# Software-Related Intellectual Property

# Interest Analysis

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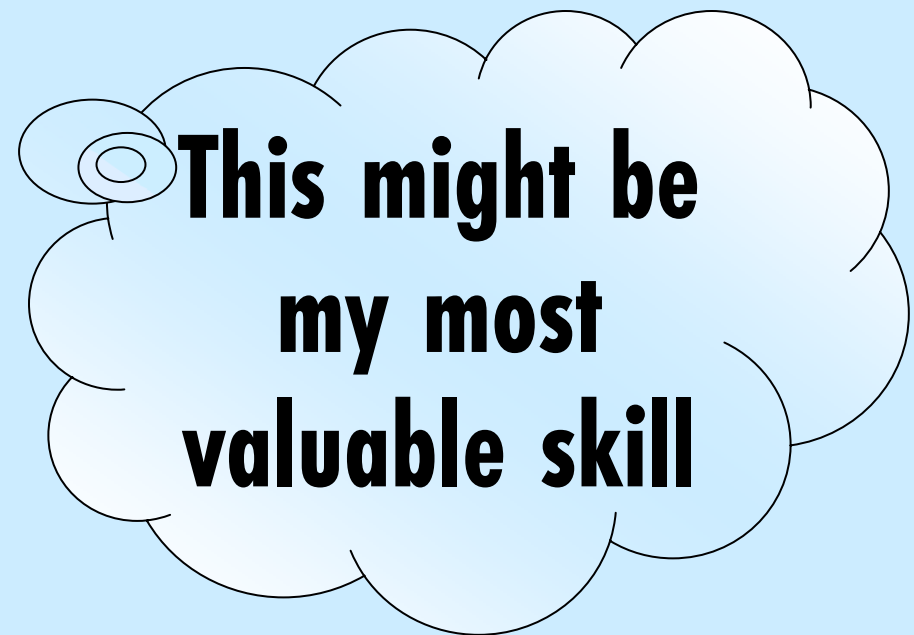
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# Interest analysis

Come to understand

- a proposal, design, product (anything, really)

- in terms of the "interests" of the entities (humans, corporations and governments)

- who might

    – sponsor it

    – oppose it

    – be affected by it

    – regulate it, or

    – implement it

# Interest analysis

Vital skill for:

- Requirements analysis
- Quality assessment
- Product design
- Ethical assessment
- Technical communication (creating appropriate documentation for intended readers)
- Negotiation
- Law, legislative planning, judicial analysis
- Sales
- and so on …

**This might be my most valuable skill**

# The essay scenario

You work for Representative Jones as a legislative intern.

A software development company that employs many of her constituents threatened to move to another country unless laws are changed to make it harder for people to pirate software. Rep. Jones considers software piracy unethical and wants to do something about it.

She is evaluating draft legislation that includes the following language:

If a user agrees to the online user's agreement upon installation of the software X, any company from whom you bought upgradeable software X will have permission to access your computer for detection or prevention of unauthorized use of or fraudulent or other illegal activities in connection with a network, service, or computer software, including scanning for and removing computer software prescribed under this act.

[Note: this language has been adopted from
http://www.okgazette.com/news/templates/cover.asp?articleid=423&zoneid=7.]

# Interest analysis

- Stakeholders

- Stakeholders'

    – Interests

    – Principles

    – Preferences

- Their potential objectives for the proposal, arising from

    – Interests

    – Principles

    – Preferences

- The proposal's potential impacts on them

# Stakeholders

A person who is affected by

- the success or failure of a project

- or the actions or inactions of a product

- or the effects of a service.

I like Don Gause & Jerry Weinberg's distinctions among

- Favored stakeholders
- Neutral stakeholders
- Disfavored stakeholders

**Who cares?**

# Who are the stakeholders?

I did a brainstorm:

http://www.jpb.com/creative/brainstorming.php

http://www.mindtools.com/brainstm.html

http://en.wikipedia.org/wiki/Brainstorming

http://pblmm.k12.ca.us/PBLGuide/Activities/brainstorm.html

**Another valuable skill ...**

# Who are the stakeholders?

- Software purchasers

- People whose data are stored with software used by others

- People who use software purchased by others

- Software publishers

- Software resellers

- Independent software developers

- Law enforcement officials

- Courts

- Legislators

- Legal intern

- Society in general

# Stakeholder interests

What's an "interest"?

- Something that "matters to" you

- Especially something that affects your finances or career

I view "interests" as long-term, strategic-level directions.

- For example, getting wealthy might be an interest

- Making a particular sale might be a desired result that advances that interest

*Stakeholders have conflicting interests*

**The "big picture" view of "What's in it for them?"**

# Stakeholder principles

I mean by principle, "a rule or standard that guides or governs behavior."

- Different people have different principles

- Stakeholder analysis in a course is limited because we know the *situation* of the stakeholder but not the *actual person*.

- In general (with many exceptions), people tend to share principles with their group

For example

- Software publishers and "freedom of contract"

- Insurers and "public safety"

**People see themselves as "good"**

# Some likely principles

- Freedom of contract

- Individual autonomy (do what I want without interference of others)

- Public safety

- Integrity in business

- Accountability for consequences of actions

- Rights to property

- Efficiency (reuse rather than reinvent)

- Competitive advantage, especially national competitive advantage

- Public access to public property

# Stakeholder preferences

A stakeholder might prefer one choice over another for many reasons that don't tie well to her or his interests or principles:
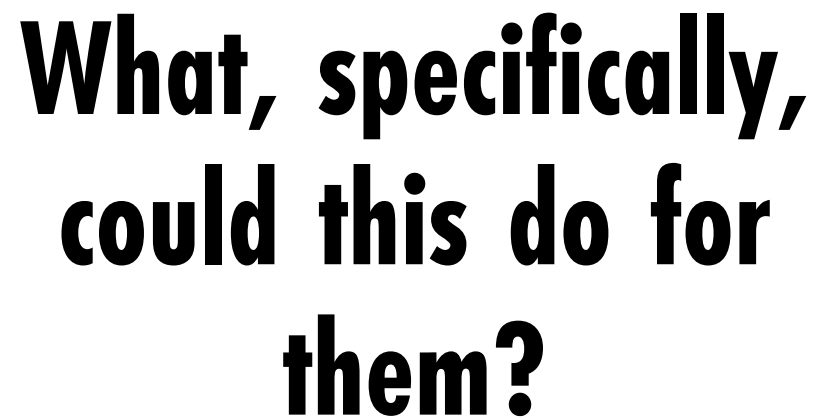
- Fashionable

- Reminiscent of something mother liked

- Someone else wants it this way and there appears to be nothing to be lost by giving it to them

- Some other influencer praised something like this

- Looks pretty, feels good

- **Seems "better"**

# What do they like? Why?

# Objectives

- Shorter-term, more narrowly focused than "interests"

- Objectives serve interests, for example,
  - the objective of getting fed this week
  - serves the interest in staying healthy

- An objective might serve one interest and conflict with another
  - Collect disk-based data constrains piracy, helps marketing, but threatens privacy.

**What, specifically, could this do for them?**

# Potential impacts

An objective is something under your control:

- you want this to happen

- and you expect / intend it to have these effects

An impact is something not necessarily under your control:

- this is going to happen to you

- whether you like it or not

- and you predict that it will have these effects

# How could this affect them?

# Stakeholder analysis

For each stakeholder, list their likely interests, principles, and preferences

- Principles and preferences are much harder when working with groups and hypothetical cases,

- But are very important when you can work with individuals or with organizations who publish their principles or demonstrate examples of their preferences

# Brainstorm some interests

The following list is a "first pass" brainstorm.

- Some of the "interests" are really objectives that serve some broader interest.

- For example, in "software purchasers"

  - Ability to use a competitor's software

  - Getting the best software at the lowest price

  - Ability to try out a program before paying for it

  Are probably all objectives within:

  – Get good value for my purchases

# Software purchasers (brainstorm)

- Broad interest in the privacy of personal and corporate data (their data and data of others stored on their system)
- Knowing that their systems are being monitored
- Knowing what data are and are not being sent back to the monitoring companies
- Ability to transfer software purchased for one machine to a replacement machine
- Ability to try out a program before paying for it
- Ability to use a competitor's software
- Ability to store data that the software publisher might otherwise erase
- Protection from erroneous erasure of their data or other tampering with their system
- Ability to prevent inappropriate erasure of data or other tampering with the system they are using
- Performance of the computer / network (potential delays or overload from all the monitoring traffic)
- Getting the best software at the lowest price

# People whose data are stored in databases of others

- Broad interest in the privacy of their data (think of the notes of a lawyer, psychologist, doctor or priest)

- Power to agree or disagree with the sharing or redistribution of their data

- Want to know who ultimately has their data

- Ability to correct or update data that might otherwise harm them

**Note the special interests of specific groups**

## Users of software purchased by others

- All the issues of the software purchaser, plus a few:

- Ability to try out a program before asking someone to pay for it

- Ability to use software or data that might be erased by this company

- Ability to prevent inappropriate erasure of data or other tampering with the system they are using

- Ability to get your job done (e.g. Performance of the computer / network -- potential delays or overload from all the monitoring traffic)

# They had no choice in this contract

# Software publishers

- Faster detection of piracy

- Protect intellectual property rights

- Inexpensive enforcement of IP rights

- Protection from liability for enforcing IP rights in ways that would otherwise be treated as criminal violations

- Marketing opportunity to sell upgrades or to cross-sell against competitors' products

- Protect their own software and trade secrets from the prying eyes/software of competitors

- Ability to reverse engineer their competitors' software

- All of the other interests of software purchasers and users

# Software publishers

Which is more important?

- Protect software from pirates?
- Protect technology from spying competitors?

Which is more important?

- Disable software of your competitors?
- Not be disabled by your competitors?

Which is more important?

- Holding your suppliers accountable?
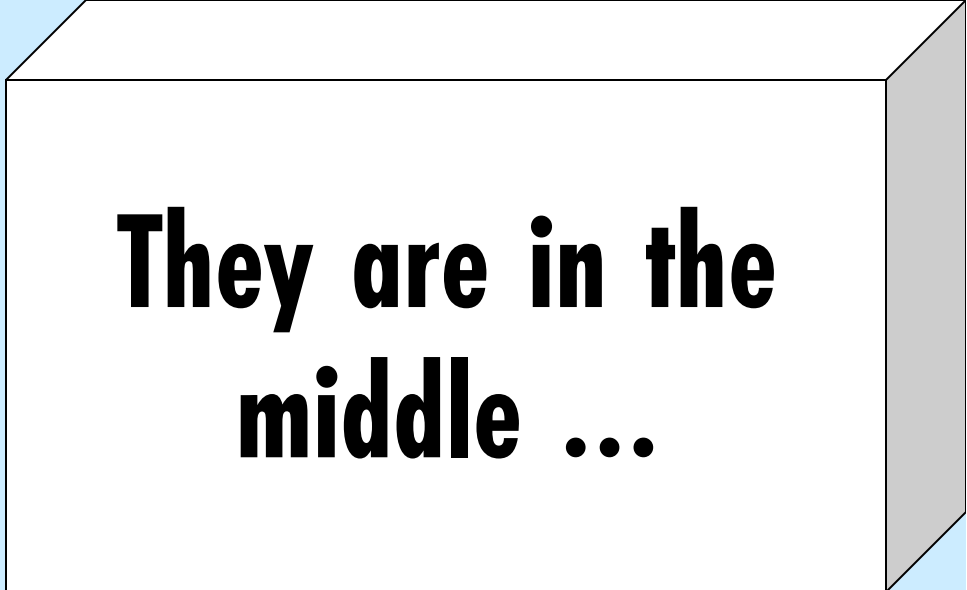- Avoiding your own accountability?

**Conflicts of interest**

# Software resellers

Includes most / all of publishers' interests, plus:

- Consequences for publishers' actions must pass back to publisher

  – Bad press

  – Tech support

  – Lawsuits

- Reseller not accountable to publisher for actions by the reseller's customer

**They are in the middle …**

# Independent software developers

Subcategories here

- Independents who publish their own stuff
- Independents who want to sell to the publishers
- Independents who consult to non-software businesses

Most of their interests covered elsewhere, but consider :

- Many of them provide products that will not have DRM encoding—there is a fear in the open source community, for example, that their products are likely to be erased because they are not coded in a way that will be recognized by the software that checks for valid software and data
- Ability to detect when big companies are pirating the developers' code and incorporating it in their products

# Law enforcement

Public safety

Prevention of crime

Investigation of crime

Consider these objectives or impacts:

- Access to data collected by software companies—piggybacking a search for terrorist or illegal activity on the software company search for IP information
- Lawful use of the data in court
- Ability to conduct their own searches as a byproduct of providing free software to the public

**Distinguishing between interests and objectives / impacts**

# Courts

Clearly written legislation that unambiguously defines the rights and responsibilities of the affected parties, such as the scope of the right (e.g. who has the right, and under what circumstances, to scan a disk), the limitations of the right, and the boundary that distinguishes acts done under this statute from computer tampering, liability for misbehavior or error.

# Legislators

- Get reelected

- Protect jobs in their community

- Protect their community from abuses by outsiders

- Pass legislation that will actually achieve its (hidden or stated) purposes

- Act in ways that will encourage campaign donations

- Refrain from acting in ways that cause embarrassing publicity

- Support the legislative objectives of favored colleagues and thwart the legislative objectives of disfavored colleagues
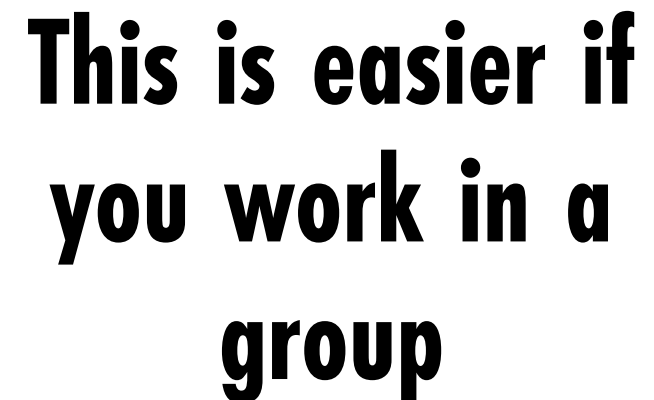
# Legal intern

- Learn from the job

- Stay employed

- Get references

- Get noticed by other legislators (setup for next job)

- Have an impact on legislation
  - Gain trust and confidence of this employer
  - Produce memos that meet the needs of the employer
  - Advise the employing legislator of unexpected consequences or risks of a proposal

# Society in general

- Advancement of the sciences and the useful arts
- Protection of a national industry
- Jobs for all
- Protection of the country's security
- Protection of the residents of the country, and resident businesses, from spyware, sabotage, or interference with their efficiency
- Respected rule of law
- Clear rules for governance (guidance for courts, law enforcement, other legislators, and other people / businesses affected by the law)
- Minimization of the reach of the law (the notion that the less governance, the better)

# Refining the brainstorm

1. Get your lists of interests (which probably includes objectives, impacts, fears, preferences, whatnot)

2. Classify into overarching interests and the objectives, impacts (etc.) that relate to them. Some objectives (e.g.) will suggest a broader interest that contains them.

3. Look for several objectives and impacts for each interest (some will have none, for this project; others will have many)

4. Look for conflicts of interest

5. Consider whether an interest is favored or disfavored, and thus what to do about it.

**This is easier if you work in a group**

# Once you have the interest analysis

- You know who the stakeholders and what their interests (etc.) are

- What do you do with it?

  – In a requirements analysis, you might try to design a system that maximizes acceptability

  – In an ethical analysis, you might try to evaluate the net impact on society (consequentialist) or look for overriding harm to any individual or group (one type of rights approach)

**The analysis is the first step ...
What you DO with the data ...**