicy5-19-10.pdf>

Article 2.1.4.1

INVENTIONS made by undergraduate students will remain the property of the students EXCEPT:

- When an INVENTION is made in the course of employment at the University
- Results from work directly related to employment responsibilities at the University
- Results from work or research performed under a grant or other sponsorship
- Undertaken with another INVENTOR who has a duty to make or has made ASSIGNMENT to the University.

Intellectual Property



Trademark protects words, names, or symbols used in commerce

Copyright protects original works of authorship

Patent protects process, machine, article of manufacture, or composition of matter

What is a Patent?

...is a property right created by law to protect intangible assets.

“The Congress shall have Power...To promote the Progress of Science and useful Arts, by securing for limited Times to Authors and Inventors the exclusive Right to their respective Writings and Discoveries”

--U.S. Constitution, Art. 1, §8

To be patentable, an invention must be **statutory**, **new, useful, non-obvious**, **enabled, described, work of inventors**.

Statutory Patentable Subject Matter

- Process
- Machine
- Article of manufacture
- Composition of matter
- Improvement of any of the above

Note: In addition to utility patents, encompassing one of the categories above, patent protection is available for (1) ornamental design of an article of manufacture or (2) asexually reproduced plant varieties by design and plant patents.

What is NOT Patentable

- Laws of nature
- Physical phenomena
- Abstract ideas
- Literary, dramatic, musical, and artistic works (these can be Copyright protected).
- Inventions which are:
 - Not useful (such as perpetual motion machines); or
 - Offensive to public morality

Novel, Non-Obvious, Useful

Novel– Not known, published, used publicly, or offered for sale more than one year prior to the filing date.

Most other countries do not have the one year limited grace period for publication as allowed by the AIA.

Non-Obvious – Not obvious to “one of skill in the art”.

Useful – Has a useful purpose and operates.

Enabled, Described, Work of Inventors

Enablement – Must teach others how to make and use the invention.

Written Description – Must describe invention in enough detail that a person of ordinary skill in the art could make it.

Work of the Inventors

Example of an Issued Claim

US Patent 4,359,733, filed 9/23/1980

Satellite-based vehicle position determining system

1. A system for determining the positions of a plurality of vehicles traveling on or above a defined sector of the earth's surface, comprising:
 - (a) a transponder carried by each one of said vehicles for transmitting, in response to a general interrogation signal directed to said plurality of vehicles, a beacon signal coded with information uniquely identifying said one vehicle, said transponder including means responsive to said general interrogation signal for inhibiting the transmission of further beacon signals by said transponder for a predetermined time interval following the response of said transponder to said general interrogation signal;
 - (b) three satellites at spaced orbital locations above the earth, each of said satellites carrying repeater means for receiving and retransmitting the beacon signals transmitted by said vehicle transponders, said three satellites thereby collectively producing three retransmitted beacon signals for each beacon signal produced by each one of said vehicle transponders; and
 - (c) a ground station for periodically transmitting said general interrogation signal and for receiving and processing said retransmitted beacon signals, said ground station including:
 - (1) means for detecting the arrival time of each retransmitted beacon signal at the ground station;
 - (2) means for detecting the vehicle identifying information carried by each retransmitted beacon signal; and
 - (3) means for calculating the instantaneous position of each one of said vehicles within said sector based upon the time of transmission of the interrogation signal from the ground station and the arrival times of the three retransmitted beacon signals which carry vehicle identifying information identifying said one vehicle.

What does a patent do?

A patent allows the owner of the patent to prevent others from making, using, selling, importing products and methods covered by the claims for a period of 20 years from the filing date of the patent.

Example of Patent

US Patent 4,359,733, filed 9/23/1980

Satellite-based vehicle position determining system

Inventor is Gerard Kitchen O'Neill

Professor of Physics at Princeton

O'Neill founded Geostar Corporation to develop a satellite position determination system for which he was granted a patent in 1982.

Who is an Inventor?

An inventor is **anyone** who contributed to the conception of the invention. *If a person did not contribute to the conception of an invention, they are not an inventor by US law.*

This is an objective legal determination based on facts.

Examples of incorrectly named inventors:

- Co-authors of a paper who did not contribute to the conception of the invention.
- Owner of a venture capital fund who paid for a prototype.
- A friend or colleague who told you the invention was a good idea.
- A technician who performed the actual experiments, but did not contribute to the conception of the invention.

INCORRECT INVENTORSHIP IS GROUNDS FOR INVALIDATING A PATENT.

Copyright

Copyright is a form of protection provided by the laws of the United States (title 17, U. S. Code) to the authors of “original works of authorship,” including literary, dramatic, musical, artistic, and certain other intellectual works, (including software).

This protection is available to both published and unpublished works.

- Copyright protection subsists from the time the work is created in fixed form. (**Immediate upon creation**)
- The copyright in the work of authorship immediately becomes the property of the author who created the work.
- Only the author or those deriving their rights through the author can rightfully claim copyright.

Resources

- <https://www.law.upenn.edu/clinic/intellectualproperty/>
- <http://www.uspto.gov/inventors/>
- http://www.uspto.gov/patents/resources/general_info_concerning_patents.jsp
- <http://www.uspto.gov/patents/process/index.jsp>
- <http://entrepreneurship.wharton.upenn.edu/resources.html>
- <http://entrepreneurship.wharton.upenn.edu/crossCampus.html>
- <http://mackinstitute.wharton.upenn.edu/>

Thing to consider

- You can always contact me if you have general questions or want advice about intellectual property matters related for your specific project.
- An enabling public disclosure will limit your ability to obtain international patent protection.
- If you want to commercialize your Sr. Design project, you might consider filing a patent application before your Sr. Design Final Presentation.