



Software Intellectual Property Rights

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Meet Joseph and Martin

“Virtual reality” based game for improving the way children and young adults learn to play sports (basketball, football, etc.) – e.g. positioning, passing, strategy during the game, etc. without actually having to be on the pitch or court.

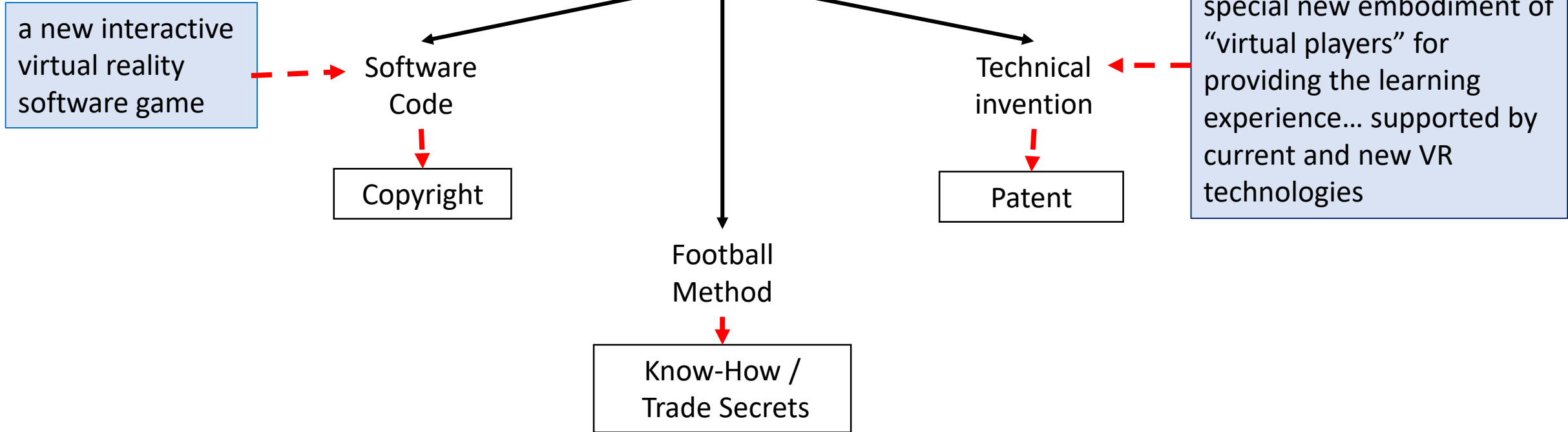
- Cognitive learning methods
 - A new interactive virtual reality software game
 - Current and new VR technologies, using a very special new embodiment of “virtual players” for providing the learning experience.
- Virtual player presentation and interaction with players
- technical invention (being based on complex technologies such as artificial intelligence and virtual reality environments and programming)
 - implemented in software code.



Credits: Martin Bain

This is mainly a **software** result...

- What kinds of protection are we looking at?



Software: Legal definition?

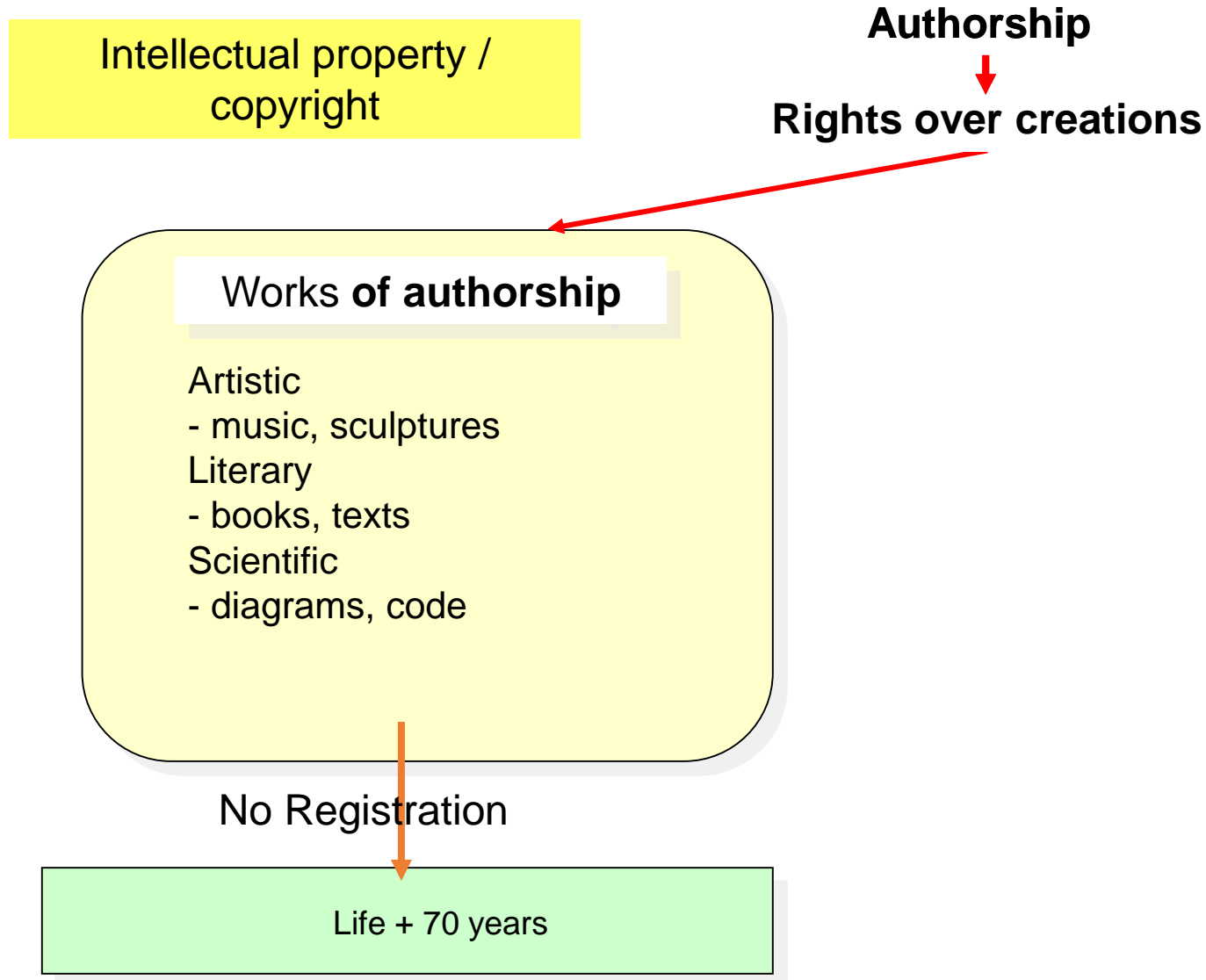
- Sequence of instructions
- Run on a computer
- To produce a result

(depending on jurisdiction)

```
1 package jwaverion;  
2  
3 import java.io.*;  
4 import java.util.*;  
5 import javax.servlet.*;  
6 import javax.servlet.http.*;  
7  
8 /**  
9  * <p>Title: JVMVersion</p>  
10 * <p>Description: Get running environment information.</p>  
11 * <p>Copyright: Copyright (c) 2003</p>  
12 * @author Jose Sandoval - April 11, 2003  
13 * @version 1.0  
14 */  
15  
16 public class JVMVersion extends HttpServlet implements SingleThreadModel {  
17     private static final String CONTENT_TYPE = "text/html";  
18     //Initialize global variables  
19     public void init() throws ServletException {  
20     }  
21  
22     //Process the HTTP Get request  
23     public void doGet(HttpServletRequest request, HttpServletResponse response) throws  
24         ServletException, IOException {  
25         response.setContentType(CONTENT_TYPE);  
26         PrintWriter out = response.getWriter();  
27         double freeMem = Runtime.getRuntime().freeMemory();  
28         double totalMem = Runtime.getRuntime().totalMemory();  
29         out.println("deal");  
30         out.println("<head<title>JVMVersion</title></head>");  
31         out.println("<body bgcolor=#ffffff>");  
32         out.println("<h3>System properties.</h3><br><b>Total system free memory: " +  
33             freeMem + " (bytes)<br><b>JVM free memory: " + totalMem +  
34             " (bytes)</b>");  
35         out.println("<table border=0 cellpadding=4 cellspacing=1>  
36             + "<tr bgcolor=black<td><b><font color=white>Property Name</font></b></td><td><b><font color=white>Value</font></b></td></tr>");  
37  
38         Properties properties = System.getProperties();  
39         String tapStr = null;  
40         for (Enumeration e = properties.propertyNames(); e.hasMoreElements(); ) {  
41             tapStr = (String) e.nextElement();  
42             out.println("<tr valign=top<td bgcolor=silver> " + tapStr +  
43                 "</td><td bgcolor=lightyellow> " +  
44                 properties.getProperty(tapStr) + "</td><s></tr>");  
45         }  
46         out.println("</table>");  
47         out.println("</body></html>");  
48         out.close();  
49     }  
50 }
```

```
000000101010100000000000010100000101000000100100001000100010010101010101  
01010100100100000000000000000000000000000000010000000000000000011010000  
000000000000000110100000000000000001010100000000000000000011110000000000  
000000000000000000000100001110001100001100010000000000001100100001101000110001  
10000110101111011110111101111011110000000000000000000000000000000000001  
0000000000000000000000000000000000000000000000000000000000000000000000001  
000000000000000010000110000110000110000110000110000110000110000110000100  
0000000110001000011000000000000001100110000000000011000100001100000000110  
001100000010000000100000010000010000010000001100000001000010000000110000  
000100010000000010000001000001000000100000010000001000000000001000000  
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11100000000101000001101100100000010000001111001000001010000011000000100  
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010101001110000000010101010000000000000101000000000000111110000000000  
00000111111100000000001100000011000000001100000000011000000011010000  
000001011000001001100000011001100001000100000010100001000010010001001000  
100000001000100010000000001000100010000000000100010000000001000000000  
001001010000000001110011110100111000
```

Forms of legal protection (IPRs)



Forms of legal protection (IPRs)

Authorship
↓
Rights over creations

Industrial property

Devices, procedures,
methods, signs

INVENTIONS

- Patents
- Utility Models

Tradenname/Signs

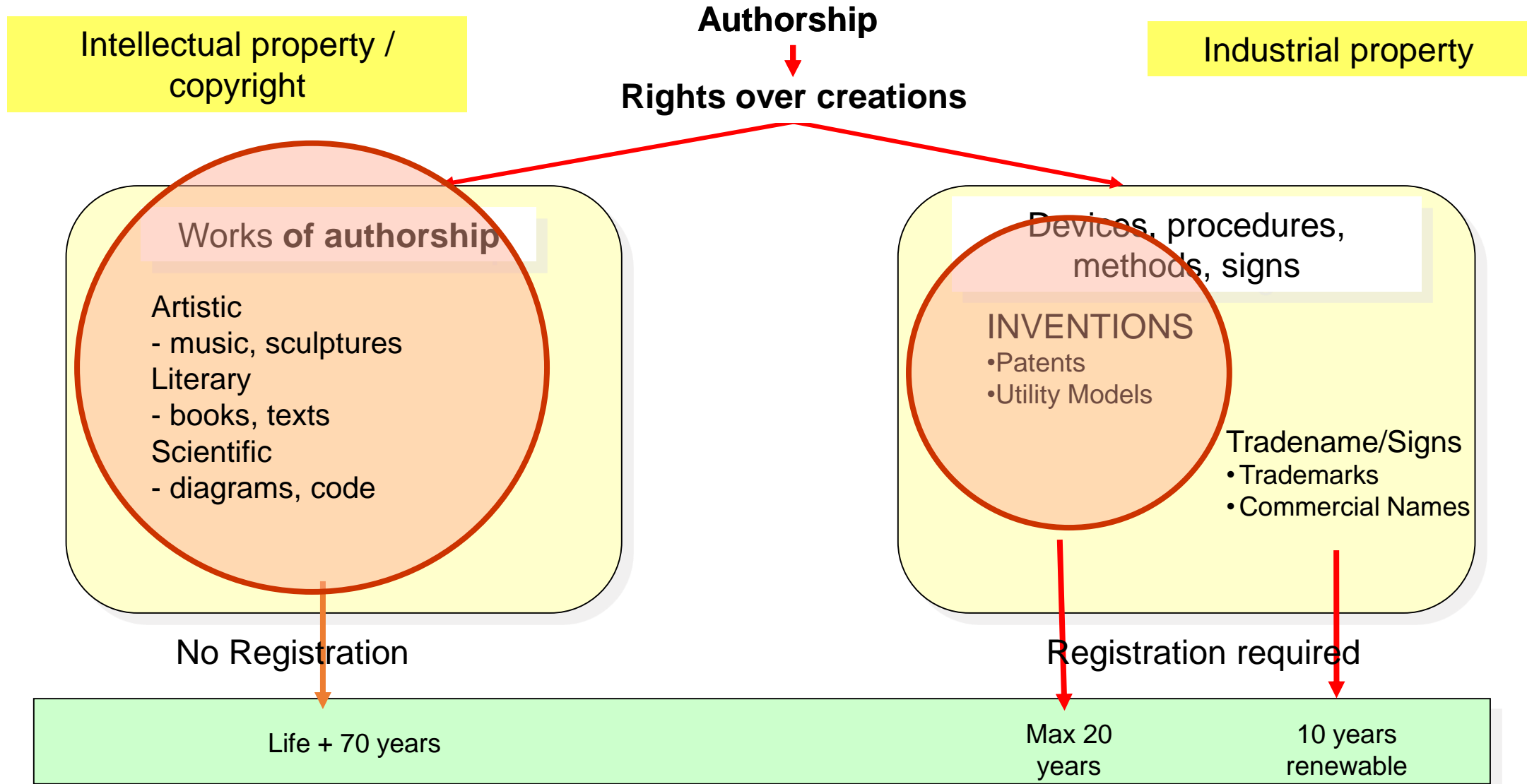
- Trademarks
- Commercial Names

Registration required

Max 20
years

10 years
renewable

Forms of legal protection (IPRs)



Copyright Protection

What gets protected by copyright?

- “Artistic, literary and scientific works”
 - Anything **written**: books, manuals, articles, report
 - Anything “**designed**”: paintings, sculptures, choreographies, UML diagrams,
 - Anything **recorded**: photographs, videos, audio (music, sounds)
 - Multimedia (e.g. website)
- **Software (all of the above)**
 - Any “series of instructions to run in a computer/device”
- **Data Bases**
 - Collections of structure, organised data

Basic principles: requirements

- **Requirements for protection**

- Created by humans (author)
- Expressed in media (physical, digital, etc.)
- Tangible or intangible
- **Original** (but fairly low level of merit)

- **Formalities?**

- No ... but registration and © are useful

- **Automatic:**

- International protection (WIPO treaties, etc.)

- **Term**

- ECD: 50 years from death of autor (national law: usually 70)
- Company production: 50 years from public disclosure (ídem)

Copyright rights

- **Moral Rights (not always):**

- Paternity (attribution)
- Publication (or not)
- Integrity / no prejudicial distortion
- Withdrawal

→ Perpetual, cannot be waived or transferred

- **Economic rights**

Reproduction (copying)

Transformation

Distribution

Public Communication (inc. internet distribution)

→ May be licensed, sold, assigned, mortgaged, etc.

→ Certain limitations (see later)

Copyright limits

- **Continental EU**

- General exceptions:

- Private copy (N/A to software), Teaching and research, Journalism (reporting), criticism, quotation, Non-commercial lending, Parody

- Software :

- Back-up copy,
 - decompiling for interoperability,
 - study of principles (reverse engineering),
 - modification to correct errors

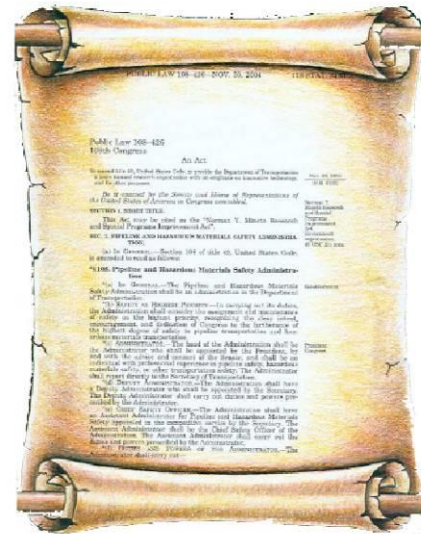
- **USA/UK**

- fair use or fair trading
 - Several criteria (similar result, wider)

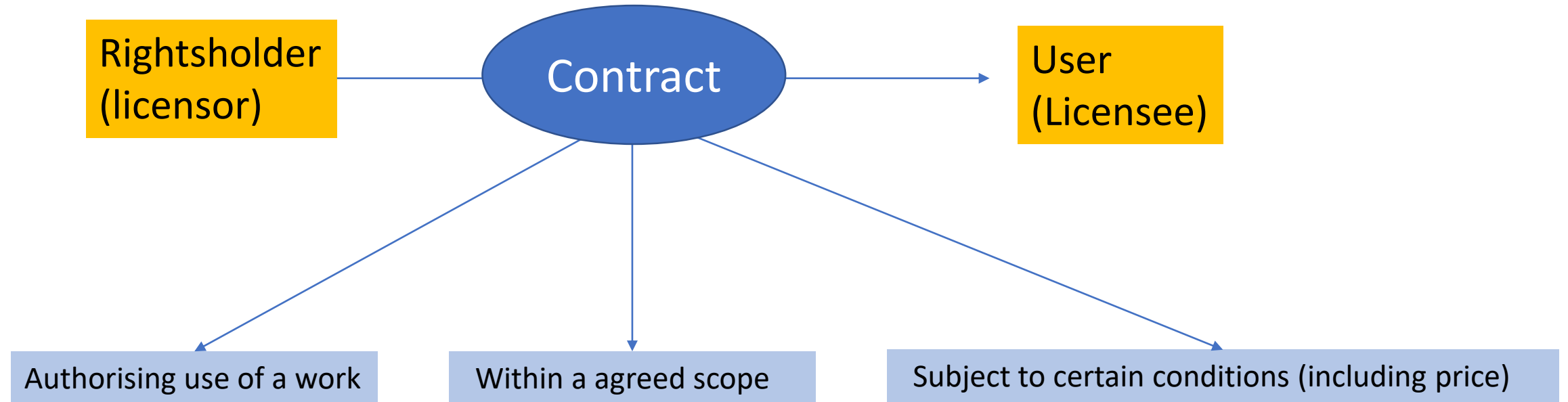
- **Conditions**

- must not prejudice the interests of the rightsholder and the normal use of the work

Now for the licensing bit



Licensing



Typical licence

- Conditions
 - Scope of work that is licensed
 - Territory
 - Time
 - Rights granted
 - Copy, transform, distribute, communicate
 - Warranties (limitation)?
 - Liability (disclaimer)?
 - PRICE
- Form
 - In writing
 - Signed / accepted by licensee



Traditional software licensing...

- Traditional / proprietary software license:
 - Binary distribution
 - Provides a rights to (install and) “use” the software
 - Restricts certain uses
 - Prohibits modifications
 - Difficult to transfer, if not prohibited
 - Does not allow access to source code
 - Limits warranties and liabilities
 - Requires payment of licensing fees according to determined criteria (number of users, data processed, CPUs, etc.)
- “*Closed source*”, for commercial reasons
 - Revenue stream: licensing fees/royalties (ROI) – need to restrict client copying and improvements
 - Control of support and evolution

Free Software licensing



Free Software Manifest (1989)

1. *The freedom to run the program, for any purpose.*
2. *The freedom to study how the program works, and adapt it to your needs (access to the source code).*
3. *The freedom to redistribute copies, so you can help your neighbor.*
4. *The freedom to improve the program, and release improvements to the public, so that the whole community benefits.*

<http://www.fsf.org/philosophy/free-sw.html>

Open Source Initiative (OSI) is a non-profit organisation that “certifies” OSS licences: compliance with the Open Source Definition.





Free Software and Open Source licensing

- Different approaches to the same thing (legally)
 - Free Software Foundation
 - Open Source Initiative



- Free software licenses must guarantee the 4 freedoms
- For real lasting freedom:
COPYLEFT



- Practical approach to development and licensing
- Access to source code
- 10 criteria that match and extend the 4 freedoms

What is Free and Open Source Software?

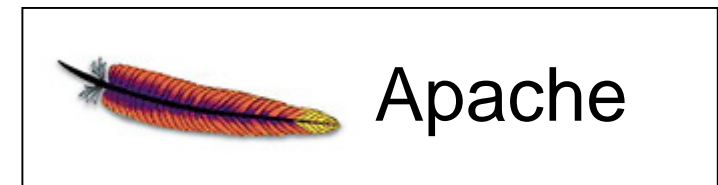
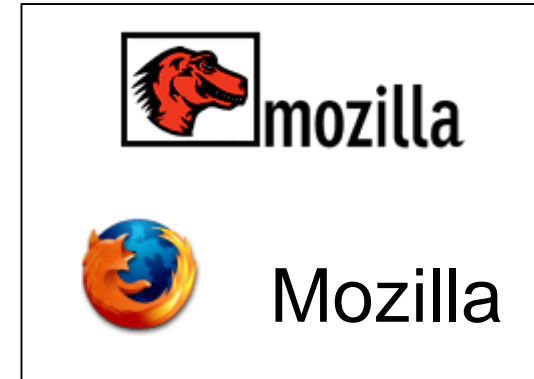
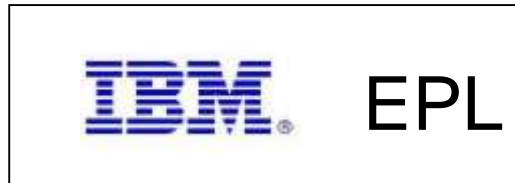
Software distributed under a FOSS license

- “Free” as in freedom (set out in the license)
 - Freedom to use
 - Freedom to transform, adapt, customize
 - Freedom to distribute and share
 - But also free as in no license fees (usually)
- “Open” as in access to source code

Contrast:

- with Proprietary/Closed source licensing
- not with “commercial” software, as FOSS can be commercial

FOSS licensing




70 other...

Anatomy of FOSS licenses

Many different “FOSS” licenses

- Common elements: “*Some rights reserved*”
 - Grant of rights: the license permits
 - **Reproduction**, installation, use
 - **Transformation** (including re-engineering and decompilation, etc.)
 - **Distribution** and public communication (or equivalent)
 - Attribution of authorship / keep copyright notice
 - Warranty and Liability disclaimers
- Distinguishing features
 - Certain obligations on redistribution
 - Permissive (no material obligations)
 - Copyleft (see next)
 - Other: patent grants, termination procedure, additional rights, etc.

Open Source Initiative



open source initiative

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Licenses by Name

Submitted by Michael Tiemann on Mon, 2006-09-18 12:56. ::

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User Login

Username: *

Password: *

[Log in](#)

Example license: BSD

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Particular characteristic: Copyleft



- Objective: **keep the code free!**
 - Implementation: license conditions on redistribution
- Example license: GPLv2
 - *“2(b) You must 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.”*
- Impact:
 - Redistribution of the code and derivative works **under the same license**,
 - Source code must be shared downstream

Not the opposite of copyright – use of copyright law for protection and imposing conditions on redistribution.

6 most common licenses cover over 90% of FOSS projects
About 75% use a copyleft license (around 50% are GPL)

GPLv3

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Version 3, 29 June 2007

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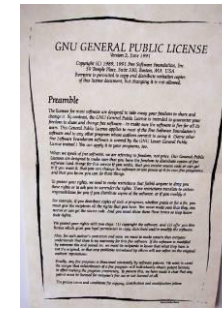
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AND 6 MORE PAGES

Summary: Permissive licenses and Copyleft licenses

Permissive licenses

- “Academic” origin
- No substantive restrictions on use
- Examples
 - BSD
 - MIT
 - Apache Software license
- Main requirement is to maintain the copyright notice and disclaimer

Copyleft licenses

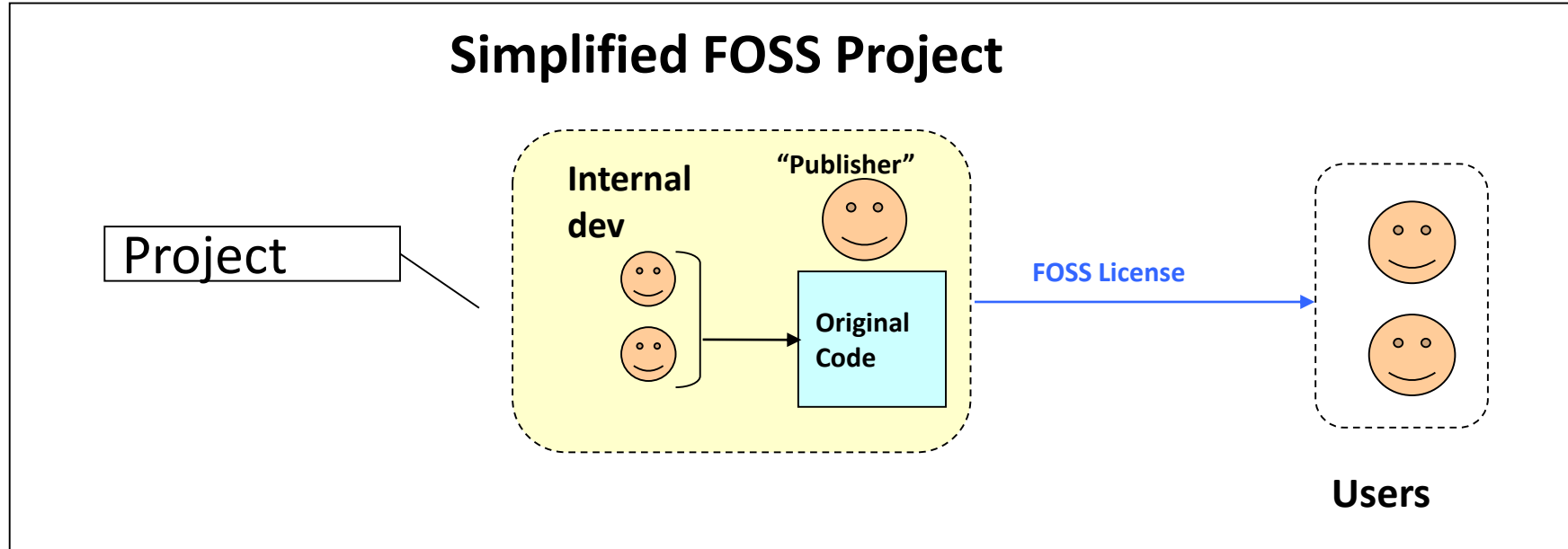
- “Weak” copyleft
 - Ok to incorporate or use in a larger work under different license terms, but the core remains under the same license
 - Examples are LGPL, MPL, EPL
- Strong copyleft:
 - Redistribution of the work + “works based on the program” must be under the same license
 - Examples are GPLv2, GPLv3, AGPLv3

FOSS Licensing Models

Type	Characteristic	Licenses	Examples
Permissive	No restrictions on reuse / redistribution Derivatives / Compilations may be closed	BSD, MIT, Apache 2	Android, Apache webserver, Open Stack, PHP, Ruby
Weak copyleft	Only copyleft on the original core code, not on extensions or composed works using the code	LGPL, MPL, CPL	JBoss, Mozilla, LibreOffice, Joomla
Strong copyleft	Copyleft on all the redistributed work, including derivatives and composed works	GPL2, GPL3, EUPL	Linux, Asterisk, the GIMP, MySQL, Drupal, MediaWiki

What are the implications of all this?

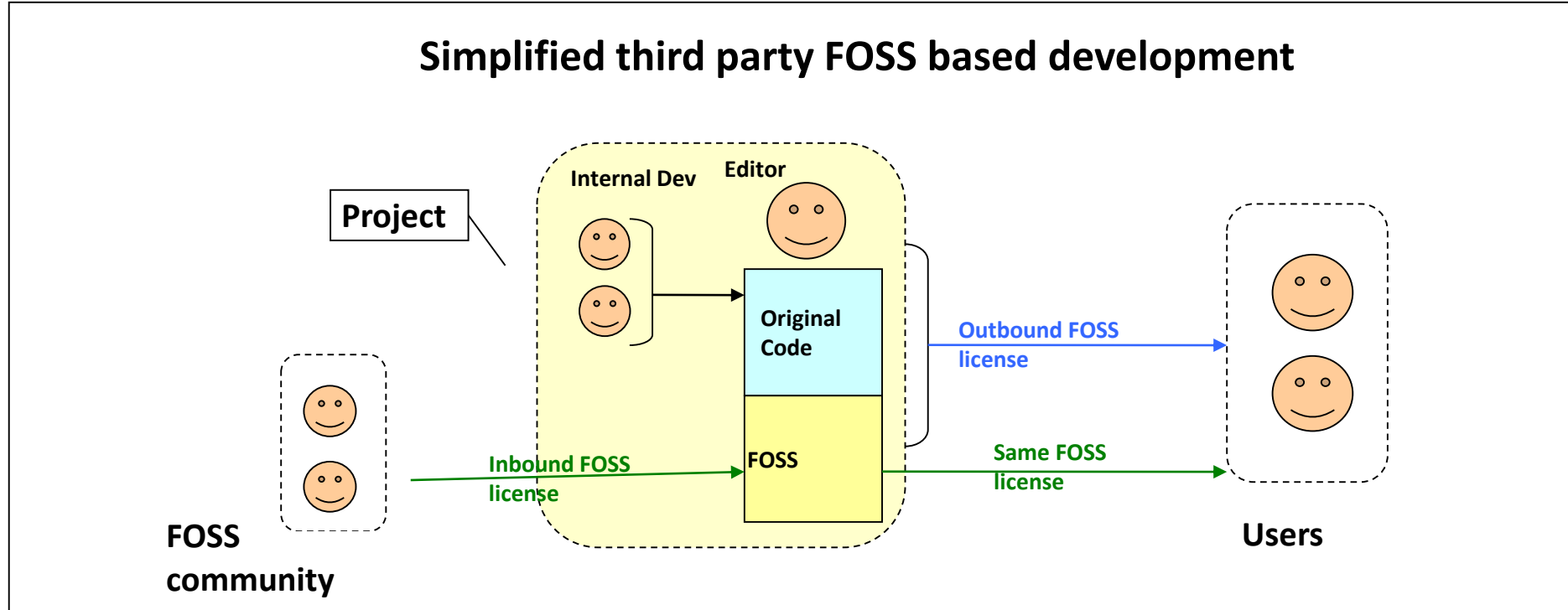
Simple FOSS project



Topics:

- Ownership of code
- FOSS License choice
- Trademark?
- Online distribution

FOSS Project with third party (3P) FOSS

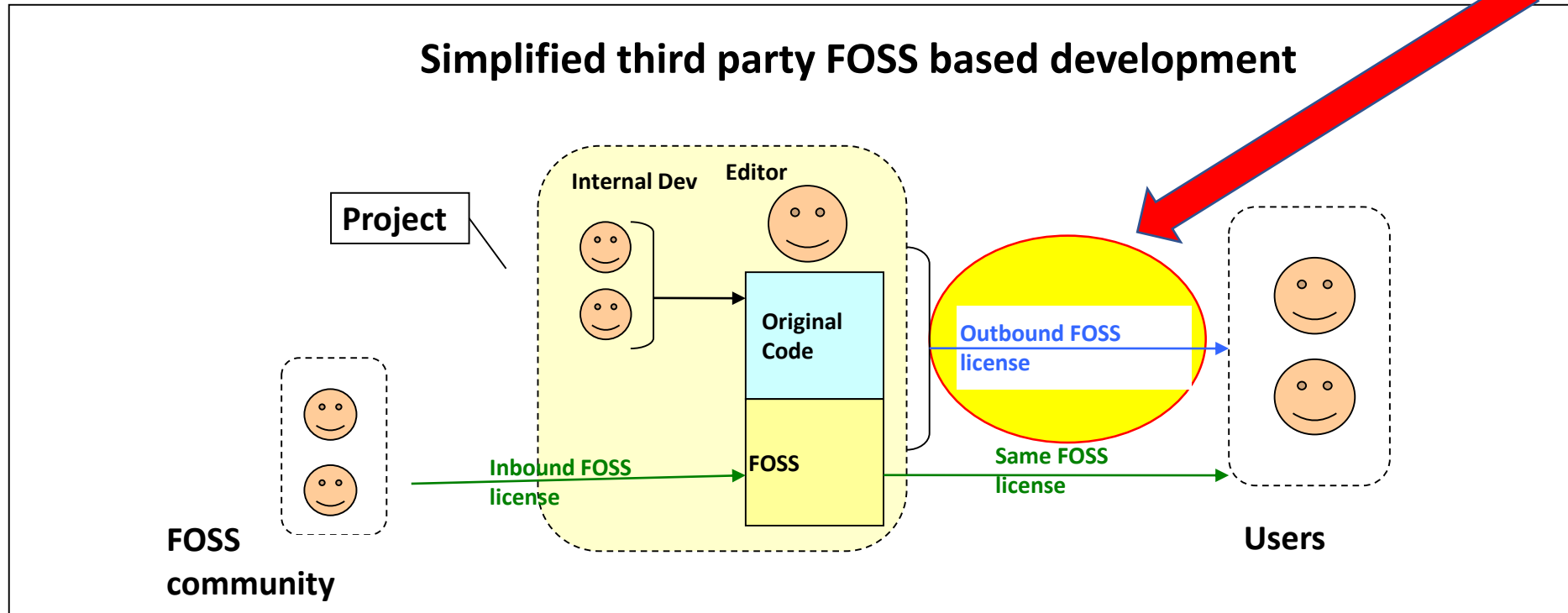


Temas:

- Ownership (internal)
- Ownership (3P components)
- Compatibility of components
- Comply with inbound license obligations
- License choice
- Trademarks
- Online Distribution

FOSS Project with third party (3P) FOSS

The Copyleft issue and the Compatibility issue



Temas:

- Ownership (internal)
- Ownership (3P components)
- Compatibility of components
- Comply with inbound license obligations

- License choice
- Trademarks
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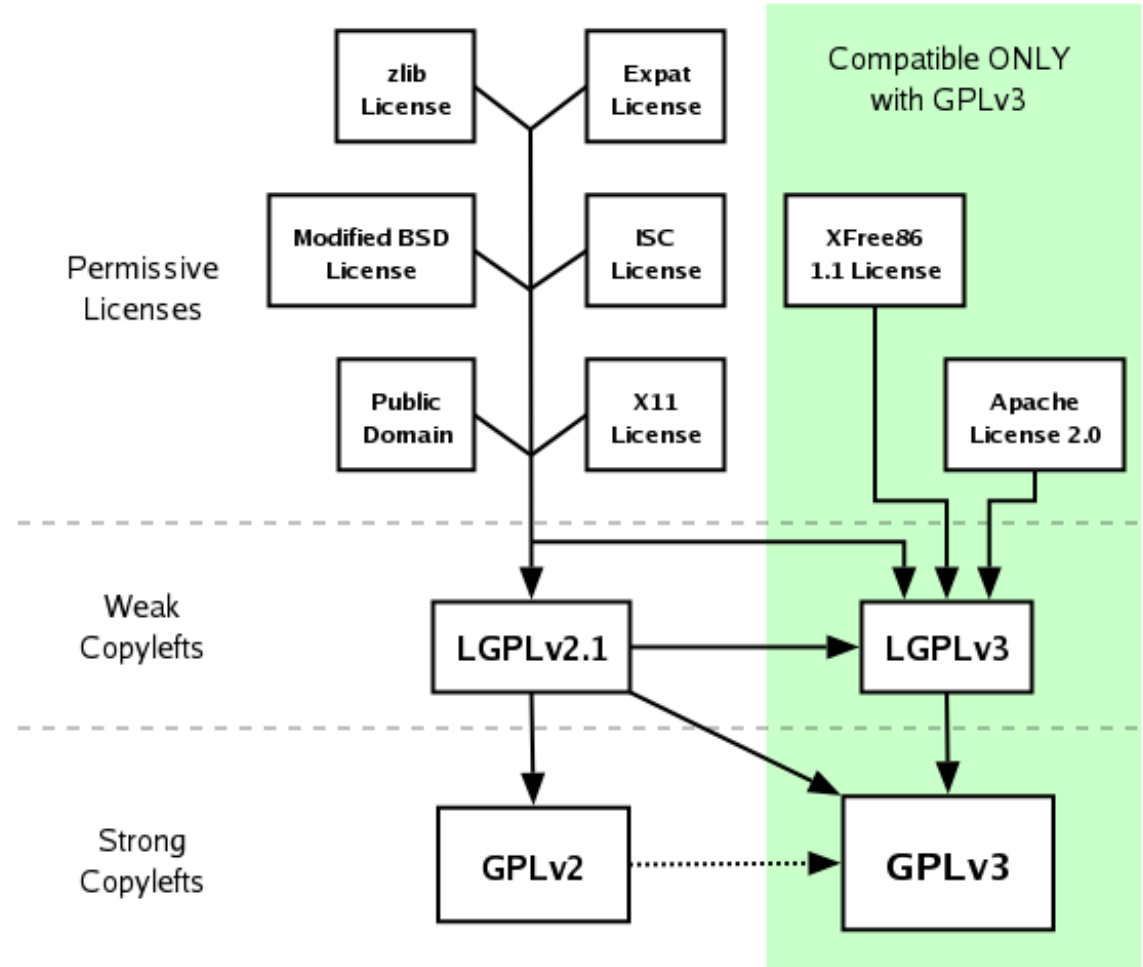
The **copyleft** issue

- Always covers the **original** copyleft code (library, database, database connector, etc.)
- May cover
 - Works that integrate the code as a compiled library → the library and the **rest of the work**
 - Works that “use” the code as an external dependency → the library and **MAYBE the rest the code**

The **compatibility** issue

- If two components are integrated together...
 - Permissive licenses will always be compatible together
 - Permissive licenses will be compatible with other copyleft licenses (usually)
 - **BUT Two different copyleft licenses will often be incompatible (but not always)**
- Often, you cannot distribute “the work” (your new code) under BOTH copyleft licenses
- Unless this is expressly authorised (see MPLv2, AGPL)
- So, you need to check compatibility and **use a compatible license**

License compatibility issues: The GPL family



Source: GPL FAQs; fsf.org

Managing software IP protection → 4 main areas

INBOUND:

License analysis and compatibility – what licenses cover the code I am using ... Are they compatible?

OUTBOUND:

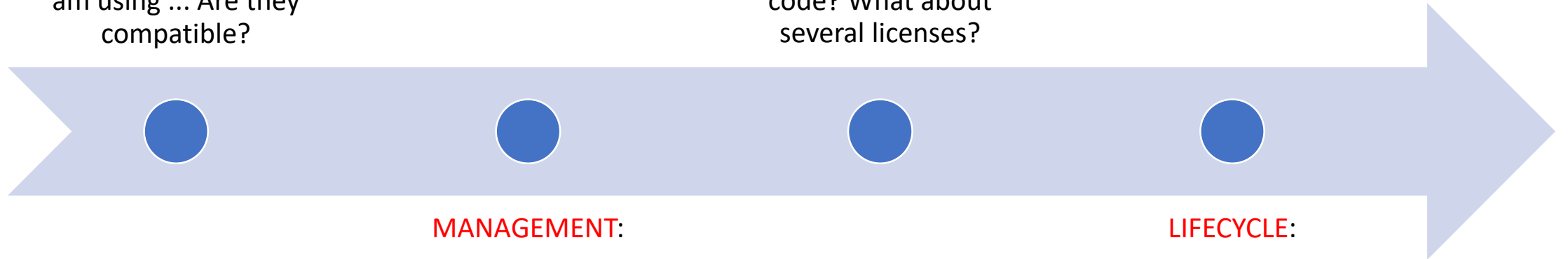
License selection – what license do I want for my code? What about several licenses?

MANAGEMENT:

License compliance

LIFECYCLE:

Changing a license



Thanks for listening!

malcolm bain

lawyer

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