

The 21st Century University as an IP commonwealth

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How can the University benefit from the intellectual property it nurtures and creates without inhibiting its development? Historically, all scholarly work is considered the property of the faculty, while the University claims to own all patented processes, with vain hopes of licensing them to industry.

Copyrights
Author owns

**Shares prestige
with University**

Patents
University owns

**shares royalties
with inventor**

What is the status of Software created and tested on university computers? Is it different from words created on University word processors? And what of code written by poorly paid graduate students towards their Ph.D. What about websites built under independent studies by undergraduates in consultation with faculty?

Administrators, who think since the Patent office allowed the patenting of software, the university should own all software created by its faculty and students, forget that software can be printed out and stapled between covers. A strong legal case can be made that programs are just scholarly works, like books, to which faculty have traditional full property rights. However, it is also clear that software encodes processes, which like patents, can lead to significant wealth! But in this modern age, a lay science book with a marketing website by a well-known scientist can fetch \$1M, and novels written by faculty can be turned into DVD movies with similar large payoffs.

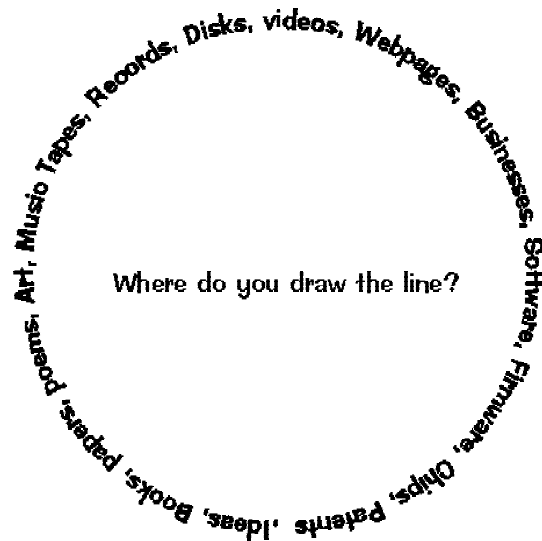
Simply because software can be patented doesn't mean it is a university owned patent. Since the State Street Bank decision, raw business ideas can also be patented – Nowadays, ideas which might have been books can also be patented; We fall down a slippery slope to where the university believes its own all ideas of its faculty and students.

But the issue of wealth generated by intellectual property is one which needs discussion. Many faculty use their spare time to play the Textbook game, hoping to have a big hit in the next round of curriculum change. Artists of certain types, for example, sculptors, electronic musicians, and supercomputer visual artists, can use massive amounts of university infrastructure to generate personal wealth. Now as books evolve into electronic books, multimedia courseware, and CD-

ROM's, and as patentable machines and chemical processes evolve into pure software and logic, what is the university's response? Claim all Copyrightable Material? Leave books but take books-on-disk? Leave textbooks, but take courseware?

For some faculty, the university provides nothing but a meager salary in exchange for teaching, and the idea that the university has equity in their ideas is odd. For other scholarly projects, the university provides the faculty salary, the space, resources, equipment, library, graduate student assistantships, paper, and most importantly, the entire *milieu* around which new and powerful ideas are incubated, and it seems clear the university should share in the equity of the million dollar book and software spinoff companies created by its faculty and students.

Academicians who think that their history and poetry texts and performances are somehow different from the computer scientist's software are not looking at the future, when all content will be distributed electronically, on magnetic and optical media, and via the wireless internet.



The historic right of faculty to their own copyrights is at issue in law. The work-for-hire doctrine has been expanding in its reach. Just like the courts overturned mandatory retirement despite its impact on the Tenure system, and awarded newspapers electronic rights to freelancer's works, the courts could decide that a university owns copyrights to its scholar's works despite low salaries.

Universities claim ownership of patentable inventions funded by federal grants, under Dole Bayh, and, except in very rare pharmaceutical circumstances, this has been an abject failure. When it works, at MIT or Stanford, it is rife with sweetheart deals for big name faculty, and generates a bureaucracy which polices the entrepreneurial activities of former students.

These patent policies, which applied to tangible inventions which presumably used significant physical laboratory resources, are now being expanded to try to capture software, courseware, distance-learning videotapes, and other intangible intellectual properties, whether funded by federal grants or not.

While the argument goes that the university has made the investment in the research and should own it, we all know that the majority of federal sponsored research money is not gotten "by" the university, it is brought in by the individual researcher or group, and the university already takes 1/3 or more in cash up front, which it doesn't use to improve scientific facilities. The traditional patent policy offers between 25 and 50% of royalties less expenses to the inventor, and divides its own share among levels of the university bureaucracy, including the home department. Scientists may see this as an advantage over the 0% they would receive under work-for-hire arrangements with commercial employers, but there are significant differences between a for-profit and a non-profit. I reject the idea that because a federal grant supported my research, that means that they paid for specific "work for hire" for me to develop deliverable software via stipends worth 20% of real world wages to graduate students. Federal contracts to private companies, for whom Dole Bayh was drafted, are very different from grants for basic research grants to institutions.

Universities rarely make more than a superficial \$25k investment in patenting, which means that **they are declaring the pre-money value of the invention to be \$50k**. The university does not have the means of marketing the invention, and may simply pass it for review in front of a "Technology Transfer organization," which cherry-picks the sure winners. As a partner, the university is not "smart money" and seeking to own 100% of nothing is not good business. Yet every university is "swinging for the trees" by grabbing all patent rights, hoping for one patent worth \$1b. Instead of encouraging innovation, these antiquated patent policies are driving it underground, off campus, and into the public domain.

A rumor circulated last year that my own University was going to claim title to all Copyrights to professor's work and software. As the lines blur between inventions, software, and copyrights, the faculty will not accept an eminent domain "taking" of their intellectual property, but the English and History professors might, a la Pastor Niemoller, give up computer scientists. The best will simply leave to other universities who do not make such a claim, and others in software will leave to find partners who invest based on expected return rather than administrative budget.

I believe the software dilemma can be solved. But first the nonprofit university *must completely reject* the idea that it is the "owner" of all IP created on campus or by its members, unless the author chooses to so transfer property. The university is not an industrial organization, and does not offer market salaries and valuable stock options in exchange for which an employee might agree that his inventions and writings are "works for hire". Moreover, the university, with rare exception, does not offer the venture capital to develop and test market these inventions.

By not having a rational way of dealing with valuable innovation, except through the patent policy, or the scholarship policy, the university loses. **Because of a lack of flexibility in dealing with the Mosaic IP, the University of Illinois Trustees were not holding any stock in Netscape when it sold for \$4b**. There are many more stories of software, like Matlab, Notes, Yahoo, etc. slipping through the fingers of universities and becoming huge businesses. In the quick moving world of software, patents are undervalued except as a weapon, and corporations are formed with venture capital to build and gain market share quickly. The corporation is a set of assets - in the form of technology, staff, IP, and customers - shared through stock options, which become valuable only when the company enters a merger, gets acquired, or goes public.

No startup company wants to have a messy contract for royalties and have to bring in university administrators to screw up M&A negotiations! No author wants to involve the university in his or her royalty contract talks along with publishers and agents.

The current university framework for claiming patent rights is thus a failure, and any attempt to generalize the patent policy to capture wealth from copyrighted software will necessarily become a taking of books and art which will inhibit the quality and quantity of scholarly work on campus as faculty retreat to their basement offices or leave in droves to more enlightened institutions.

We can define 3 classes of IP.

- 1) **“By the University”** There is IP developed by the university. For example, the policies and procedures which are written by staff under direction of a university project, and software developed to manage the registrar or accounting, etc. can be considered “authored” by the institution. Films taken of important events on campus by the university staff photographer is owned. These works are clearly “by” the university, just like the Logo for a sports team, and the traditional patent policies sharing arrangements are appropriate.
- 2) **“Of the university:”** Works developed on campus with colleagues, on equipment like PC’s, as part of classes, grants, independent studies, research, scholarly work and art, music, software, etc. The university acts as a catalyst, an enabler, a meeting place, a source of connections, the salary and freedom for a professor to be creative. This “Of the university” category is the gray area which is the subject of this proposal.
- 3) **Outside the Scope:** Works developed at home, not relevant to scholarly expertise (e.g. porn, novels, cookbooks) which use de-minimus university resources. The university is not a participant here. Some faculty who are only marginally involved in campus life, and have retreated to home offices to write books, may feel that all their work is not “of the university.” There is a saying at MIT that “Biologists only invent on Weekends”.

Here is a solution:

Title to all copyrighted works and patentable inventions “of the university” shall remain with the authors as per historical tradition. When works lead to equity positions in external companies, or royalty arrangements with publishers including advances, to authors who were part of the university community at the time of fixation, the university will be assigned 9% of the sum of these interests in the work and its derivatives. However, the first \$2000 of any annual royalty or dividends received by the university for each property under this rule is excluded and will be returned as salary bonus to authors who remain employees.

Thus only literary, artistic, and software properties which make more than \$20,000 a year will be taxed. And making a \$3000 forced donation to the university on a \$50,000 book in your scholarly area, which lists your affiliation on the blurb, is not a great hardship. If a staff who writes a book negotiates an 11% royalty deal, they will get 10% and the university 1%. If the faculty negotiates 22%, they will get 20% and the university 2%. Every publisher can deal with another check and a stamp, and despite occasional incompetence, the university accounting department will be able to set up the proper automatic credits. And copyright remains with the author. If a computer student builds a web page and finds high interest, he can make a startup company where he gets 40,000 shares and the university gets 4,000 shares without even thinking

about hiding the success. The development department is all set up to accept gifts of non-negotiable securities!

Of course, I just made up these numbers. It could be 3% of all properties, 10% of all properties over 100,000, or 5% of properties over 20000. This is a labor negotiation, and the numbers we agree to must be

- a) low enough not to scare away top faculty, and
- b) high enough that the university community can prosper from each other's successes.

Outside
Author owns

University has
no Equity

"Of" University
Creator owns

University gets 9%
of equity.

"By" University
University owns

Shares Royalties
with Authors

While intelligent people might disagree on whether work sponsored by federal grants is “of” the university or “by” the university, I believe that a fair system would deal equally with all creative faculty who bring prestige and value to the commonwealth. I believe most basic research falls into the same category as scholarly work, unless there are specific tangible deliverables in the contract, or the university was a principal funder.

With creative legal work, or a bit of lobbying, the spirit and requirements of Dole-Bayh and federal agencies can be met. The federal agents I talk to **insist** the goal of Dole-Bayh is to make more taxpaying entities and whole new industries, like the Internet, which give credit to their agency's foresight in funding basic research. Instead of being a legal enforcement agency, university technology transfer offices may evolve to have a much more glorious role, making selective investments in development, marketing, and incubation of works, and of course, real investments would change the "equation" of equity. Faculty who do not want to be involved in patenting and marketing can opt to transfer full rights to their inventions to be considered as “by the university.”

Why does this solve the problem?

It is possible that with a rational and fair policy, a university can gather a small piece of a very big pie, namely a percentage of the value portfolio created by the combined intellectual property (Literature, Art, Music, Software, Inventions) of its members.

The faculty and students could potentially be convinced that if everyone was paying a small flat tax on their work in exchange for the freedom to investigate it (pre-revenue) on campus, the university might have the resources to improve the infrastructure, improve salaries, invest in new innovative programs, etc. Scholarly work will proceed apace, without restrictions on ownership, not impacting the small scale scholarship and art, the majority of which makes less than \$20,000 per year. The university's accounts receivable just needs a new spreadsheet. It doesn't need an intellectual property enforcement bureaucracy. The tax implications are minimal, as the university's share is nonprofit, but the returned proceeds will be subject to salary withholding.

The university does not have to start negotiating each copyright license or software startup deal. Enforcement is aided by annual reporting – if you want credit for a project, then you will show that the royalty cutout clause is in the contract. With such a plan in place, instead of being on opposite sides of the debate over “work-for-hire” law, the university and its faculty are fully in alignment.

And, with a simple process of disclosure and claim that a book or software was not “of the university”, but was done at home, is not central to one’s scholarship, only used de-minimus resources (e.g. library card, phone, convenience copies, faxes, email, and pencils) and persons can deny the community this fraction of their potential income.

But if the institutional share were small enough, reasonable people would not go to great lengths to avoid contributing.

What are some of the possible side effects of a tithe on royalties, patents, and startup equity?

- **Mass Exodus** of named faculty who command large advances on their books, inability to hire people or attract graduate students. This is not a good outcome and it argues for why the cut must be small, and must be “self imposed.”
- **Corruption:** One thing is a change of focus to moneymaking by faculty, and potential conflicts of interest. We need to be clear that university is not a profit-making institution, and that selling books and software out of your office, or taking credit cards via webpages is not permitted. Theft of resources, exploitation of student and staff labor for private gain, and other conflicts would still be unethical and illegal.
- **New Balance of Power:** Poor liberal arts departments containing powerful authors might start to become competitive with business, science, and engineering departments, because the university administration tends to reinforce areas that are net gains, rather than net drains. This would be an improvement.
- **Turnover:** Some professors might get rich, and retire early. But self-generated early retirement is a net gain for the university, because with the end of forced retirement, we need some mechanism to open slots for younger talent.

To make universities home for unbridled creativity and a renaissance in the New Economy of the 21st Century, rather than hollow buildings as the brightest exit for lucrative positions in this internet bubble or the next, it is important to establish the University’s distinction from a for-profit industry. That difference should be found in the simple declaration that *creators own their own ideas*.

We all just have to agree to cut in each other, and our institution, on the upside.