



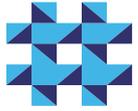
**Estonian Information
Technology College**

Computers and Laws II: Software and Content Licensing (plus some stuff behind it)

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SPEAIT 2016/2017**

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Software

- Long, long time ago... software was freely available
- Last ~20 years of the XX century: strict licensing as the only option visible for ordinary users
- Millennium or so: a new kind of software emerges 'from somewhere on the Net'
- Future?
 - Super-regulated and strictly proprietary software scene
 - Peaceful coexistence (something alike to Creative Commons)
 - Open source will prevail – closed, proprietary applications remain a niche market (mostly turnkey solutions)



Proprietary vs FLOSS

- Proprietary – software distributed as a product under well-defined, strict licenses (but not necessarily for money!)
- FLOSS (Free/Libre and Open-Source Software) – distributed under equally well-defined but more liberal licenses (usually only stating authorship), as a service rather than a product and usually (but not always) for free



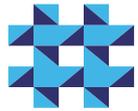
A glance back: Yabba Dabba Doo...

- Like in primitive societies, the scarce resources remain in commons
- Elitary
- No market existed
- Counterculture
- Military => no place for generic business



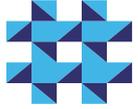
Back then, everything was large

- The first commercially used computer - UNIVAC 1948
- Software as an utility, not a separate product (ct spare tire)
- Large and expensive => only large companies or government-funded research facilities could afford
- Unix: AT&T 1969 – first (more or less) portable software; branched into AIX/HP-UX/SunOS etc – but remains large
- 80s bring a change: “Dudes, make your own money!”



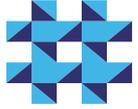
William Henry Gates III

- 1972: Traf-O-Data (Lakeside, Seattle) - Bill Gates and Paul Allen
- 1973: Bill goes to Harvard and drops out soon (too much computers and poker)
- 1974: MITS Altair. Bill and Paul found Micro-Soft
- 1975: Altair BASIC, the first widespread proprietary application. “Open Letter to Software Hobbyists” - proprietary software born together with *warez*



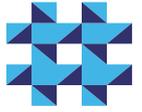
Playing dirty?

- Accused through the history. Eric S. Raymond:
 - *MS-DOS – bought or stolen (Tim Paterson, QDOS).*
 - *PC1 BIOS – stolen (almost bit by bit identical to Gary Kildall's CP/M BIOS)*
 - *Windows GUI - copied (bad clone of Apple Lisa)*
 - *Disk compression - stolen (Stac Electronic)*
 - *Internet Explorer - bought or stolen (depends who to believe; Spyglass)*
 - *And this is just the beginning of the list*
- Envy? Or facts? ...



Golden years of Microsoft – part 1

- 1981: IBM PC. MS obtains QDOS
- Bill Gates licenses MS-DOS to IBM
- 1983/84 Apple Lisa ==> Windows
- 1990: Windows 3.0 (and 3.1/3.11)
- Conquering the market



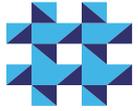
Why?

- Very good at catching the moment
- The first to target “the ordinary user”
- Risky, legally borderline style of marketing
- More or less defined the current proprietary software licensing



The first setback

- Several factors that challenged the position of MS in early 90s:
 - Internet moves within reach for everyone
 - Source of *warez*
 - *Old-school ideas of software surface again*
 - *People learn that there is more than MS*
 - *Missing the early momentum of the Web*
 - *Alternative players start to appear*
 - *Growing interest of anti-monopoly forces*



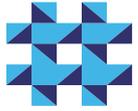
FSF, GNU and Linux

- 1984: Richard M. Stallman founds FSF with a goal to develop GNU (Gnu's Not Unix), a free alternative to Unix. Does not fully ripen but develops a lot of useful software (the GNU utilities) and, most importantly, the GNU General Public License
- 1991: Linus Torvalds releases the first version of Linux kernel (“just a hobby”) that soon moves to the GPL – the beginning of FLOSS



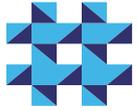
The original Browser Wars

- 1994: Netscape Navigator
- January 1995: 4 people develop MS browser
- July 1995: MS proposes division of the browser market, Netscape refuses
- MS acquires Spyglass and develops IE out of it, using a lot of power play to get rid of the competitor. The wars end in 1997 with Netscape defeated and bought by AOL



Just a battle

- 1997: Netscape open-sources their prototype called Mozilla
- Result: alternate browsers developed fast, IE stagnates
 - Mozilla (+ Firefox, Galeon, Epiphany....), Opera, Safari, Konqueror
- The wars go on



Golden years of Microsoft – Part 2

- 1997: MS had won the first browser war, PC software market ruled by Win + Office
- IE tied to Windows ==> almost impossible to dethrone
- But then, Uncle Sam did not like it



Angry Uncle Sam and Halloween

- 1995: MS forced give up swallowing Intuit (a company making financial software)
- 1997: MS found guilty in monopolism (Windows + IE), 1 MUSD daily fines
- November 1998: An inner document leaks from Microsoft, pointing at Linux as a serious threat (as opposed to dismissal by official rhetorics) and suggesting (quite dirty) measures. The scandal that followed stopped MS marketing campaigns for half a year



The Halloween Documents

- By Vinod Valloppillil, a then-engineer of MS
- Sent to the top management
- Warns of Linux as a serious contender, due to immunity to MS market strategy
- Existing measures ineffective, suggests “embrace, extend and extinguish” and massive propaganda (incl. baked data and bought studies)
- <http://www.catb.org/~esr/halloween/>



Net and .NET

- Two different worlds
- For now, Internet is common
- How long?
- Big companies, long experience in software business and the army of lawyers vs the synergy of Internet
- Developers vs lawyers
- We'll see...



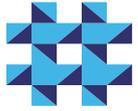
Software licensing in a glance

- Proprietary software
 - Commercial proprietary software
 - Shareware
 - (proprietary) freeware
- FLOSS
 - Free Software
 - Open-Source Software



Free as in freedom, not as free beer (R. Stallman)

- Not separated by money – RHEL takes money, IE/Edge does not)
- The point is in user freedom



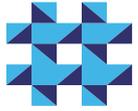
Commercial proprietary

- Detailed licenses with as little rights conveyed as possible by EULAs. Most of Windows and OSX, some Linux (has made a comeback with Steam)
 - Two trends: license packs (wholesale) allow more flexibility, but EULAs go more strict and intrusive
 - Main use: professional applications (e.g. CAD, business graphics and multimedia), games. Two earlier bastions (office and development tools) are shaking
 - Product support and warranty are promoted as an essential part of the deal



Shareware

- Freely copied “try before you buy” software (typically around 2-4 weeks). After the period, one should either stop using or register. Types include
 - Adware (not malware with the same name) – shows ads in the unregistered form, registering gets rid of them
 - Nagware – constantly reminds, sometimes slows down using
 - Crippleware – disables some important functions (e.g. saving the work)
 - Demo/trialware – cut-down versions of large commercial applications
- Main use: small apps, utilities. Support is sometimes still available



Proprietary freeware

- “Free at this moment”, may have limitations
- Main use: utilities; a big exception was IE (and later, MS Media Player)
- Different versions can have different licenses (old ones released as freeware)
- Some more interesting types:
 - “send me” software: postcardware, cokeware...
 - “Not free for Some Bad People” - army, psychiatrists...



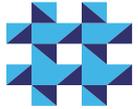
Another glance back: FLOSS

- In days of old, closing source code had no point
– every computer had its own software
- The issue started with Unix around 1969 and had matured by the emergence of Apple and MS
- 1984: Free Software Foundation
- 1989: GNU GPL (General Public License)
- 1991: GPL v2.0



Free Software vs Open Source

- *Free Software* – social and ethical standpoint: “free because it is a right thing to do”; closed source is an ethical problem
 - Richard M. Stallman and his school of thought
 - Free Software Foundation, <http://www.fsf.org>
- *Open Source* – more pragmatic, technological standpoint: “free because it makes more sense”; closed source is a suboptimal technical solution
 - Eric S. Raymond, Bruce Perens, Linus Torvalds etc
 - Open Source Initiative. <http://www.opensource.org>
- Two schools climbing different sides of the same mountain



Four freedoms (as stated by FSF)

- The freedom to run the program as you wish, for any purpose
- The freedom to study how the program works, and change it so it does your computing as you wish. Access to the source code is a precondition for this
- The freedom to redistribute copies so you can help your neighbor
- The freedom to distribute copies of your modified versions to others. By doing this you can give the whole community a chance to benefit from your changes. Access to the source code is a precondition for this



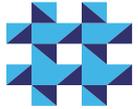
GPL: main points

- Starting point: authorship (thus, even free software makes use of copyright)
- Four freedoms of users
- Redistribution must retain data about previous authors, every contributor adds his/her own. Also to be added is the full text of GPL – the license “sticks”
- A couple of points:
 - No discrimination on usage
 - No need to disclose in-house changes if not redistributed



Often asked

- Can ask money, yet demands free distribution?
The model can actually work (books, music)
- Warranty and support exclusively stated as complementary services ==> most software distributed 'as is'. BUT: both support and warranty are essentially free market for everyone interested (connection to original author is not needed)
- SaaS - one can pay for support, know-how, certs, training, manuals, stuffed penguins...



Copyleft

- The license transfer clause
 - None: derived software does not have to share the original license (can also turn proprietary). E.g. X11, BSD, Apache
 - Weak: some derivatives do not have to pass on the license. E.g. GNU LGPL, MPL
 - Strong: license will go along with all derived works. E.g. GNU GPL
 - Extra strong: also covers the 'ASP loophole' or usage over networks (considered as redistribution). E.g. AGPL
- Some math: $0 + 1 = 1$
- A general principle: strong copyleft favours users (continuity of freedom), weak favours developers (more choice)



GPL 3

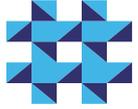
- Summer 2007
- Initially many opponents (incl Linus Torvalds), fewer by time
- Clauses against 'tivoization' and software patents (basically, if you use software under GPL 3 and proceed to enforce your software patents, the act invalidates the license)
- Better compatibility with other free licenses, but it remains an issue



A comparison

Commercial							
MS Shared Source	*			*			
Trialware	X	X					
Free for non-commercial use	X	X					
Shareware	X	X					
Freeware	X	X	X				
BSD/X11	X	X	X	X	X		
Apache	X	X	X	X	X	X	
GNU GPL	X	X	X	X	X	X	X
	Zero price	Can be copied	Unrestricted use	Open source	Source can be edited	Copyleft	Strong copyleft

* - applies in a very limited manner



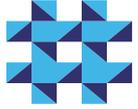
Free online content

- There is plenty of other things online than software
- Stallman proposed the Free Documentation License
 - Initial success (incl Wikipedia)
 - Criticism (legal ambiguities,, hard to understand)
- In 2002, Prof. Lawrence Lessig founded Creative Commons
- Main point: increasing use of free software principles within the existing legal framework



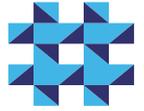
Main point

- Middle of the road
 - Traditionalists say “Copyright: all rights reserved”
 - Stallman says “Copyleft: all rights reversed”
 - CC says “Some rights reserved”
- Two goals
 - Allow the authors to license their work in a simple and flexible manner
 - To create a transparent and easily understood licensing system



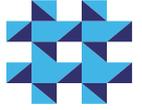
Simple

- A family of sometimes quite different licenses!
- The easiest way: go to <http://www.creativecommons.org> and answer a couple of questions:
 - Can your work be used commercially (yes/no)
 - Can others derive new works - three options:
 - Yes
 - Yes if they use the same license (copyleft!)
 - No
- In addition, the author has a chance to pick jurisdiction and the form of the work (photo, text...)



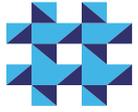
Three components

- Commons Deed - human-readable, 1-page summary
- Full license – lawyer-readable, usable at courts
- RDF/XML metadata



Seven main licenses

- CC Zero (0)
- CC Attribution (BY)
- CC Attribution-ShareAlike (BY-SA)
- CC Attribution-NoDerivs (BY-ND)
- CC Attribution-NonCommercial (BY-NC)
- CC Attribution-NonCommercial-ShareAlike (BY-NC-SA)
- CC Attribution-NonCommercial-NoDerivs (BY-NC-ND)



Earlier licenses

- Sampling Plus – partial free use, non-commercial use only for the full work
- NonCommercial Sampling Plus – only non-commercial
- CC Music Sharing \leq BY-NC-ND
- CC Wiki \leq BY-SA
- CC GNU GPL and CC GNU LGPL
- CC Founders' Copyright – 14+14 years
- CC DevNations – CC BY for developing nations (the World Bank list), strict © for others



CC in Estonia

- ... since 2010 – <http://www.creativecommons.ee>
- 6 main licenses harmonized with Estonian legal system:
 - Autorile viitamine (BY)
 - Autorile viitamine + jagamine samadel tingimustel (BY-SA)
 - Autorile viitamine + mitteäriline eesmärk (BY-NC)
 - Autorile viitamine + mitteäriline eesmärk + jagamine samadel tingimustel (BY-NC-SA)
 - Autorile viitamine + tuletatud teoste keeld (BY-ND)
 - Autorile viitamine + mitteäriline eesmärk + tuletatud teoste keeld (BY-NC-ND)



Some users

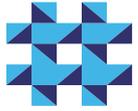
- Tech docs -. the Linux Documentation Project, <http://www.tldp.org>
- Generic, multi-language encyclopedia - Wikipedia, <http://www.wikipedia.org>
- Scientific publishing - PLoS, <http://www.plos.org>
- Open Education Resources - the MIT OpenCourseWare, <http://ocw.mit.edu>
- Textbooks - Free High School Science Texts, <http://www.nongnu.org/fhsst/>
- Records - Magnatune, <http://www.magnatune.com/>
- Photos - Flickr, <http://www.flickr.com>
- ...



...

- Publishing house – Lulu.com, <http://www.lulu.com>
- Library – Project Gutenberg, <http://www.gutenberg.org>
- Travel guide – WikiTravel, <http://wikitravel.org>
- Clipart – Open Clip Art Library, <http://www.openclipart.org>
- ...





For conclusion

- The 'intellectual property' approach is out of date
- The fight grows more intense and political – there is a danger that profoundly technological decisions will be increasingly made by politicians (more tinfoil to them!):
 - Technological incompetence
 - Hidden interests
- On the other hand, the only way to stop FLOSS is to ban it
- Hybridization of business models



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