

# Computers and Laws II

## Software and Content Licensing (plus some background stories)

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# Intro

- Recap from last week:
  - Two weird sentences in Latin
  - The WIPO universe (in particular, licenses and copyright)
- Software: free accessory => standalone product => ...
- The Internet Age: a lot of software with a wide variety of legal regulations is available online...
- ... and not just software (Scribd, Flickr, Slideshare, DeviantArt...)

# Do I have to pay for it or not?

- The typical question for most ordinary users
- Actually, the rights that are given to the user are equally important – so the better distinction would be
  - 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 (often only stating authorship), as a service rather than a product and usually (but not always) for free

# “Yabba dabba doo...”

- Long ago, in the Software Stone Age,
  - scarce resources remained in commons (just as in primitive societies)
  - software (and IT in general) was elitary, for the elect few
  - no market existed for software
  - many key people were influenced by counterculture
  - many IT projects had military connections => no place for generic business
- So they mostly purchased/rented software together with the computer

# The paradigm changes

- 1969 – for the first time, IBM sold software as a separate item
- AT&T started to license Unix to universities (v5; 1973) and companies (v6; 1975); access to source code started to get throttled
- 1979 – AT&T Unix v7, mostly closed source
- Mid-1970s – Apple and Microsoft born, both consider their software their property
- 1983 – IBM systems went closed-source; the *Apple vs Franklin* court case affirmed copyright as applicable also on compiled software (not just source)

# William H. 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*

# Golden years of Microsoft, Part I

- 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

# Some success factors

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



# The 90s 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

# First GNU, then 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

# Some factors

- There were Unix for large enterprise, Microsoft and Apple for smaller companies, but no proper hacker system for serious hobbyists, schools/universities and startups
- Overlapped with the first Web explosion – birth of online, community-based development models
- 1992-93 – three free BSD Unixes; 1995 – the LAMP bundle
- An “Internet server” started to mean a machine that was cheaper by an order than before

# The 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
- Netscape prototype called Mozilla open-sourced in 1997
- Alternate browsers developed fast, IE stagnated for 3 years (6.0)
  - the wars continued

# Golden years of Microsoft, Part II

- 1997: MS had won the first browser war, PC software market ruled by Win + Office
- IE tied to Windows ==> almost impossible to dethrone (later, the same was tried with MS Media Player)
- Uncle Sam (and later, EU) did not like it

# 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
- <http://www.catb.org/~esr/halloween/>

# 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 (including baked data and paid-for “independent studies”)

# Free vs proprietary: later developments

- Microsoft and Apple still largely rule desktop, Android (Linux kernel, largely free but includes proprietary stuff) rules on mobile devices, business servers are split, heavy iron runs on penguins (see [top500.org](http://top500.org)!)
- MS: Gates and Ballmer hated FLOSS, Satya Nadella is ambiguous (Azure, Codeplex, Linux Subsystem in Windows); MS is much more Linux-friendly, but still uses dirty tricks (OOXML, UEFI etc)



# Software licenses: an overview

- Proprietary software
  - Commercial proprietary software
  - Shareware
  - (proprietary) freeware
- FLOSS
  - Different accents:
    - Free Software (ethic

# Free?

- “Free as in freedom, not as in free beer” - Richard M. Stallman
- Not separated by money – RHEL takes money, IE/Edge does not)
- The point is in user freedom

# Commercial proprietary software

- Detailed licenses with as little rights conveyed to users 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 – FLOSS + Google/cloud!
- 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 hinders usage
  - 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 does sometimes exist

# Proprietary, zero-price (“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...

# 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

# The four freedoms (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

# GNU 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



# Things people ask

- 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 comparative table

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

# Online content

- There is plenty of other things online than software
- Proprietary content is 'business as usual' - but how is free content regulated online?
- 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

# The third way: Creative Commons

- Middle of the road needed:
  - “IP traditionalists” say “Copyright: all rights reserved”
  - Stallman jokes “Copyleft: all rights reversed”
  - Creative Commons suggests “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 steps

- 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...)

# CC Trinity: one license, three forms

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



# Commons Deed for CC BY-SA

# CC: 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

# In Estonia

- 2010, by the OER (Open Educational Resources) community
- 6 CC 3.0 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)

# Concluding remarks

- 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

# For further reading

- Web:
  - [wipo.int](http://wipo.int)
  - [creativecommons.org](http://creativecommons.org)
  - [fsf.org](http://fsf.org)
  - [opensource.org](http://opensource.org)
- *Free Culture* by Larry Lessig
- *Information Liberation* by Brian Martin
- + books by Eric v. Hippel, Paul Graham, Steven Levy, Yochai Benkler and others

**Thanks**