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## Copyright

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166

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## Copyright – Legal Basis

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- Constitutional basis in Art. I, Sec. 8, Clause 8:  
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;
  - Copyright Act: Title 17 of the US Code
  - Code of Federal Regulations: Title 37
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167

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## Copyright Subject Matter

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- Works of authorship that are fixed in a tangible medium of expression, from which they can be perceived, reproduced, or communicated, either directly or with the aid of a machine or device
    - Literary works
    - Musical works
    - Dramatic works
    - Pictorial/graphic/sculptural works
    - Motion pictures
    - Sound recordings
    - Architectural works
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168

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## Subject Matter Limitation

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- Copyright protection does not extend to any idea, procedure, process, system, method of operation, concept, principle, or discovery, regardless of the form in which it is described
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169

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## Subject Matter Examples

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- Identify the copyrightable expressions, if any:
    - A grocery list
    - A haiku
    - A baseball box score
    - A phone book
    - A song played by street musician
    - A novel
    - A newspaper story about an election
    - A Linux distro
    - A C header file
    - A Java interface
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170

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## Enforceable Rights

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- Owner of the copyright has the exclusive right to do and authorize:
    - Reproduce the work
    - Prepare derivatives
    - Distribute copies
    - Perform
    - Display the work publicly
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171

## Compilations & Collective Works

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- A **compilation** is a work formed by collecting or assembling preexisting materials or data
- Materials must be selected, coordinated, arranged such that the resulting work as a whole constitutes an original work of authorship
- A collective work is a compilation of separate independent works, e.g., encyclopedia, anthology
- *Copyright in compilation only extends to material contributed by the author (of the compilation)*

172

## Derivative Works

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- A derivative work is a work based on a preexisting work (e.g., translation, motion picture version, adaptation)
- *Copyright in compilation only extends to material contributed by the author (of the compilation)*

173

## Copyright - Limitations

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- Minimum standard of originality
- Independent creation
- Subject matter limitations: ideas vs. expression:
  - In no case does copyright protection for an original work of authorship extend to any idea, procedure, process, system, method of operation, concept, principle, or discovery, ... 17 USC 102(b)
- Fair use
- "Limited" term...

174

## Fair Use

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- Fair use is not an infringement
- To determine fair use, the following factors are considered:
  - Purpose and character of use (e.g., commercial? educational?)
  - Nature of the work (e.g., factual? fictional?)
  - How much is copied
  - Effect of use on potential market of copyrighted work (e.g., does the copying displace sales?)

175

## Fair Use Examples

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- Which of the following are (or are not) fair use?
  - Copying a short passage from a novel for a book review?
  - Copying a short passage from a novel for a **critical** book review?
  - Showing classic movies (from a personal video collection) at a movie theater as part of a non-profit film society
  - Copying a CD onto your hard drive
  - Copying a CD for your friend
- The DMCA may significantly impact fair use

176

## Licenses

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- A license is a permission to do something:
  - You may cross my property to reach the lake
  - You may cross my property during the week, not on weekends
- Licenses can slice, dice, and repackage the rights:
  - You may make and distribute copies to students in your class, but you may not perform or make derivatives
- Bare (or naked) license: a grant of one or more rights short of a full assignment

177

## Software Licenses

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- Proprietary Licenses
  - A grant of permission to use software in a restrictive way, such as including limits on the type, duration, or field of use; reverse engineering; access to source code
- Open Source Licenses
  - Academic licenses (e.g., BSD, MIT/X, Apache, Artistic/Perl)
  - Reciprocal licenses (e.g., GPL)
  - Content licenses (e.g., Creative Commons)

178

## Apache License (2.0)

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- Clear grant:
  - Subject to the terms and conditions of this License, each Contributor hereby grants to You a perpetual, worldwide, non-exclusive, no-charge, royalty-free, irrevocable copyright license to reproduce, prepare Derivative Works of, publicly display, publicly perform, sublicense, and distribute the Work and such Derivative Works in Source or Object form.
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179

## The GNU GPL v2

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### Long and complicated, but here is the “engine”:

2. You may modify your copy or copies of the Program or any portion of it, thus forming a work based on the Program, and copy and distribute such modifications or work under the terms of Section 1 above, provided that you also ... cause any work that you distribute or publish, that in whole or in part contains or is derived from the Program or any part thereof, to be licensed as a whole at no charge to all third parties under the terms of this License.

- ***In short, if you (1) distribute (2) a derivative work, you must also provide the source.***

180

## Organizational Risks

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- For “closed source” shops:
  - License “infection”
  - Lack of warranty or indemnification
  - Patent risks
- For open source projects:
  - Ownership of contributions
    - Enforcement
    - How do you know that your contributor has title?
  - Patent risks

181

## Derivative Works Under the GPL

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- Example scenarios addressed by the article
  - 1.0: modifying a source file
  - 1.1: modifying source file plus distribution
  - 2.0: adding a file plus distribution of resulting binary
  - 2.1: carving out the added file
  - 3.0: static v. dynamic linking
  - 4.0: plug-ins
  - 5.0: OO systems
  - 6.0: networked systems

182