INTELLECTUAL PROPERTY RIGHTS, INFORMATION AND COMMUNICATION TECHNOLOGY AND THE FREEDOM OF KNOWLEDGE

"*To acknowledge what is known as known, and what is not known as not known, is real knowledge*"
Confucius, 551-479 BC

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Introduction

In modern societies the sharing of knowledge in the public domain is challenged by the Internet and the protection of knowledge through Intellectual Property Rights (IPR). IPR is a core issue at the virtual workplace of universities. IPR is intertwined with the issue of easy online access. Not only, easy online access to valuable knowledge has become a precondition for economic success. Intellectual property protection at the virtual workplace also became a key factor for academic success. The following analysis identifies some of the IPR barriers to easy, fair and affordable online knowledge access. This article originated from the European FILTER project, focused on the different filters changing, blocking and modifying the information and knowledge students are looking for. FILTER, see www.filternetwork.org with partners in 12 European countries, studies the filtering of internet content and its consequences for e-learning. Initially a conceptual framework with filter categories at six levels was developed and tested in a pilot study. Interviews were conducted with key persons in seven countries. The conceptual framework was refined and developed according to a literature review. The study revealed a lot of common problems and strategies as well as cultural differences in awareness and interpretation of IPR and content filtering online.

History of Intellectual Property

Science and intellectual property are getting very much interlinked. According to Kelty (2001) science remains 'public' in the sense of 'not secret'. Science also enters a stage of being private intellectual property first, and public scientific research second. This development has been accompanied by a massive expansion of the actual existing intellectual property regimes to cover matters that scientists previously did not seek to protect, such as algorithms, genes, processes and tools. Noble (1998) describes the major change at the university campus over the last two decades. A systematic conversion of knowledge

took place from intellectual activity into intellectual capital and, hence, intellectual property. This process took place in two phases. Firstly in the mid 1970s, the research function of the university was made a commodity. Scientific and engineering knowledge was converted into commercial products, patents and licences to be bought and sold in the market. Balancing the freedom and protection of knowledge are matters of concern to the European Commission. The objective of the European Union policy Act is to compete with Japan and the USA and to facilitate an easy application procedure for researchers. From 2005 onwards a patent will be applicable for 25 European countries for the total price of 25.000 Euro. It is uncertain how many researchers will use this new procedure. Nevertheless, the current number of patent applications at universities is still relatively low. It would probably be higher if an application would still be possible after publication of the findings. Different from Europe, in the USA a researcher can apply for a patent until one year after publication of his findings.

Legal Protection of Educational Websites

What are the Intellectual Property Rights of teachers, staff and students who have authored materials that they make available for others to share via the website? According to Wells (2001) copyright can potentially be breached through the school website. He gives the example of staff and pupils producing wonderful artwork which is downloaded elsewhere and used in a publication without the authors' permission. Alternatively a student may submit materials from another source to be published on the university website. Subsequently the university or local authority may be exposed to court action. A university therefore needs to be provided with information, control, monitoring, legal protection and insurance against such problems.

Copyrighted Courseware

Increasingly courses are transformed in courseware and are converted

into commercial products to be bought and sold in the market. Universities become producers of as well as a major market for copyrighted videos, CD-ROMs, websites and courseware. Paradoxically, very little criticism is formulated on national and European policy level. On the contrary, in the European political debate the knowledge economy and the valorisation of university knowledge is encouraged (Beynum, G. van, 2002).

Content and Publisher

Over the last decades, textbook publishers have been very successful in the higher education market. In the Internet age the intensity and impact of the publisher's involvement in higher education such as Prentice-Hall and Elsevier Reed increased rapidly. Publishers have a serious market share in the development of online content of courses. They may offer universities exclusive contracts to use (exclusively) the publisher's online textbooks, journals or databases. In the Internet age, there should be a good balance and interaction with the producers of knowledge, the authors, teachers and students themselves about their intellectual work posted online. Otherwise, the range of available knowledge may be limited to a menu provided by the preferred publishers. Pietrykowski (2001) considers the possible control over textbook choice as a determinant of academic deskilling. He shows how the interests of cost-conscious administrators of universities and publishers may intersect.

At the same time there is a source of conflict between the faculty members and the university administrators. Faculty members may complain because the publisher menu may lock in their online educational choices and thus the freedom of knowledge gathering. If a critical mass of faculty members adopt a certain menu provided by the publisher, this may lock in universities to resource commitments, e.g. decisions on ICT support and computer expenditures. Similar 'lock in' effects can be observed in the printer industry, where users are obliged to buy very expensive cartridges. Alternative and often cheaper applications are

blocked due to different standards.

Patents on Software

With respect to the open source movement it is interesting to see how the operating system Linux gained market share from Microsoft. The operating system of Linux is part of the so called open source movement and is considered anarchistic by some critical voices. Linux offers products to servers, databases and mail programs. Companies and programmers can download, copy or change whatever they like. A precondition is that any change in the software is announced in the open source network. This guarantees that in the end improvements are given to the open community. Privatisation or filtering of knowledge is prevented. Linux has a good reputation due to its flexibility and user- and cost friendliness.

The whole idea of Open Source software development is extending in many areas of work.. The latest threat for Linux might come from the patent on software. In the USA it is possible to get patent on software. For example, America Online has patent on the phenomenon instant messaging, which is also used by its competitors Microsoft and Yahoo!. However, AOL did not make a court case of this matter so far. Why may strict patents on software limit the innovative power of a company or even a whole group of nations? If Tim Berners in 1989 would have patented his by that time unknown software HTML and HTTP, the world wide web would now be non-existent. However, the current trend towards patents on software seems to be irreversible. American software developers, in particular the smaller companies, encounter legal obstacles if they want to launch new innovative software on a competitive market with more than thirty thousand software patents. Innovations and free knowledge flows are ! limited through these obstacles. To overcome these obstacles Open Source is growing in popularity. This growth of popularity, however, creates threats to the largest software developers. According to Blind and Edler (2003) the negative impacts on the short run may be small, but

on the long run the process of Open Source as a kind of public good, will be seriously harmed. The authors argue that it is an interdisciplinary challenge (law, economics and technology) for the future to find a proper, effective and efficient way of protection. They propose one solution: "the introduction of a reward system, under which innovators are paid for innovations directly by the government and the innovations pass immediately into public domain, since obligatory licensing may obstruct the incentives of innovators or lead to other even more destructive protection strategies."

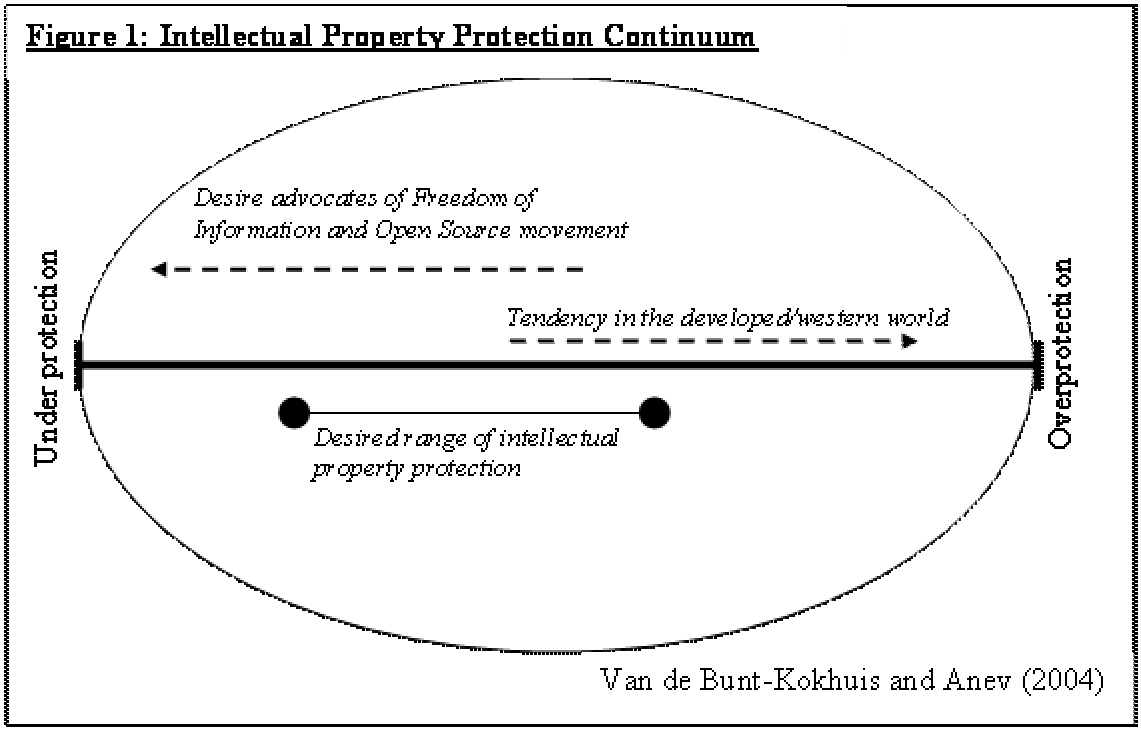
The Future of Intellectual Property

Spinello (2003) discusses in his essay The Future of Intellectual Property the contours of intellectual property protection. He refers to two papers: The Future of Ideas (2001) by Lessig who argues that the expanding scope of intellectual property protection threatens the Internet as an innovational playing field. This is in line with the statement made by Roger Clarke (2001): that in the next decades new technologies of identification and tracking will destroy individual freedom. Litman (2001) argues that copyright law is too complicated and too restrictive. Both authors agree that the overprotecting intellectual rights nowadays cause blocked creativity. The vitality of the intellectual playing field is in danger. ICT created new opportunities to expend information and knowledge in our society. However, this break through is hindered by legal and authoritarian protections of intellectual property. Social and technological opportunities created by ICT are threatened by far reaching IPR protections and may slow down the overall creation of knowledge in society. The overall objective of sharing information and knowledge to enhance knowledge growth of mankind might be hindered by far reaching protection methods of intellectual property. A balance is needed between these individual interests and the societal needs towards knowledge growth. Broad restrictions and property controls on the Internet hinder the public interest and the public domain. The more the public domain is constrained, the greater negative effects it will have

on future creativity. On the long run Spinello (2003) argues that the cost of innovation may be substantial. Intellectual property is developing into very complex legislation. On the other hand there are significant disadvantages to bring down the intellectual rights to a minimum, in case the importance of the worker who deserves credits for his creative work is undervalued. How to find an appropriate award in granting property right of a creative idea or product? According to Spinello this award is possible, as long as the granting doesn't negatively influence the intellectual play ground for future creators.

In summary, a balance is needed between overprotecting and under protecting. The both extremes are undesirable and in some way unreasonable in real life. Looking at the protection of intellectual property a continuum can be designed (figure 1), which represents on the one side the extreme under protection of intellectual property, supported by the Open Source movement and the freedom of information. On the other side the overprotection of intellectual property, advocated by interest groups supporting the idea that the creator of knowledge deserves full protection and rights on his creation of mind. In the western world we see a tendency moving to overprotection of IPR. A balance is needed between overprotection and under protection of Intellectual Property. The desired range of intellectual property protection isn't one exact point in the continuum, but it is a range. This range is influenced by a lot of external filtering issues, like the characteristics of the products/services, the culture(s) of the country, legal systems, ideologies, political and societal systems, and others. In this range the balance should be defined best between these individual interests and reward fore mind-creations and the needs of mankind to extend knowledge.

FIGURE 1 Intellectual Property Protection Continuum



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