GPL, MIT, BSD, GEHC (and me)

Introduction to Open Source
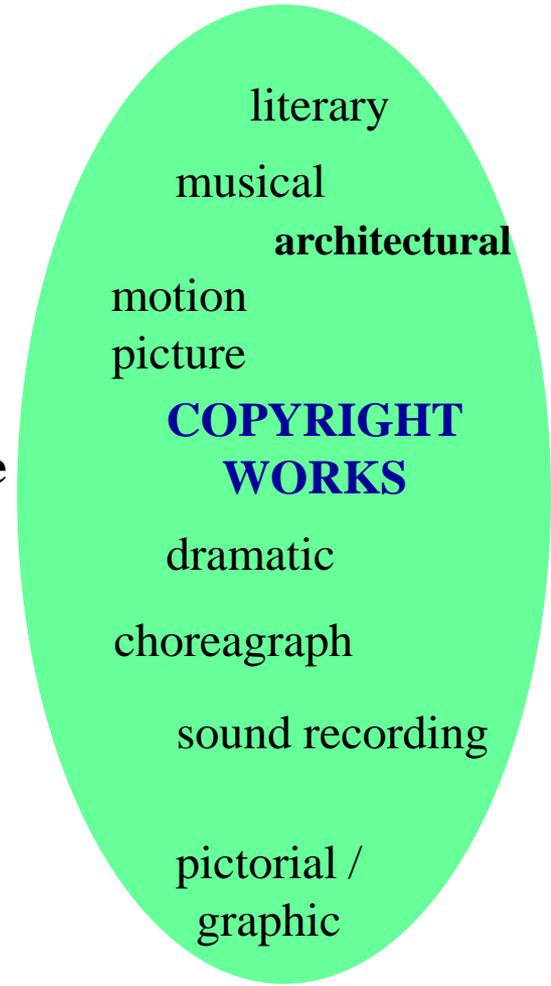
Therese Catanzariti

COPYRIGHT OWNER
- author
- employer
- COMMISSION "work for hire"
- assignee

has the exclusive right to

RIGHTS
- reproduce
- distribute
- prepare derivatives
- perform publicly
- display publicly

the

COPYRIGHT WORKS
- literary
- musical
- **architectural**
- motion picture
- dramatic
- choreagraph
- sound recording
- pictorial / graphic

open source software and copyright

- open source software is a **copyright work**
- the **copyright owner** is the author of the code
- if you want to **copy** the code, you need to get the **copyright owner's permission**
- the copyright owner gives you permission in a **licence**
  - **ITS THE CONDITIONS IN THE LICENCE**
- **THE CONDITIONS IN THE LICENCE IS WHAT MAKES IT OPEN SOURCE**

GPL, MIT, BSD, GE and Me

conditions in the licence

- the author of the code decides to impose "open source" conditions

- anyone who copies the code has to comply with the "open source" conditions

- if you don't comply with the "open source" conditions, you don't have the owner's permission and you are breaching copyright
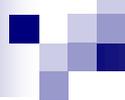
freedom to play!

freedom to add / delete

freedom to change

freedom to use for any purpose

freedom to distribute to anyone

who are we playing with?

will community exist for whole product lifecycle?

BUT

licence conditions

"as is" no indemnities no warranties

who are we playing with?

- analyse OSS community as if they were a supplier / strategic partner

- values – SMASH C@PIT@LI$M!!! or professionals

- code – quality of code, is it a meritocracy?

- licence conditions

- what are the consequences if we misbehave

will community be around for my product lifecyle

- we have responsibility for our product for whole product lifestyle
- will community continue for whole of product lifecycle?
- will community support code for whole of product lifecyle
- will community's roadmap match my roadmap?
- may need to foster and steer community
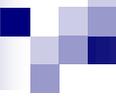
any distribution has to include source code

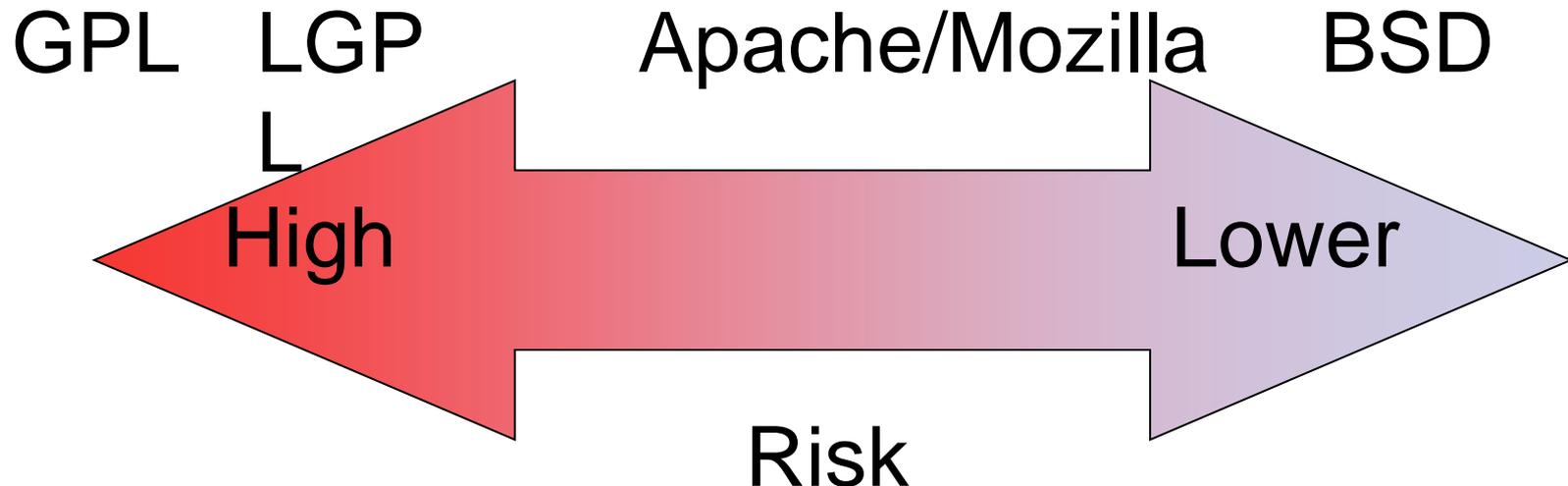any distribution has to be on same conditions

royalty free

licence conditions

"as is" no indemnities no warranties

conditions also cover any changes *you* make and derivatives

GPL, MIT, BSD, GE and Me

what are open source conditions

- GPL http://www.gnu.org
  - ☐ Apache http://www.apache.org/licenses/LICENSE-2.0
  - ☐ Mozilla http://www.mozilla.org/MPL/MPL-1.1.html
  - ☐ MIT http://www.opensource.org/licenses/mit-license.php
  - ☐ BSD http://www.opensource.org/licenses/bsd-license.php

GPL   LGPL   Apache/Mozilla   BSD

High   Lower

Risk

open source conditions

	copyright notice	copy of licence in source code	copy of licence in materials	royalty free	provide source code	covers modifications	covers combinations of OSS code and other code in one program
BSD	X	X	X				
MIT	X	X		X			
Apache	X	X	X	X			
Mozilla	X	X		X	X	X	
GPL	X	X			X	X	X

- OSS encourages code distribution
- (so you can sell expensive things *on top of code*

OSS saves engineering time and money

- OSS robust (lots of people working on errors)

OSS is risky!

- some OSS is really good

GPL, MIT, BSD, GE and Me

the process…lets workshop it

- **where do you want to use OSS**
    - stand alone applications
    - embedded into our programs
    - tools or services
  - ☐ **how do you want to use**
    - passive taking without modifications
    - some modifications for product purposes
    - active contribution in community
    - foster / steer community – strategic investment

manage open source risk

- engineers can use open source
- BUT need to manage the risk
- *compliance* – comply with licence
- AND *compatibility* – OSS and proprietary code / product

- OSS planning part of design – otherwise too late

manage open source risk - preparation

- **identify community / licence**
- **prepare business case**
    - why need open source code
        - save resources and time / robustness
    - will we need to add to the OS code
    - how the open source risk will be managed during development
- **discuss with**
    - manager
    - Business Unit lawyer
    - Intellectual Property Team

manage open source risk - development

- train all team members about process
- keep proprietary code and open source code physically and logically separate unless specific approval
- GPL
    - don't modify GPL code
    - keep executables separate
  - ☐ LGPL
    - can use or link to libraries
    - only dynamic linking (not static linking)

manage open source risk - commercialisation

- make sure product manager is aware that product contains open source

- **exclude from Licence** open source components

- ensure OS terms **do not allow use of trade marks**

- **include OS notices**

  - in source code

  - in user manuals / documentation

  ☐ confirm logistics of delivering source code

copyright notices / licence terms

- ## what notices are required
  - copyright notices
  - licence terms
  - no warranty / warranty disclaimer
  - summary / web reference to licence terms
  - notice source code available on request
- ## where put notices
  - in the source code
  - in the user manuals
  - in product specs

open issues

- we are liable for putting product on market
- *even if* exclude OS from scope of licence
- how do we get FDA certification for OS code
- other regulatory aspects unsupported OS code
- review End User Licence Agreements

ATTACHMENTS TO PRESENTATION

- background - copyright law
- summary of licence terms
    - BSD
    - MIT
    - Apache
    - Mozilla
    - GPL
- why are open source conditions are an issue
    - change and derivatives
    - no indemnities
    - distribute source code
    - distribute on same conditions
    - best practices

back to basics – copyright 1

- copyright protects **copyright works**
  - copyright works includes literary works
  - literary works includes software programs / lines of code
  - □ the **copyright owner** of copyright works is
    - the author / the programmer
    - the author / programmer's employer
    - the person who commissioned the author / programmer (*only in US "work for hire"*)

back to basics – copyright 2

- **copyright gives copyright owner rights in the copyright work**
  - copyright rights include reproduction / copying
  - reproduction / copying includes copying someone else's code into your code
- **copying right includes copying the whole or a substantial part**
  - you don't have to copy the whole program
  - it is enough if you copy a few important lines

back to basics – copyright 3

- **if you want to exercise copying right, you need to**
    - **own** the rights – get an **assignment** from the copyright owner
    - get the owner's **permission** – get a **licence** from the copyright owner
  - ☐ the assignment or the licence is a **contract**, just like any other contract
  - ☐ the copyright owner can impose **conditions** in the contract
  - ☐ if you **don't comply with the conditions** then there is no contract – so you are **breaching copyright**

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employer

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commission "work for hire"

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RIGHTS

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the

literary

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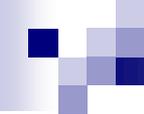
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dramatic

choreagraph

sound recording

pictorial / graphic
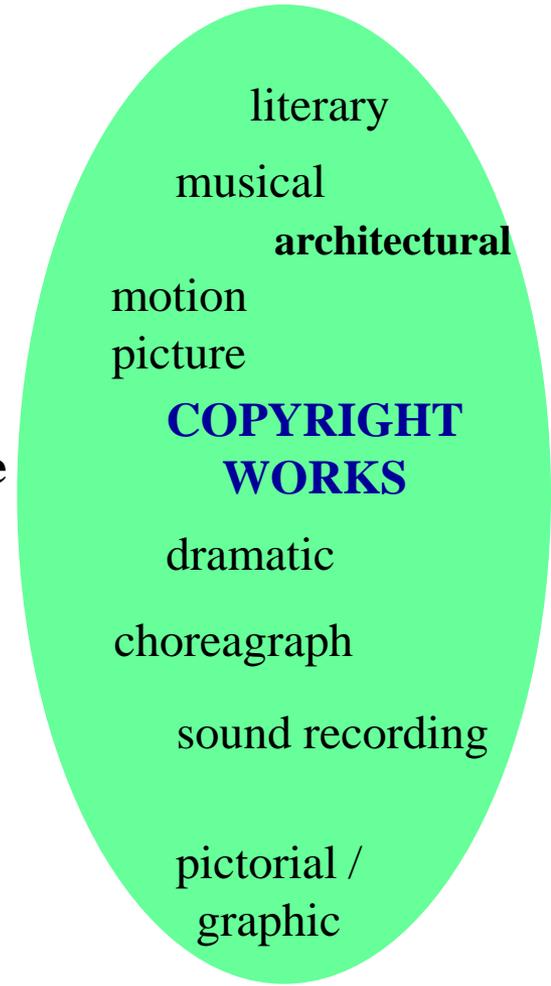
and open source?

- how is open source software different from
- copyright software?

■ITS NOT

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BSD

- can redistribute in source or binary
- copy of licence and copyright notice
    - in source code if distribute source
    - in materials if distribute binary
- name of creator / contributors not used to endorse derived code / products
- "as is", no warranty
- **NOTE no obligation** to distribute source code
- **NOTE no obligation** royalty free
- **NOTE no obligation** modifications / derivative works

MIT

- royalty free
- can deal in the Software including use, copy, modify, merge, publish, distribute, sublicense and/or sell
- copy of licence and copyright notice in copies or substantial portions of software
- "as is", no warranty
- **NOTE no obligation** to distribute source code
- **NOTE no obligation** to include notice in materials
- **NOTE no obligation** modifications

Apache 1/

- royalty free

- copyright licence - reproduce, prepare Derivative Works of, publicly display, publicly perform, sublicense, and distribute the Work and such Derivative Works in Source or Object form

- patent licence – make and have made, use, sell, import and transfer, to extent contribution necessarily infringes (terminate if you bring patent lawsuit)

GPL, MIT, BSD, GE and Me

Apache 2/

- if reproduce and distribute copies / derivatives
- provide copy of licence (*doesn't say where)*
- modified files carry notice that you changed
- attributions in NOTICE txt file must appear in derivatives NOTICE txt file, source code, materials or display (*you can also add yours*)
- can add / change terms that apply to your modifications / derivatives (provided consistent)

Apache 3/

- ”as is”, no liability, no indemnity
- any contribution *intentionally submitted* for inclusion covered by licence *unless* say otherwise
- can charge fee for support, warranty and indemnity, *but* solely responsible and indemnify other contributors if they are liable because of yr indemnity
- **NOTE no obligation** distribute source code
- **NOTE no obligation** your modifications / derivatives *provided* comply AND not intentionally submitted

GPL, MIT, BSD, GE and Me

Mozilla Public Licence

- royalty free
  - □ IPR rights (except TM and patent) - use, reproduce, modify, display, perform, sublicence and distribute
  - □ patent rights - make and have made, use, practice, sell, dispose of, to extent contribution necessarily infringes
- your modifications covered by licence
- *provided* make commercial use of original code / modifications
- can charge fee for support, warranty and indemnity, *but* solely responsible

GPL, MIT, BSD, GE and Me

Mozilla Public Licence

- "as is", no warranty
- if distribute source, must include copy of licence
- if distribute binary, must make source available
- (include notice in materials that source available)
- include file documenting changes that you made
- include Mozilla Exhibit A notice in each file of source code or in directory if no files
- **NOTE no obligation** combined code
- **NOTE only applies if make commercial use**

GNU – GPL – General Public Licence /1

- ☐ copy and distribute exact copies received
  - ■ publish copyright notice/ warranty disclaimer
  - ■ keep notices refer licence / warranty disclaimer
  - ■ provide copy of licence
  - ■ must provide source / offer to provide source

- ■ **if copy or distribute modifications / derivatives**
  - ■ notice on modified files that you changed

GPL, MIT, BSD, GE and Me

GPL 2/

- **if distribute modifications**
    - licensed to all 3rd parties without charge (ie any 3rd parties who receive down the chain don't have to pay you a fee)
    - provide source / offer to provide source
    - If program reads interactively, cause it when started to print or display an announcement
        - copyright notice / warranty disclaimer
        - users may redistribute the program under these conditions
        - how user can view licence
    - □ modifications includes combined works *unless*
        - identifiable sections that are separate and independent
        - distributed as separate works

GPL, MIT, BSD, GE and Me

GPL 3/

- "as is", no liability, no indemnity
- can't impose other restrictions on rights
- can charge fee for physical copy and warranty

- NOTE only applies if distribute
- NO OBLIGATION royalty free

why is this an issue - changes and derivatives

- if you change code / write code based on other code
- owns and controls the new code / changes to code
- *subject to* the rights in the original code
- can decide how code used – can impose conditions on use

- *unless the underlying code is open source*
- it doesn't matter who owns the new code / changes to code
- the owner can't choose its own conditions on use of code
- all code based on open source code becomes open source code and subject to open source conditions

if they bite you, you become a flesh-eating zombie!

its the flesh eating zombies in "Night of the Living Dead"

whats a derivative?

- *Apache* - any work, whether in Source or Object form, that is based on (or derived from) the Work
- **NOT** works that remain separable from, or merely link (or bind by name) to the interfaces of the work

- *GPL* work based on the program
- combining modules
    - depends on
        - mechanism of communication (exec, pipes, rpc, function calls within a shared address space
        - semantics of the communication (what kinds of information are interchanged)
    - same executable file
    - **NOT** mere aggregation, NOT same storage or distribution medium

why is this an issue – no indemnities

- we cannot launch a commercial product "no indemnities, no warranties"

- we are liable for products it puts on the market
    - breach of IPR
    - product defects

- **BUT**

- we cannot rely on any indemnities and warranties from any supplier of the code – the licence says "no indemnities"

- we cannot rely on the good reputation / good working practices of the supplier – who knows who wrote the code?

GPL, MIT, BSD, GE and Me

why is this an issue – distribution on same conditions

- some open source licences royalty free
- we needs to charge money for its products

- some open source licences allow further distribution
- we need to stop customers from further distributing the products – otherwise potential customers will get the products from our customers instead of from us

GPL, MIT, BSD, GE and Me

why is this an issue – distribute source code

- we operate in a tough market
- our source code gives us a market advantage
- our source code is a critical trade secret

- we does not want to distribute our source code
- our source code could be distributed to a our competitor

GPL, MIT, BSD, GE and Me

why is this an issue – distribute source code

- **the Patent Office will only grant a patent if an invention is "new"**

- **"new" means new in the public area**

- **if we distribute our source code, our source code is public**

- **if we distributes our source code, we cannot get a patent for any invention in the source code**

GPL, MIT, BSD, GE and Me