Computing Research Association

Best Practices Memo

University-Industry Sponsored Research Agreements

Universities and businesses have considerable incentive to cooperate in the development of intellectual property (IP). Businesses recognize universities for their rich talent pool and enthusiastic graduate students, while universities recognize businesses as a source of real-world problems, technical know-how, and funding. There are numerous examples of successful research collaborations in computer science, computer engineering, and electrical engineering. Mindful that some IP such as gene splicing and human growth hormone have produced "IP goldmines," many university administrators (and some students and faculty) are eager to establish strong safeguards to protect their rights to intellectual property.

While such safeguards are perhaps essential in biomedical, pharmaceutical, and agricultural research, they are not appropriate in Information Technology (IT). They can be difficult and time-consuming to negotiate, and because considerations such as time-to-market are so important in IT, the delay can frustrate beneficial cooperation. Moreover, patent safeguards are unnecessary because of the role of IP in IT products and the complications involved in deploying IT IP. Formulating university-industry cooperative agreements must be sensitive to these issues. This document describes the best practices for university-industry agreements in IT, particularly the IP aspects of such agreements.

Context and Setting

Research and development in IT-related university departments is funded largely by two mechanisms: federal grants and university-industry sponsored research agreements (SRAs). Commercializing intellectual property derived from federal grants is (when appropriate) required by the Bayh-Dole Act. The law specifies the conditions of ownership and defines "standard practice" for grant-receiving institutions. Practices surrounding university-industry SRAs, however, vary widely, being governed mostly by the needs of the agreeing parties. These agreements can take a variety of forms, as explained in the next section.

Research universities typically have two offices, variously named, that are concerned with funding and intellectual property. The Office of Sponsored Projects (OSP) is generally responsible for negotiating funding agreements with granting agencies, foundations, and companies. The Office of Technology Transfer (OTT) is generally responsible for patenting and licensing technology created at the university. In rough terms, the OSP is largely involved before the intellectual property is created, and the OTT is involved afterwards. (As another generalization, the OSP is typically less familiar with industry's needs than is the OTT.) For all research covered by the Bayh-Dole Act, the university is stipulated as the (initial) owner of the intellectual property. For SRAs, ownership and rights to the intellectual property resulting from research are the subjects of negotiations prior to funding.

The motivation for establishing best practices guidelines is the potential for the conflicting interests of universities and industry to impede their negotiations. An important "best practice" is for the OSP and the OTT to cooperate in establishing the practices described below.

Expectations

The possibility of producing a much-needed revenue stream by licensing their intellectual property has motivated some administrators, regents, and chancellors to require OSPs to exact strong protection for the university's rights. Patent protection, which is generally required for biomedical, pharmaceutical, and agricultural IP, is very slow to obtain and can be expensive to secure and to defend. Almost all patenting expenditures do not recover their investment. As a general rule, universities that successfully generate revenue from IP do so with a tiny number (< 10) of significant

patents. (In 2001, the University of California system generated 77 percent of all revenue from 25 licenses, and none were IT.) There are no known "gold mine" IT licenses.

Managing IT IP using the traditional patent/licensing mechanism is inappropriate for the following reasons. First, patent protection is rarely the best form of IT IP protection. Copyright is usually better, since it can be used to control an embodiment of the ideas, such as a software implementation. Second, time-to-market is often a significant consideration in making a product a success, so both the university and industry are best served by rapid action. Third, products like software often contain many "key" ideas (e.g., algorithms), and it is difficult to assess how any specific idea contributes to the overall worth of the product, say for the purpose of assessing royalties. Fourth, unlike patents, which are published in enough detail that someone can reproduce the art, effective transfer of IT IP such as software often requires participation by the creators. Finally, many IT ideas can be implemented by "those schooled in the art" once they have seen the technology in operation. Thus, companies have a risk of using IP inadvertently, increasing the value of mechanisms that lower that risk.

The implications of these considerations are: a) universities can introduce significant barriers to cooperation by forcing IT into a standard patent-centric form, and b) agreement principles customized to IT will focus on rapid action.

Consulting and Internships

The most valuable part of intellectual property is the intellect that produced it. Accordingly, IT businesses understand that working with faculty and graduate students is at least as valuable as licensing the IP that they produce. Because IT requires only modest facilities, and to avoid complex negotiations with universities about who owns the resulting IP, many firms have opened labs near universities as a venue for faculty consulting and student internships. Performed on their premises with their equipment and staff, the companies own all of the IP. It is an efficient scheme for the businesses, and it can provide professionally valuable experience for both faculty and students. But it cuts out the university.

A Model for Sponsored Research

Confronted with the aforementioned facts, several universities have adopted approaches that reflect the best practice. In these cases, an industrial partner funds research with the understanding that it will receive a non-exclusive, non-transferable, worldwide, royalty-free license to any IP created by the organization. In one model the partner funds (annually) a specific team with a specific research direction, and the arrangement is seen as ongoing. In another model (e.g., Stanford's EPIC program) industry partners join a consortium for a modest annual fee, and then have "pay-per-view" privileges for any specific IP at a specified rate for a non-exclusive, royalty-free license. The university retains ownership of the IP, and the option to negotiate an exclusive license is available. Standardized terms and conditions regularize the process for rapid and predictable execution.

Although it is assumed that industry wants and needs exclusive licenses, in general this seems not to be the case. Since companies in IT do their own development, licenses protect them from being sued for infringing on others' IP. For that purpose a non-exclusive license suffices.

In this model, industry supports the effort with its funds "up front," with the assurance that there will be a license "if anything useful comes out of the research." Not charging royalties has the advantage that the uses of the IP do not have to be accounted for. There is risk on both sides: It is possible the university might do better by negotiating more favorable terms for a specific promising technology, and industry is gambling that the investigators' discoveries get to them early enough for rapid deployment. However, this model has the value of promoting and accelerating cooperation. There is generally an understanding among the participants that if the IP turns out to be a "home run," then the company will return later to the question of what it owes the university for the IP, typically in the form of generous donations or longer-term research contracts.

End Notes

The assertions in this memo are documented in "Model Language for Patent and Licensing Agreements for Industrially Sponsored University Research In Information Technology," by J Strother Moore, University of Texas, Austin. See: http://www.cra.org/reports/ip/. Additional information and sample wording for agreements are also provided.

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Prepared by:
J Strother Moore (University of Texas, Austin)
Lawrence Snyder (University of Washington)
Philip A. Bernstein (Microsoft Research)