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1 1: The Microsoft Cases

What is the big idea?

Why do software engineers need to deal with legality issues?

Vista: The EU comission is concerned with Microsoft bundling software into the distribution, ex. hand writing recognition and Windows Media player.

What does law say about software size and scope? Topics of this week:

1. The Economics of licensing with simple examples
2. Understanding scope-of-permission goods
3. Computer Software and Network externalities
4. 1994 Anti-trust case
5. ???

1.1 Licensing with fixed costs

Fixed cost means that you have to spend a bunch of money to develop the product. For Windows, we're talking billions of dollars, no matter how many products they sell. This is very different than, say, a coke bottle - cost of developing the product (coke fomula) + cost of material and chemicals. But

a software product is very different - once developed, the cost is rather fixed (like a bridge - once built, it's there).

How are licensing policies influencing use?

Lump-sum licensing: one check a year. Per-processing licensing: one check per processor produced.

Imagine an actual bridge - our consumer has the choice of taking the bridge or "the long way". The bridge costs per use.

M-F worth 10 dollars a day

Saturday

Assume that the bridge has no upkeep costs.

State wants to cover cost of manufacture, and charges \$5. Our consumer values M-F at \$10 and feels fine to pay it - everyone's happy.

Then the state says: "Well, we built the bridge. But our consumer won't use it on Sat/Sun because of our licensing policy. But wait - it doesn't cost anything for us when she uses it, so we're losing on her not using the bridge." And so they develop a unlimited license policy at \$25.

Now the consumer has to think ahead - do I want to buy this monthly pass? Well, I value it \$10 each MTuWThF... At a cost of \$25 it's worth it. AND she now uses it on weekends as well!

We want to avoid licensing policies which discourages consumers from using the product. We need to "line up" social costs and social benefits, private costs and private benefits.

Another example... So the state decides to go back to a revised daily price. We'll charge you $\$25/7$, which comes out to \$3.57. How often will our consumer C cross the bridge now? We assume 5 times a week, since she values a Saturday cross at \$2.

What's the analogy to Microsoft? Well, Windows has a very high fixed cost - again, development involves billions in investment. So how is Windows licensed? Their goal is of course to

1.2 Scope-of-permission goods

Big distinction between public goods and private goods. The Coke can is a classic private good - only one person can drink the can. A public good is very different - Pr. Picker singing Happy Birthday in the shower this morning does not mean that you cannot sing that song in the shower as well. Software is similar - one person using a copy of software does not interfere with another person's use of their copy (in fact, it might enhance it - more on that later).

"Public" public vs "Private" public goods.

Private public: Satellite TV is uniformly distributed to everyone - you just need the technology and decryption key to utilize it. This is the exclusion tool used to make it "private," enforcing payment for the product.

Scope-of-permission goods = non-rivalry, excludability, and zero-marginal cost (Once we have a product, it costs us very little to add features to it).

What's shocking with Windows is not how bundled it is, but rather that it is not more bundled - why does Microsoft Office not come as part of Windows? It wouldn't cost anything to add it! The point is that there is no natural limit to the scope of the product. As a counter example, a fruit basket certainly does. If you don't like apples, the apples in the basket would be a waste (on part of both consumer and producer) since each apple has a unit cost. Packing windows with features that are already developed does not cost anything.

Back to the question: How does law limit software scope? Well, we don't have the physical limits of, say, a fruit basket. Once Microsoft has developed 6 million new features, it doesn't cost Microsoft anything to add it to Windows. The problem comes along when Microsoft opportunistically bundles their product as a response to competition - "Embrace and Extend".

Something we frequently see is a producer creating a free version for market presence, and then offer an exclusive paid-for version for revenue.

Example: Realplayer - download them both and you'll notice that they're practically the application - but the free version is simply has some of the features turned off. Imagine this on the real estate market: "Here's your home - nice 4 room apartment, but you'll have to pay extra for the keys to