

# Open Source Software

Law 115 | Week 11 | Lecture 21  
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# Agenda

1. Source Code vs. Object Code
2. What is Proprietary Software?
3. What is Open Source Software?
4. OSS Timeline
5. Who Uses OSS?
6. Copyright, Patent, and FOSS
7. Popular Open Source Licenses
8. Next Generation Issues

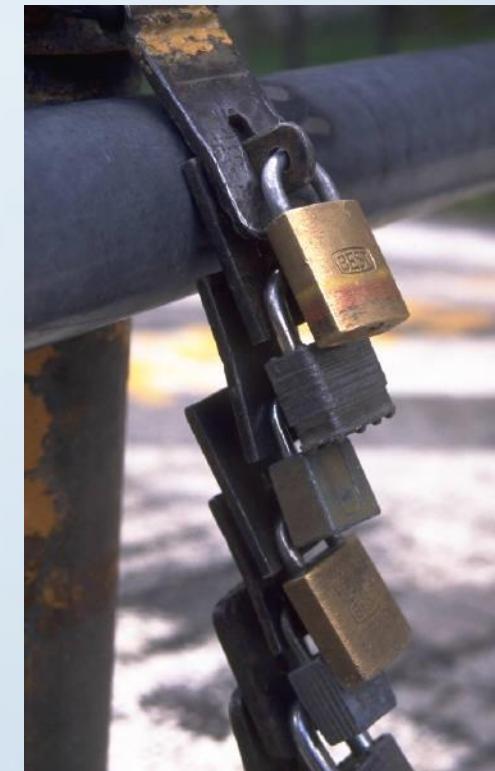
# Source Code vs. Object Code



# What is Proprietary Software?

**Strategy:** Prevent free riding by controlling access to source code though

- Restrictive licenses
- Technical measures
- Statutory frameworks
- Court action



# What is Open Source Software?

Source refers to the software in source code form

Open refers to the freedom to

- View the source code
- Run the software for any purpose
- Modify the software in any way
- Distribute the software and any modifications

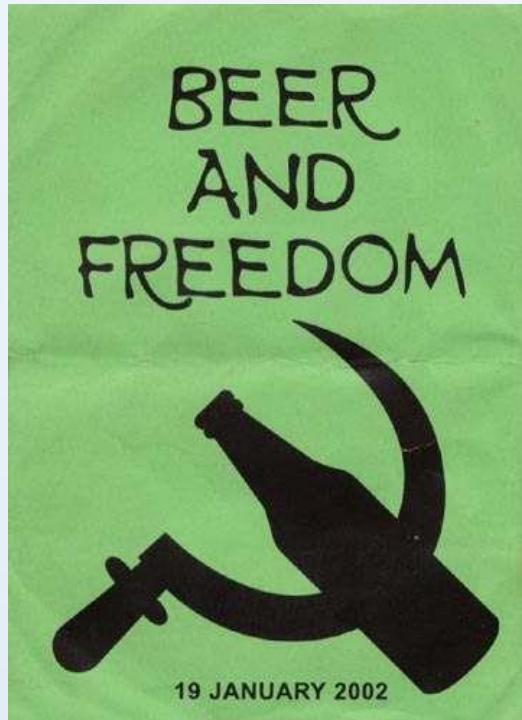


# What is Open Source Software?

- Copyleft
- Libre software
- Community software
- Public software
- Free software (free as in “freedom”)
- FOSS or FLOSS
- Open culture



# What is Open Source Software?



Open source software is NOT...

- Shareware: software made available for free trial with the understanding that users will voluntarily pay a fee to the author or publisher for continued use
- Freeware: any computer program or application that is available at no cost to the user

# What is Open Source Software?

Proprietary Software	OSS
Source code is a trade secret	Source code is shared
Code distributed in object code form only	Both source code and object code distributed
Limited derivative works rights licensed	More freedom to make derivative works
Often costs money, but can be free	Often costs money, but can be free

# OSS Timeline

- Richard Stallman (Free Software Foundation)
- Eric Raymond (Open Source Initiative, *The Cathedral and the Bazaar*, Homesteading the Noosphere)
- Linus Torvalds (Linux)
- Bruce Perens (Open Source Definition)



# OSS Timeline

- 1984 Stallman starts GNU project to create “free” UNIX
- 1985 Stallman creates Free Software Foundation
- 1989 Bill Joy releases UNIX version under Berkeley Software Distribution (BSD) License
- 1991 Free Software Foundation publishes GPL 2.0
- 1991 Linus Torvalds starts Linux kernel, uses GPL 2.0
- 1998 Netscape licenses Communicator under open source license (Mozilla, Firefox)
- 1998 Open Source Initiative formed
- 2007 Free Software Foundation publishes GPL 3.0
- 2008 Jacobsen v. Katzer enforces Artist License

# Who Uses OSS?

At first: hackers

Now: lots of people

- Internet backbone: Apache, Sendmail
- Linux
- I.B.M., Intel, Apple, H-P, Sun, Novell
- Commercial businesses
- Federal and state governments in U.S.

Karen Sandler's Heart Monitor: <http://youtu.be/0zQnM82MZ00>



# Who Uses OSS?



But a lot of people still do not use OSS

- The average PC/tablet user
- Some people worried about who stands behind code and total cost of ownership (reliability)
- Some developers and users who are worried about IP contamination (reports that Linux reads on multiple patents)

Stephen Fry on Free Software: <http://youtu.be/Wugzc58Qrl8>

# Copyright, Patent, and FOSS

- Copyright + Licensing makes it work
  - Copyright gives control over use
  - License gives permission to use
  - “To stay free, software must be copyrighted and licensed.”  
Debian GNU/Linux Group
- FOSS and proprietary software share one thing in common:  
copyright on code plus license of code

# Popular OSS Licenses

BSD Key terms:

- License grant: unlimited use, modification, distribution
- No warranties; disclaimer of consequential damages
- No endorsement
- Attribution



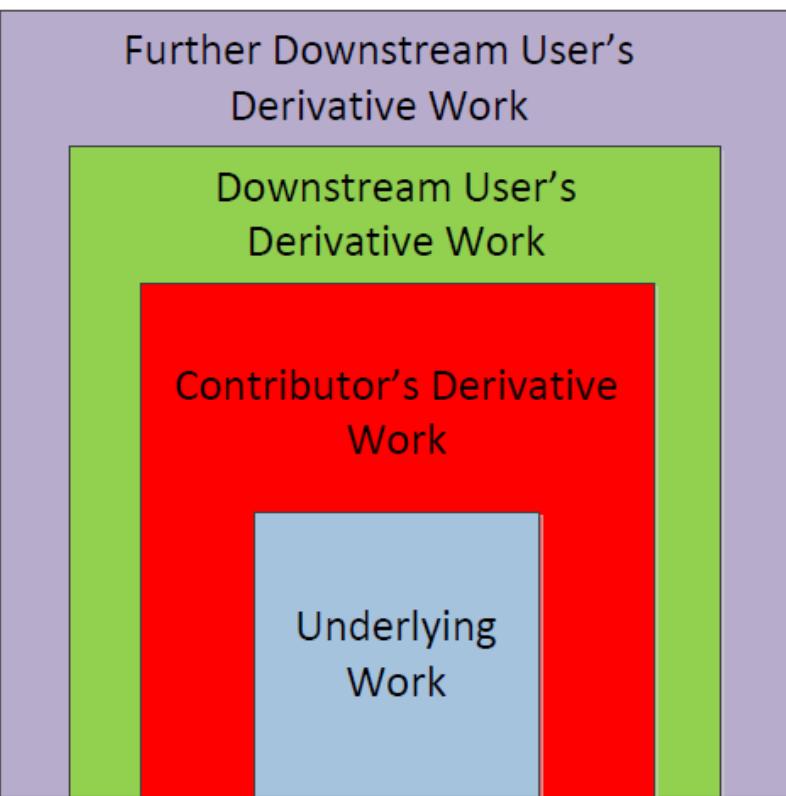
# Popular OSS Licenses



GPL Key terms:

- Unlimited right to run program, access to source code, right to distribute verbatim copies
- May create derivatives IF you agree to make works derived from or containing the program “free”
  - “Free” means derivative works right licensed forever to all newcomers
  - “Free” means derivative works right licensed at “no charge”
  - Exception to the condition: derivative work is not published or distributed
- License is “viral,” i.e. all derivatives licensed under GPL
- No warranties; disclaimer of consequential damages

# Popular OSS Licenses



Red, Green, and Purple all must license their work under GPLv3 and make the source code available.

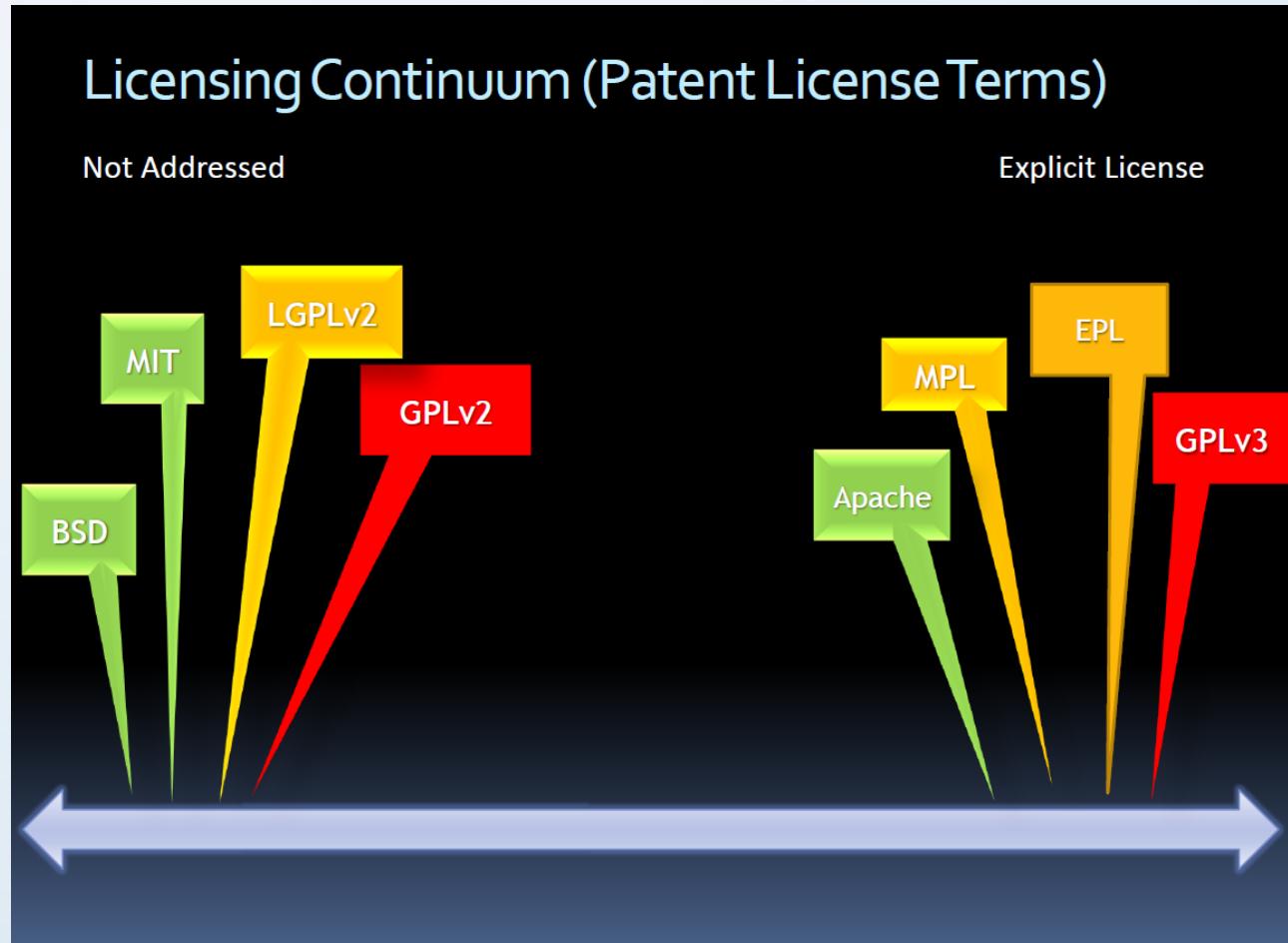
## Copyright

- Red must provide license to Blue, Green, and Purple
- Green must provide license to Red, Blue, and Purple
- Purple must provide license to Green, Red, and Blue

## Patent

- Red must provide a license to Blue, but not to Red and Purple
- Green must provide a license to Red and Blue, but not to Purple
- Purple must provide a license to Green, Red, and Blue

# Popular OSS Licenses



# Next Generation Issues

- Proliferation (more than 70 OSI approved licenses)
- License comprehension
- License compatibility
- Software patents