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### **New Framework Proposed for Protecting Intellectual Property Rights And Public Access to Electronic Information**

WASHINGTON -- Novel business models and new technologies to protect intellectual property, as well as education in copyright law, are all likely to be far more effective mechanisms than major legislative changes for protecting electronic information at this time, says a new report from a committee of the National Research Council of the National Academies. These methods should be used to complement existing copyright laws that protect owners and distributors of digital information while maximizing access and use by the public. Digital intellectual property is fundamental to the growth of electronic commerce, and the way it is handled has broad implications.

Legislators should delay any overhauling of intellectual property laws and public policy until markets have had ample time to adjust to new models of doing business and until sufficient research on the issues is conducted, the report says. To help legislators effectively formulate or revise laws and policies in the future, the committee articulated a set of broad, guiding principles that offer advice about creating laws in a period of rapid technological change.

"Information has increasingly become an event to be experienced, rather than an artifact to be kept," said committee chair Randall Davis, professor, computer science department, Massachusetts Institute of Technology, Cambridge. "The question of how to control distribution and use of digital information is much more than a legal issue alone. Law, business, and technology all interact, hence approaching the problem from a single viewpoint will be inadequate. Many stakeholders are affected; anyone with an interest in 'e-commerce' will feel the consequences of the decisions made on this topic. A broad framework is needed to address all aspects of the public and private interest and to ensure the future vitality of the Internet economy."

The ease of distributing and altering digital information, and the proliferation of computer networking, raise concerns about copyright and patenting -- protections rooted in the U.S. Constitution. As technology continues to evolve, policy-makers will experience ongoing uncertainty and frustration when grappling with the issues that these changes bring.

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The committee concluded that technology must be viewed as only part of the picture and not the driving force for new laws and policies. The focus should be on the underlying issues that influence market behavior, such as consumer attitudes regarding digital information and new opportunities to generate, distribute, and profit from it.

For example, the basic concept of publication should be re-evaluated and clarified, the report says, in part because the information infrastructure -- computer networks and the World Wide Web -- has changed what is meant by "publishing." In the physical world, publication has three important characteristics: it is public, irrevocable, and provides a fixed copy of the work. In the digital world, none of these may be true. For instance, software can be designed to restrict public access to digital information, and old information is routinely overwritten with new. This distinction matters as a basic element of intellectual property policy, and knowing whether a work is published has significant legal consequences for those who distribute it.

Digital intellectual property and the information infrastructure are prompting a re-examination of the "first-sale" rule, which says that the initial sale of a copy of a work exhausts the copyright owner's right to control further distribution. Thus, an individual, a library, or other entity is free to give away, lend, rent, or sell its copies of books. But in the digital environment, consistent implementation of the rule has become more complex. Because of the pervasive reach of electronic networks, a single copy of a work available from a digital library could diminish the market for the work much more than if it were distributed only in hard copy. Maintaining the limited degree of access to published materials that was established for hard-copy versions of information must continue in the digital environment, the report says.

Information providers are using licensing provisions and technical protection services to manage access. Licensing is commonly used to provide access to some types of digital information such as software, and more recently is being applied to research journals and scientific databases. This practice is stirring controversy because access expires after a pre-determined length of time. The issue is particularly important with mass-market licenses -- for example, "shrink wrap" licenses for software and other products -- which offer no opportunity to negotiate terms. Licenses are contracts, and thus are under no obligation to include the important elements of public policy found in copyright law, such as "fair use." If these types of licenses come into widespread use for content distribution, there is the potential for contract law to become a widespread substitute for copyright law, the report says. That would imply a change in the balance of private ownership and public access associated with copyright.

Some technical protection services offer the owners of digital information some assurance that distributing a single copy of a digital work does not result in uncontrollable dissemination, by making it difficult for consumers to save or print it. The committee concluded, however, that this may have adverse effects on accessing and preserving our permanent social and cultural heritage, since digitized material could easily be withdrawn from circulation.

Given the availability of alternative mechanisms that offer most of the advantages and far fewer risks than electronic distribution, not every information product should be distributed by digital networks, the report says. High-value, long-lived products, such as classic movies like **The Wizard of Oz**, may never be made legally available on the Internet while

protected under copyright, because the consequences of an individual capturing the movie in digital form are too great. The technical, legal, and social enforcement costs of ensuring that this does not happen are also prohibitive.

### **Copyright and Fair Use**

Copyright is the area of intellectual property law that is most frequently highlighted in the continuing debate over digital information and legal protection. With the increasing use of digital information, consumers need a better understanding of the basic principles of copyright law, the report says. The music industry, for example, has had to implement new ways of doing business to address copyright violations that occur when copyrighted music from compact disks is converted to MP3 format and widely distributed on the Internet. The committee recommended that an education program be launched to emphasize the benefits -- such as a vibrant market in information products and protecting the rights of authors -- that copyright law provides to all parties.

"Fair use" is an established doctrine of U.S. copyright law that has come under stress with the proliferation of digital information. Of particular concern is the extent to which copying for private use can be justified without violating the law. Legal, economic, and public-policy research should be undertaken to help determine the extent to which fair use and other exceptions and limitations to copyright should apply in the digital environment. The committee recommended that policy-makers take considerable caution when contemplating changes to law or policy.

### **Business Models**

The rapidly evolving World Wide Web is an effective environment in which to experiment with business models for marketing, selling, and distributing products and services electronically, the report says. Producers of digital information should give careful consideration to the power that innovative business models can offer, such as those being used in the music industry.

Choosing an appropriate model that is easy to use may encourage consumers to pay a fair price for the service, rather than looking at other, more cumbersome and technologically complex or legally burdensome ways to obtain that service. Numerous new business models and mechanisms are being created and tested. This process should be supported and encouraged, to allow time for sellers to find a model or mechanism that fits particular products, the report says.

### **Digital Archives**

Little progress has been made in archiving digital information to preserve the nation's cultural heritage and record intellectual discourse, the committee noted. Significant economic, legal, and technical issues must be resolved if archives and libraries are to act as repositories of digital information. The report says that Congress should enact legislation to permit copying digital information for archival purposes. Moreover, a task force organized by an unbiased entity with a national reputation, such as the Library of Congress, should be established to develop a legal and procedural framework that governs electronic deposits of digital information and how files are used in the future.

### **'Copy' in Copyright**

The committee raised the question of whether the notion of a "copy" remains an appropriate foundation for copyright law in the digital age. Current copyright laws address concerns surrounding the copying of texts without the publisher's or author's consent. But with digital information, accessing data means duplicating it. For example, when viewing a Web page, information is automatically downloaded from one computer to another. As a result, so many legal copies are now routinely made when accessing digital information that it is becoming more difficult to apply existing copyright laws effectively to this pervasive activity. In addition, because copying is directly related to the way computers function, control of copying would provide powers that go beyond those intended by copyright law. Therefore, the committee suggested exploring whether a new basis can be constructed.

The study was funded by the National Science Foundation. The National Research Council is the principal operating arm of the National Academy of Sciences and the National Academy of Engineering. It is a private, nonprofit institution that provides independent advice on science and technology issues under a congressional charter. A committee roster follows.

Prepublication copies of **The Digital Dilemma: Intellectual Property in the Information Age** are available from the National Academy Press for \$47.95 (prepaid) plus shipping charges of \$4.50 for the first copy and \$.95 for each additional copy; tel. (202) 334-3313 or 1-800-624-6242. Reporters may obtain a copy from the Office of News and Public Information (contacts listed above).

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