CS207 #6, 4 Nov 2011

Gio Wiederhold
Gates B12
Homepage at
https://cs.stanford.edu/wiki/cs207/Main/HomePage
Syllabus:

1. Why should software be valued?
3. Open source software. Scope. Theory and reality
4. Market value of software companies.
5. Intellectual capital and property (IP).
6. Life and lag of software innovation.
7. Sales expectations and discounting.
8. Alternate business models.
10. Patents, copyrights, and trade secrets. Licensing
11. Separation of use rights from the property itself.
12. Risks when outsourcing and offshoring development.
13. Effects of using taxhavens to house IP.
IP Protection

• Intellectual Capital
  all intangibles that contribute to non-routine returns
  ➢ People: “Operational capital” hard to protect
  ➢ Intellectual Property
    ▪ Should be protected against misappropriation
      a) Patents
      b) Copyright
      c) Trade Secret
    ▪ All can be
      o Sold gone to someone else
        • if you cannot use them profitably
      o Licensed specified rights to the IP box are rented
        • Sales of a product in Europe, Japan
Overview IP protection

1. Patents
   - Use only if the invention is visible in the product
   - Or use to hinder others .... “blocking patents”

2. Copyright
   - Protects source code and chip masks
   - Not the underlying ideas

3. Trade Secret
   - If it can be kept secret, best choice
   - Must be defended: NDAs, action when violated
Trade secret

• Origin in Roman law: *Actio servi corrupti*
  - Bribery, kidnap of servants/slaves to divulge secrets
  - Guilds in the middle ages protected their secrets
    » watchmaking, black-cloth dying,

• Also applies to marketing schemes

• Supported by Agreements +for company / +for employee?
  - Non-disclosure agreements
    o Employees, Consultants, Contractors, Customers, Tax officials
  - Invention assignment agreements to cover
    o Invent for hire, invent using resources, invent independently
  - No-compete agreements (limits differ by state: CA↓ MA↑)
    o Even covering one’s own inventions, but not routine knowledge
    o Are limited in time (3 months to 3 years), but deceit is a violation

• Must be defended when a violation is known
Trade secret and SW

• Reverse engineering of public SW is legitimate!
  ▪ Unless copyright is violated – masks, code
  ▪ Threats in the fine print that is ignored by most

• Getting a patent invalidates the trade secret
  ▪ Patents invite trolls

• Determining loss of trade secret is hard
  ➢ Code and Documents in hand of thief
    ▪ Often voluminous
    ▪ Having labeled documentation helps greatly
      o ‘company confidential’
      o Tracking of documents and document copying
      o Meetings in room without personal, but corporate recording

• Prosecution is hard
Protection by trade secrets

Covers majority of IP value in modern companies

- Period of usefulness is limited in practice
  - ... but adequate given its simplicity versus patent, copyright
- Reasonable practice is hard to convey
  - Discussion important when hiring
  - Don’t push legal Gooblydook
  - Contracts should not infringe employee mobility / betterment
Convey benefits to your staff and contractors

Contracts should not infringe employee mobility / betterment

- Doctrine of `inevitable disclosure’ even without a non-compete contract
- State laws differ: California supports mobility, leakage; Midwest less so
  - Dishonesty or aggressiveness on either side makes a difference. Use facts.

- Legalistic NDA forms make enforcement awkward
- Brief summary and discussion with signer should be routine
- Exceptions should be possible: student intern vis-à-vis professor
- Do not hire employees based on loyalty vs. smarts
  - Pay for loyalty commitments as well as for smarts
    - Employee should receive a comparable benefit for signing a restrictive covenant, arrange such a parachute at hiring, don’t wait for the termination.
Copyright

• To defend your work you must show the violation
  ➢ Substantial code must match precisely
  ➢ automatically derived code is protected as well
    ▪ Binary versions are protected, even if they differ
    ▪ Changes of variable names don’t invalidate copyright
    ▪ Damage awards depend on loss sustained

• Recoding the embodied concepts is not protected
  ▪ Feasible for well defined tasks
  ▪ Difficult for large, diverse code
    o Fujitsu IBM case
Patent bundles

• Many – 100’s – patents are needed for many modern products.
• Negotiating with all the patent owners is much work and leads to costly total royalties ► 20% of cost of GSM phone
• Alternative – standard-specific patent organization ► UMTS for 3G
  1. Bundles all patents needed for a standard,
  2. Collects a global royalty from all manufacturers
  3. Reimburses all patent owners – keeps say 6%

Historical model: U.S. aircraft industry at the start of WW II

  without a patent pool no manufacturer could build good planes

• Bundles also used to negotiate among companies
• Still threatened by patent trolls

  East Texas district court

  ➢ Costs for a legal defense are huge, often companies just give up
    o Pay-up for a license.
    o Devise a work-around
Limits to patents

• Genes
  ▪ Recent ruling overrules patentability

• Stemcell: EU Court of Justice, said the use of human embryos ‘for therapeutic or diagnostic purposes which are applied to the human embryo and are useful to it is patentable. But their use for purposes of scientific research is not patentable.’
  case was Re: Greenpeace versus Oliver Brüstle, Director of the Institute of Reconstructive Neurobiology at Bonn University, whose research in turning embryonic stem cells into neural cells for treating Parkinson’s disease.

• Business Methods
  ▪ One-click ordering (Amazon)
  ▪ Wireless Electronic Mail (NTP versus RIM [Blackberry], Nokia, suing Palm)
Patent troll instance?

Sharing Sound, which holds an actual, government-approved patent. Improbably issued in 2001, Sharing Sound’s absurdly broad patent covers “distribution of musical products by a web site vendor over the internet.”

Actually: specifically includes the generation of a user-specific key that is inserted into the music file at the time of purchase and used in conjunction with keys on the user’s computer to verify authorization. The inventor was Bernhard Fritsch, whose short-lived MCY.com music service launched in early 1999 does appear to have been the first to employ this type of system. Sold the patent to Sharing Sound, instead of creating a product or service with the patent, Sharing Sound lied in wait and finally in May 2010 filed patent infringement lawsuits in the U.S. District Court for the Eastern District of Texas against Apple, Sony, Microsoft, Rhapsody, Brilliant Digital Entertainment (BDE) and Napster, and separately also sued Amazon, Netflix, Barnes and Noble, Wal-Mart, and GameStop. The patent (here is a good summary of it) essentially describes how these companies sell music online. Other than BDE, all of the companies have reportedly settled, the latest being Apple and Rhapsody. But online selling of digital goods was well underway before the Patent Office issued the Sharing Sound patent.

The terms of the settlements remain private, Sharing Sound no doubt kept its monetary demand below the defendants’ anticipated cost of litigation.

[Glenn Lammi: The Legal Pulse; Washington Legal Foundation, 2010 & comments]
Selling IP +

Bundling & valuing the box

1. Piece by piece
2. Tranche of the company – say, all sales in Europe
3. Can include available knowhow (+) for maintenance

1. Package the box
   - Create a subcorporation to hold the rights to the IP+

2. Sell the subcorporation to European sales co.: SE
   1. Receive a single payment matching the value
      - Requires a well-off buyer
   2. Receive payments over time of equivalent NPV
   3. Make a royalty (fraction of SE’s sales) arrangement
      1. A fraction of sales at SE commensurate with the amount of IP
      2. A period that is sufficiently long to recover the IPs NPvalue
      3. A premium to compensate the seller for the risk of SE defaulting