Some Legal Aspects of Research

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Law Basics

• Civil jurisdiction vs. criminal jurisdiction
• National law vs. international agreements
• Common sense vs. lawyers
• Some relevant aspects in research
  • Intellectual property rights
    • Copyright, patents, trademarks, licensing, ...
    • There is more ...
• No suitor, no judge
• Real legal advice comes from a lawyer
Intellectual Property Rights

• Protection of intangible assets of a (jurisdictional) person
  • Result of mental production
  • Protection of commercial rights (making money with it)
    • Comes into live after finishing with the patent office
  • Protection of copyright (to decide over the expression of the idea)

• Sources for regulations
  • National law
  • European law (treating a EU-foreigner as a native inhabitant)
  • International agreements (Bern agreement, TRIPS, ...)
Basic Terms

• Protective right
  • Absolute right with only national effect
  • Examples: trademark, patent, rights based on unique design, ...
  • Creates the right for a monopol --> conflict with competition law

• Subject of protection
  • Innovation to be protected, the intangible asset

• Bailee
  • Creator of the asset or his legal successor

• Beneficiary
  • Contract partner that gets usage rights for the innovation
Basic Terms

- Effect of the protective right
  - Exploitation activities only legal for the bailee

- Exhaustion of a protective right
  - Bailee can no longer refer to his protective right

- Licence agreement == usage agreement
  - Granting of a usage right in return of a reward (e.g. licence fee)

- Protective law
  - Granting of absolute exploitation rights in a limited time period
Protection Duration

• Example Germany
  • Based on yearly fee
    • 20 years for patents
    • 10 years for industrial designs
    • 25 years for pattern
    • Unlimited for trademarks
  • 70 years after death for copyright
Patenting Intellectual Property

- Ways to get a patent
  - National patent, european patent
  - International patent (patent cooperation treaty)
  - Administrative act - once valid, stays valid until termination
- Investigation of patentability is mandatory on EU and international level
  - Patent and non-patent literature (scientific articles, journals, ...)
  - Patent office databases, commercial offers (google.com/patents)
- Patentable asset = unique invention
  - Final product
  - Procedure (manufacturing method, working method)
Patents

• Properties of a true invention
  • Enrichment of technology and benefit for the general public
  • Must be finished, repeatable, usable, useful and doable

• Patentability of an invention
  • New; based on innovative activity; commercially exploitable

• Exceptions to patentability
  • Discoveries, scientific theories, mathematical methods
  • Plans and rules for commercial or mental activities, including games
  • Computer programs, excluding algorithms with technical character
Example: PGP

• RSA encryption algorithm for PKI covered by US patent until 2000
  • US version and international version
  • Led to implementation change by MIT („legal_kludge=on“)
• IDEA symmetric encryption algorithm covered by European patent
  • Runs out in 2011, free for non-commercial use
  • Demands licensing of PGP for commercial usage
  • Led to ElGamal usage in PGP 5, which is free of patents
• Distribution problem solved by splitting up algorithms and program
Patent Infringement

- Patent holder can resist against patent infringement (example Germany)
  - Sue for injunction action
  - Sue for compensation payment
    - Law violation
    - Guiltiness (intent, negligence)
    - Damage really exists
    - Causality (guiltiness -> law violation -> damage)
  - Warning letter („Abmahnung“)
- Territorial restriction
Software Patent

- Software is not patentable in Europe
  - European parliament dropped an intended directive in 2005
  - Hot discussions - example Xerox Labs (nosoftwarepatents.com)
  - Nearly 30,000 European software patents according to FFI
- Software is patentable in the US since 1980 (case law - Diamond vs. Dier)
  - Territorial restriction still holds
- **But**: For every software the copyright applies
  - Protects the specific piece of code, but not the underlying idea
- Examples: progress bar (IBM), LZW compression (Unisys), double click (Microsoft), electronic cart (Sun)
Ladybugs are very useful insects. They dispose of parasites. However, software patent litigators are far too large for them in general.

3. Tabs [CDs] [Films] [Books]: Tabbed palettes and restrict search – EP689133 and EP1131752
5. Get key via sms: Sending key to decrypt bought data via mobile phone network – EP1374189
7. Copy protection: Encrypt file so it can only be played on authorised devices – EP1072143
8. Credit card: Pay with credit card on the Internet – EP779587
9. Pay using credit card
10. Adapt pages: Generate different web page depending on detected device – EP1320972
12. Secure card payment: Secure online credit/debit card payment with PIN code – EP1218865
13. Send offers: Send offers in response to request – EP986016
14. Delivery: Ship items to the correct pick-up point of the used delivery service – EP1181655
15. Support system: Support system based on answers to questions – EP915422
16. Preview chapters: Use of TV as metaphor for selecting different video fragments – EP670652
17. Image: Reduce page loading time by automatically reducing image quality – EP992922
18. Related results: Show related results if customer likes the current ones – EP628919
19. Rebate code: Allow rebate codes to be entered by customers – EP929874
20. Web-to-Print: Generation of prepress formats or printouts from low resolution templates via the Internet – EP852359 and EP1169848

Webshop: Selling things over a network using a server, client and payment processor, or using a client and a server – EP803105, EP738446 and EP1016014

Order by cell phone: Selling over a mobile phone network – EP1090494

[CDs] [Films] [Books]: Tabbed palettes and restrict search – EP689133 and EP1131752

Picture link: Preview window – EP537100

Get key via sms: Sending key to decrypt bought data via mobile phone network – EP1374189

View film in Browser: Video streaming ("segmented video on-demand") – EP633694

Copy protection: Encrypt file so it can only be played on authorised devices – EP1072143

Credit card: Pay with credit card on the Internet – EP779587

Pay using credit card

Adapt pages: Generate different web page depending on detected device – EP1320972

Request loan: Automated loan application – EP715740

Secure card payment: Secure online credit/debit card payment with PIN code – EP1218865

Send offers: Send offers in response to request – EP986016

Delivery: Ship items to the correct pick-up point of the used delivery service – EP1181655

Support system: Support system based on answers to questions – EP915422

Preview chapters: Use of TV as metaphor for selecting different video fragments – EP670652

Image: Reduce page loading time by automatically reducing image quality – EP992922

Related results: Show related results if customer likes the current ones – EP628919

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Copyright on Intellectual Property

- Legal concept implemented by national laws
  - One of the intellectual property rights, originated in printing
  - Relates to any expressible form of idea
  - Anglo-american version vs. European version
- Give the creator of original work exclusive rights for it
  - Always a natural person, regardless of age
  - Lasts between 50 and 100 years after dead
- Covers the expression of an idea, not the idea itself
- Protects the rights of the creator, but no blockade effect as with patents
  - Ensures adequate compensation, exploitation rights and creator rights
Copyright Effects

• Creator rights
  • Publication right (IF and HOW)
  • Right on acknowledgement of creator-ship
  • Right to prohibit distortion of original work

• Exploitation rights
  • Exhibition, duplication, dissemination, broadcasting, presentation, publication, sending, second use

• All rights are transferable by legal contract

• Creator-ship is not transferable in Europe (employee contract)
  • Aside from software
Copyrighted Material

- Spoken work
  - Literature work (poems, plays)
  - Scientific, technical and practical written work
  - Computer programs (including design-time material)

- Music work, pantomimic work, art work, photo work, movie work

- Industrial designs: Cars, machines, ....

- **Research**: Papers, books, thesis's, drawings, diagrams, fonts, ...
  - Taking parts of other peoples work is by default a crime
  - Fair use doctrine relaxes this
IEEE Copyright Form

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Limits of Copyright (Germany)

- Creator rights can be restricted in some situations
  - Public safety
  - Public information
    - Public speeches, newspaper articles, radio comments, ...
  - Public play for social events and reasons
  - Public access for teaching and research
  - Copying for private use (e.g. learning efforts)
- However: does not free from some basic obligations (citation, minimum compensation)
Copyleft

• Form of licensing, based on copyright rules
  • Allow reproduction, adoption, and distribution of authors work
  • Licence gives each person the authors freedoms
  • Feature of some of the free software licences (GNU GPL)
• „Weak copyleft“ free software licence (Mozilla Public licence)
  • No all derived works inherit the copyleft licence
• Non-copyleft free software licence (Apache licence, X11 licence, BSD licence)
  • Freedom to create proprietary software from it
Example: Free Software

Free software is a matter of liberty, not price. To understand the concept, you should think of “free” as in “free speech,” not as in “free beer.”

Free software is a matter of the users' freedom to run, copy, distribute, study, change and improve the software. More precisely, it refers to four kinds of freedom, for the users of the software:

- The freedom to run the program, for any purpose (freedom 0).

- The freedom to study how the program works, and adapt it to your needs (freedom 1). Access to the source code is a precondition for this.

- The freedom to redistribute copies so you can help your neighbor (freedom 2).

- The freedom to improve the program, and release your improvements to the public, so that the whole community benefits (freedom 3). Access to the source code is a precondition for this.
Law Problems with Free Software

• Software patents
  • Publisher of free software already gave up his rights - safe usage
  • But: Free software might use patented code

• Copyright
  • Also free software must consider other peoples copyright
  • Example: Mono framework

• Free software licence is still a licence
  • Violation as any other law case (gpl-violations.org)

• Difference between free software and open source
Example: Open Access

- Group of initiatives for free, immediate, permanent, full-text online access to scientific and scholarly material
  - Limited copyright and licensing restrictions
- Concept is clear, but economics remain unsolved
  - Self-archiving (reliability, economics)
- Either keeping own public copy of document, or submitting to OA journal
  - www.doaj.org
- Discussion about mandatory OA publishing for funded governmental projects
  - Government would directly influence market competition (competition law)
- Original creator decides upon the licence - Creative Commons
Example: Creative Commons

- Non-profit organization founded by Lawrence Lessing
  - Publishes different licences which restrict only some (or no) aspects
  - Mostly specific to US jurisdiction
  - Highly debated in the community
  - Copy, distribute, display, and perform rights for material
- Creators set conditions, which lead to appropriate licence
  - „Attribution“ in the way the originator requests
  - „Noncommercial“ purposes only
  - „No derivative works“, only verbatim copies
  - „Share alike“ distribution of derivative work
Example: Plagiarism

- Plagiarism == theft of intellectual property
  - In science already with paraphrasing (in contrast to literature)
  - Document itself makes no crime, but the copyright of the original
- Stronger than misuse of sources (carelessly or inadequately citing ideas)
- Challenges [Purdue OWL 2007]
  - Develop text on what have being said, but write something original
  - Rely on experts and authorities, but improve and/or disagree with them
  - Give credits to researchers before you, but make own contribution
  - Build upon what you hear and read, but use your own words
Plagiarism in US Law

• U.S. copyright laws - use another’s original words as your own
  • Protection of intellectual property (original ideas and information)
  • Excludes compilations of available information, government work or work in the public domain („common knowledge“)
  • (C) symbol mandatory until 1989
  • Amount of material is not relevant for copyright violation
  • „Fair use“ laws allow usage with proper citation
    • Nature of use (copy vs. transform), amount, effect of use on original
  • Possible penalties: $100 - $50.000, one year in jail
  • Intention doesn‘t matter, but „good faith defense“ is allowed
Referencing (Conny Johansson)

- Avoid plagiarism
  - If you use ideas, thoughts, words, figures, diagrams, results and so on from others you must tell where you got it from!
  - Plagiarism is a serious academic offence and a copyright violation
  - Cultural difference is no excuse!!!
  - Plagiarism will result in grade *Fail* and can be reported
- Use quotes sparingly. Too many quotes will result in *Fail*
  - If I want to read what others have said, I’ll read their articles!
  - You should present your interpretation of what has been said
Referencing (Conny Johansson)

• **Citing** when presenting **content**

  • A *further potential problem is that stakeholders tend to think that everything is critical* [1][2].

  • As shown by [Johansson et al. 2001] different stakeholders tend to have different views of the importance of various quality requirements for a system.

  • *When involving other aspects, such as cost, customer can change their mind and high priority requirements may turn out to be less important if they are very expensive to satisfy* (Ruheet et al. 2003).

• **Quoting** when directly copying from **another source**

  • “The hardest single part of building a software system is deciding precisely what to build. […] No other part of the work so cripples the resulting system if done wrong. No other part is more difficult to rectify later”[5]
Summary

• Intellectual property rights ensured by national laws
  • Copyright, patents, trademarks, ...

• Copyright violation is a criminal activity
  • Civil jurisdiction - Compensation payments
  • Criminal jurisdiction - Prison (e.g. up to 5 years in Germany)

• Beside law aspects, scientific community is picky about the topic
  • Citing and quoting best practices are described everywhere
  • Your teacher was a student, too

• Other law aspects in research not discussed here
  (ethics, disaster avoidance, computer fraud and abuse, ....)