

NRC 2000: The Digital Dilemma

<http://swpat.ffii.org/papri/digidilem00/index.en.html>

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According to this report by the US National Research Council, software patents were introduced by lawcourt decisions without support from the legislature, and it seems doubtful whether the patent expansion is promoting the progress of science and the useful arts, as Congress intended. The Court of Appeal of the Federal Circuit (CAFC) has taken the patent system into “unchartered waters”, and the experience of the software industry suggests that this decision is urgently awaiting legislative review.

Contents

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http://books.nap.edu/html/digital_dilemma/

As you can see from the table of contents, it is a report by the United States National Research Council, with participation from the leading scholars in all fields, including reserachers from IBM and Microsoft.

The aim of the report is to explore possible ways of protecting intellectual property in a digital world.

*<http://www.ffii.org/~phm>

The report proposes ways of extending copyright, but at the same time is very critical about applying patents to “information innovations” — a good term that maintains the distinction between a patentable “invention” and immaterial “innovations”, which should have stayed outside the scope of the patent system.

The Chapter on p 192-197

The Impact of Granting Patents on Information Innovation

reports how the US patent system was gradually broadened by the patent courts (without legislative support) to include software and business methods, and analyses a few of the famous cases. The report concludes:

The effects of this substantial de facto broadening of patent subject matter to cover information inventions are as yet unclear. Because this expansion has occurred without any oversight from the legislative branch and takes patent law into uncharted territories, it would be worthwhile to study this phenomenon to ensure that the patent expansion is promoting the progress of science and the useful arts, as Congress intended.

There are many reasons to be concerned. There is first the concern that the U.S. Patent and Trademark Office lacks sufficient information about prior art in the fields of information technology, information design, and business methods more generally to be able to make sound decisions about the novelty or nonobviousness of claims in these fields.⁴⁷ A related concern is the insufficient number of adequately trained patent examiners and inadequate patent classification schemata to deal with this new subject matter. The success of the patent system in promoting innovation in a field depends on the integrity of the process for granting patents, which in turn depends on adequate information about the field. Serious questions continue to exist within the information technology field about the PTO’s software-related patent decisions. A number of legal commentators have pointed out that allowing these kinds of patents potentially makes concepts, not technology, the protectable property of the patent holder, “allow[ing] virtually anything under the sun to win patent protection”.

Second, the tradition of independent creation in the field of computer programming may run counter to assumptions and practices associated with patents as they are applied to its traditional domains. When someone patents a component of a manufactured system, for example, it will generally be possible for the inventor to manufacture that component or license its manufacture to another firm and reap rewards from the invention by sale of that component. Rights to use the invention are cleared by buying the component for installation into a larger device.

But there is little or no market in software components. Programmers routinely design large and complex systems from scratch. They do so largely

without reference to the patent literature (partly because they consider it deficient), although they generally respect copyright and trade secrecy constraints on their work. With tens of thousands of programmers writing code that could well infringe on hundreds of patents without their knowing it, there is an increased risk of inadvertent infringement. An added disincentive to searching the patent literature is the danger that learning about an existing patent would increase the risk of being found to be a willful infringer. The patent literature may thus not be providing to the software world one of its traditional purposes—providing information about the evolving state of the art. Much the same could be said about the mismatch between patents and information inventions in general.

Third, although patents seem to have been quite successful in promoting investments in the development of innovative manufacturing and other industrial technologies and processes, it is possible that they will not be as successful in promoting innovation in the information economy. One concern is that the pace of innovation in information industries is so rapid, and the gears of the patent system are so slow, that patents may not promote innovation in information industries as well as they have done in the manufacturing economy. The market cycle for an information product is often quite short—18 months is not unusual; thus, a patent may well not issue until the product has become obsolete. If information inventions continue to fall within the scope of patents, then, at a minimum, the patent cycle-time needs to be improved significantly. Patent classification systems for information innovations may also be more difficult to develop and maintain in a way that will inform and contribute to the success of the fields they serve.

One final reason for concern is that developing and deploying software and systems may cease to be a cottage industry because of the need for access to cross-licensing agreements and the legal protection of large corporations. This in turn may have deleterious effects on the creativity of U.S. software and Internet industries.