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Intellectual Property 101
Office for Commercialization and
Corporate Development
Software Engineering Capstone Projects
CS / 461, 462, 463

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- Copyrights / Patents / Trademarks / Trade Secrets
- Confidentiality /Material transfer Agreements-
- IP Ownership – Proof: Lab books/notes / agreements
- Commercialization – Assigning, Licensing, Selling
- Class project relevance

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What is “Intellectual Property?”

“anything under the sun that is made by
man”.

Categories of Intellectual Property

Patents	(federal law)
Copyrights	(federal law)
Trade Secrets	(state law)
Trademark	(federal law)
Plant Variety Protection	(federal law)

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IP and the Capstone Projects:

- Special Situations: Sr. class design project – real world experience
- Confidentiality agreements
- In the past, most projects have agreed on a joint-sharing of IP rights, team and the client
- Assignment of rights agreement with project sponsor = students have a choice to participate
- OSU employees – employee contract
 - Students: Graduate
 - Undergraduate:

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IP and the Capstone Projects

- **Special Situations**
- Situations may occur in certain courses, where students are presented with the opportunity to participate in projects or activities in which the ownership of any resulting intellectual property must be assigned to a sponsoring entity (such as a company) as a condition of the student's participation. Students are never obligated to participate in projects or activities that require the assignment of the student's intellectual property to an outside entity. In these situations students will always be presented with a choice of two options:
 1. To participate in projects or activities which do not require the student to assign their intellectual property.
 2. To participate in projects or activities that requires the student to assign their intellectual property.
- The student's grade and/or evaluation of performance in the course will not be affected by the student's decision to participate or not to participate in projects or activities requiring the assignment of the student's intellectual property.
- Undergraduates, Graduate Students, Assistants, and Fellows who receive monetary support from OSU are required to assign their intellectual property rights that specifically relate to those projects which the students, assistants, and fellows receive financial support.

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What Is a Copyright?

- “original works of authorship fixed in any tangible medium of expression”
 - Original
 - created by author
 - ‘expression’ of ideas or facts, not the underlying ideas or facts themselves
 - minimal level of creativity

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Copyrightable “Expressions”

- | | |
|--|---|
| <ul style="list-style-type: none"> • Potentially Copyrightable Books, articles, plays, movies, music Photos, sculptures, paintings, choreographed, dances Architectural plans Factual compilations Software Emails and web pages Inter-office memos? | <ul style="list-style-type: none"> • Not Copyrightable (Usually) Facts Ideas Systems, devices, methods Slogans/titles Off-the-cuff speeches Telephone calls Spontaneous dances |
|--|---|

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Bundle of Rights

- Make a copy (reproduce)
- New work based on the original (Derivative works)
- Distribute your work (Transferred to the public)
- Public performance
- Public display

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Ownership

- author
- Works by employee within employment scope (“works for hire”) automatically vest in employer
- Joint Ownership – co-authors (non-exclusive rights)
- Ownership transfer: Assignment must be in writing

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Copyright Infringement Permission To Use

- Under federal law, only the copyright owner or someone acting with the owner’s authority, such as a publisher, can grant that permission. Without written permission, you expose yourself to legal risks
- Copyright infringement is the unauthorized use of someone else’s copyrighted material.
- Copyright exists even on those material found on the web.

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Limitations on Exclusive Rights

- “FAIR USE” allows use of copyrighted-protected material without permission (criticism, comment, news reporting, teaching) all with limitations.
- The “Teach Act” expands the scope of educators rights using digital media (reasonable and limited portions)
- Under the Copyright Act’s “first-sale doctrine”, 17 U.S.C. § 109(a), the owner of any particular copy “lawfully made under this title” may resell that good without the authority of the copyright holder.
- **Joint Ownership:** Joint owner does not control all the rights, and cannot grant an exclusive license. All joint authors must convey transfer of all rights.

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Terms of Copyright Protection

- Lifetime + plus 70 years for works created after January 1, 1978
- Joint authorship: lifetime + plus 95
- Corporate authorship: 120 years

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Advantages:

- Automatically protected upon fixation of an original work in a tangible form
- Registration in the U.S. is optional, however, is prerequisite to filing a copyright infringement
- Inexpensive to Register
- Length of protection
- Placing a copyright notice is easy, not mandatory, recommended !

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Patent

What is a patent?

- May be thought of as a contract between a government and an inventor
- A limited and temporary exclusivity right granted by the government in return for a full disclosure by the inventor of the details of his or her invention

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Patents: Specific Rights

- A patent affords the owner the right to *exclude others from making, using, offering to sell, selling, or importing* the claimed invention (35 U.S.C. §271).
- A patent does **not give the owner an** affirmative right to make, use, offer to sell, sell, or import the claimed invention.

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Patents (Cont'd.)

- Types of patents
 - Utility Patent
 - Any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvements thereof
 - Plant Patent
 - Any new and distinct, invented or discovered asexually reproduced plant
 - Design Patent
 - Any new, original and ornamental design for an article of manufacture

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Patents

Patentability Requirements:

New, Useful, Non-obvious

<ul style="list-style-type: none"> • Patentable matter: <ul style="list-style-type: none"> • <u>Process</u>; • <u>Machines</u>; • <u>Manufactured items</u>; • <u>Compositions of matter</u>; • <u>any new and useful Improvements</u> 	<ul style="list-style-type: none"> • Not Patentable: <ul style="list-style-type: none"> • Mere arrangement of printed material • Naturally occurring articles (new mineral, plant) • Scientific Principle (Theory of relativity, mathematical equation) • Ideas
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Trademarks








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Trade Secret

- Formula , recipe
- Patterns, Plans, Designs
- Physical Device
- Process

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Software legal protection

- Patents, Trademarks, Copyrights, and Trade Secrets
- Each type of property serves a unique and special purpose and relates to distinct aspects of software
- Protection under all four areas is not always justified, each option should be explored

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Copyright and software

- Copyrights protect developers rights from someone reproducing, creating derivative works, distributing, performing, displaying and renting software
- Protection extends beyond the software code (source & object) and also covers elements present in user interface: audiovisual, pictorial, and graphic

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When is software patentable

- Software must be: New, useful, and non-obvious
- Any software that performs the same work, accomplishes the same result would infringe the patent
- However, the cost and time required to get a patent needs careful analysis

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Software Patents

The Software Patent debate

- The argument is a matter of public policy. Arguments have been focused on the economic consequences of software patents
- In 2005 The European Union rejected A proposal for the patentability of computer-implemented inventions (CII Directive)

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How can trademarks be used to protect software products and services

- A name or logo used to identify source of product or service
- Distinctive elements of a user interface: Icon, or other symbol
- Nonfunctional elements of both packaging of the software product and the overall user interface may qualify as a "Trade dress"
- Registration is not required but recommended, and must be used in commerce

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Software as a trade secret

- Executable version of software may perform a **subtask** that is part of a larger task that is itself a trade secret
- The **source code** is almost always considered a trade secret since underlying algorithms and various programming methods are discoverable upon access to the source code
- Further, **software may directly or indirectly access database information** that is highly confidential and may constitute a trade secret
- Most mass marketed software is typically distributed in **object code** form only, with a “shrink wrap” license - can qualify as a trade secret
- However, when software can readily be reversed engineered, typically is declined as a trade secret

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Basic IP Protection

Good Record Keeping:

Becoming an employee:
Employment contract – read what your agreeing to.

- Use Non-disclosure agreements

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Non-disclosure / Material Transfer Agreements

Key Concepts / Clauses

- One-way or two?
- Define what is being disclosed to whom
- Define how the receiving party is to handle the information
- Require any oral disclosure to be written and sent within a specific timeframe
- Define what is **not** considered confidential
- Effective date & agreement timeline

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Turning Your work Into something?

Licensing Software:

- Proprietary and Open source
- **Licensing software**
- Legal means to transfer IP rights , not Ownership, from one party to another
- Software owners are free to license one software program under different licenses
- Releasing under open source and also commercially (proprietary) licensing the same software

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Open Source Licensing

- Under Copyright law Open Source describes the distribution of computer code under a license that permits users to study, **modify** and **redistribute** the software
- Open source licensing, or other public posting does not extinguish copyright ownership rights.
- Using open source code in your own work you should understand the license your agreeing to. If you violate an open source license you are a copyright infringer

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The America Invents Act

Key Elements

- **Fast track option for Patent Processing within 12 Months;** | • **Reducing the patent backlog;** • **Reducing litigation;** • **Increasing patent quality;** • **Harmonizing American Patent Law;**
- First Inventor to File
- Derivation Proceeding
- Post Grant Review
- Fees

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Questions
Intellectual Property
Overview

- Office for Commercialization and Corporate Development

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