

# POWERED BY ORANGE

## Intellectual Property 101

Office of Technology Transfer

Software Engineering Capstone Projects  
CS 461, 462, 463

**Denis Sather**

denis.d.sather@oregonstate.edu



## Intellectual Property

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- Creations of the mind
- Property rights give owners exclusive rights
- Rights provide incentive for the author or inventor to develop and share the information rather than keep it secret.
- IP laws are credited with significant contributions toward economic growth.

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## *IP Presentation Summary*

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

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## What Is Copyright?

- Copyright protection “original works of authorship fixed in any tangible medium of expression” [17 USC 102]
  - Original work of authorship
    - Work must be created by author
    - Only applies to ‘expression’ of ideas or facts, not the underlying ideas or facts themselves
    - Expression needs minimal level of creativity

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## Ownership

- Copyright vests in author [17 USC 201(a)]
- Works by employee within employment scope (“works for hire”) automatically vest in employer [17 USC 201(b)]
- Joint Ownership – co-authors  
(non-exclusive rights)
- Ownership transfer: Assignment must be in writing [17 USC 204]

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## Exclusive Property 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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## 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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## Copyrightable “Expressions”

- | <u>Potentially Copyrightable</u>                           | <u>Not Copyrightable</u> (Usually) |
|--|------------------------------------|
| Books, articles, plays,<br>movies, music                   | Facts                              |
| Photos, sculptures,<br>paintings, choreographed,<br>dances | Ideas                              |
| Architectural plans  | Systems, devices,<br>methods       |
| Factual compilations                                       | Slogans/titles                     |
| <b>Software</b>  | Off-the-cuff speeches              |
| Emails and web pages                                       | Telephone calls                    |
| Inter-office memos?  | Spontaneous dances                 |

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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 lawsuit.
- Inexpensive to Register
- Length of protection
- Placing a copyright notice is easy, not mandatory, recommended !

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## Patent Rights

- Patent: means open or exposed, the main goal is to open new advances in technology
- A patent is an exclusive grant by government to exclude others for a limited time from making, using, selling, offering for sale, or importing the invention
- Violation of the patent rights of another is known as Infringement
- Inventor = Owner (unless work under employer)

## Patents

### Patentability Requirements: New, Useful, Non-obvious

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

## Components of a Patent

- Specification
  - Written description: how to make and use the invention (enabling disclosure) = (Best mode)
  
- Claims:
  - It is the claims that define the extent of the rights granted
  - The claims also determine if infringement exists
  
- Drawings:
  - Must be submitted if they are necessary for the understanding of the subject matter sought to be patented
  - Include diagrams, flow charts, photographs

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## Three types of patents

- Utility patent: 20 yrs from filing 3+ to issue
  - New, Useful, and Non-obvious
  - Item of Manufacture; Process or Machine; Compositions of matter; new useful improvements of above
  
- Design patent: 14 yrs from issue
  - The new, original, design, configuration, shape or outward appearance of a useful product
  - Purely functional designs cannot be covered by design patents
  - Protect the Aesthetic features that induce a consumer to buy
  
- Plant patent: 20 Yrs from filing
  - The Plant Variety Protection Office (PVPO) administers the Plant Variety Protection Act (PVPA), by issuing Certificates of Protection.
  - The Act provides legal intellectual property rights protection to breeders of new varieties of plants which are sexually reproduced (by seed) or tuber-propagated.

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## Patent Inventorship

- Legally determined by Patent Attorney/Agent
- Contribution of work in patent claims
  
- Conception of the Idea
- Reduction to practice (proof-of-concept)
- Diligence: Conception + reduce to practice = inventorship
  
- U.S.: First to invent
- Europe: First to file

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## Trademarks

- **Trademark** is a word, phrase, symbol or design, or a combination of words, phrases, symbols or designs, that identifies and distinguishes the source of the goods of one party from those of others. <sup>TM</sup>
  
- **Service mark** is the same as a trademark, except that it identifies and distinguishes the source of a service rather than a product.
  
- Common law rights automatic, but registration with State/Federal agencies provides legal benefits. ®

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## Trade Secret

- Can be a Formula, pattern, device, or compilation of information that is used in business and gives an opportunity for competitive advantage
- Legal qualification:
  - take reasonable measure to protect,
  - derive independent economic value from not being known

## 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:

Complete and accurate recording of ideas and data prior to public disclosure or employment. Necessary in order to preserve any of your own IP rights

### Becoming an employee:

Employment contract – read what your agreeing to. You may be giving up your rights to something you have previously developed. Get a written agreement/acknowledgement of your own works

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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 Copyrights , 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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## IP and the Capstone Projects:

- Oregon State University does not retain any IP rights for Undergraduate student work (unless tied to Federal \$, Company sponsored research, or employees do the work)
- Teams are creating/building on work submitted by the client.
- Confidentiality agreements and/or assignment of rights agreement
- In the past, most projects have agreed on a joint-sharing of IP rights, team and the client.

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# Intellectual Property Overview

- Office of Technology Transfer

- Questions

- [Denis.d.sather@oregonstate.edu](mailto:Denis.d.sather@oregonstate.edu)