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ELECTRONIC DOCUMENT DELIVERY

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Abstract: Technology is helping to find a solution to enable those who own intellectual property and those who wish to use it to live together in the balanced harmony that copyright law was originally designed to achieve. The CITED solution offers the possibility of easy access, flexibility, comprehensive data and recompense for the owners of the many different rights involved in its operation. It is hoped that there may be ways to establish an agency which would oversee and manage such elements of the system as lend themselves to centralisation.

Introduction

The widespread use of electronic technology to produce, store, manipulate and distribute information of all kinds is one of the great achievements of the information age¹. The arrival of digital technologies for handling text, sound and visual images has made the possibilities almost limitless. Not only can material be manipulated within its own form but multimedia packages can be created through information from different sources being downloaded, copies, edited and re-packaged to suit the individual user or to generate completely new products which can be made available on the open information market.

In this environment the role of document suppliers will become more and more important as no one collection of documents, databases, CD-ROMs or electronic storage facilities will be able to meet all the requirements of the researcher in the electronic age: they will have to be met by combining the resources of several centres to meet the increasingly diverse and complex needs of researchers.

The needs of owners, suppliers and users

In the current technological climate both creators and users of intellectual property have certain basic needs which must be satisfied if document supply systems are to fulfill their increasingly complex role². Although it would be easy to categorise the needs of owners as *protection* and those of users as *access*, this is

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a very simplistic approach and many more requirements need to be examined before any comprehensive system of electronic delivery and control can be put into place.

In the case of rights owners the need for protection should not be seen so much as *preventing* use of their material as *controlling* that use. Basically a rights owner needs to be able to control:

- copying from paper on to paper
- copying from paper into electronic formats and *vice-versa*
- copying from electronic format to electronic format including storage and transmission
- multiple copying.

The rights owner also needs to be able to operate:

- Differential pricing for sector, group, type of use. For example, different parts of a database may be priced differently for access depending on the value of the content. A senior researcher of academic could be given access to the whole database because such a person would have the necessary economic power but access for a student may be more limited because of the cost involved or even because the rights owner does not wish some material to be made readily available to students for reasons of sensitivity or security.
- Differential pricing for individual elements within a product such as specific journal articles, elements in a directory or areas of a classification arrangement.

The rights owner also needs:

- Protection against unauthorised use by groups or sectors who may not have purchased any or all of the rights to do the actions mentioned above.
- A system which provides data on use for marketing purposes. Information intermediaries, by penetrating previously untapped markets, will be able to provide considerable data on potential marketing for products and services.
- A system which will ensure compensation for all actions over which the rights owner has exclusive control. Collection of royalties and fees, even if set at zero levels, needs to be achieved efficiently and effectively.

Information intermediaries, by which is meant libraries, document supply centres, commercial document delivery operations and information brokers, need to be able to:

- Gain access to a work
- Store a work
- Retransmit a work repeatedly in different formats depending on the needs of customer
- Exploit additional markets to which rights owners may have no access
- Provide additional services which publishers are unable or unwilling to develop

The users of materials in electronic formats need to be able to:

- Consult the work
- Store the work
- Be confident of the confidentiality of use activities
- Be confident of the integrity of the work

The question is whether such a system is even remotely possible or whether such a system is more like a dream than reality. However it has been said that "when one man dreams, it is a dream; when several men dream the same thing it is the beginning of reality."

The CITED solution

The basic philosophy of the CITED project is that, it is possible, in the digital environment, to control the processes which are an inevitable part of digital technology and, in consequence, control the copying of copyright material. In the present context, it is immaterial what information is represented by the digital signal in any given case; Now it is possible to develop of a generic model of copyright protection of digital information (the CITED model) together with corresponding guidelines and toolkit to enable the model to be implemented in specified domains. The generic nature of the CITED model means that it can be relatively easily mapped on to the legal background both as it is currently and within its foreseen developments. The generic model is also capable of being used as a standard against which different systems can be tested to ensure that they confirm to the basic requirements of a CITED protected system. Compliance with the model CITED can be established for a range of standards, and via a number of different technical strategies. The level of protection can be defined, depending on the nature of the information to be protected, and the rights of various CITED users can be specified. These rights are specific to the users, but the effective right to gain access to a particular piece of information will, in practice, depend on the protection level of that information. At the technical level the CITED model is primarily concerned with the relationship between "actions" (ie those actions which users may wish to undertake), and "rights" (ie those legal rights which

owners, distributors and end-users enjoy). The CITED model is concerned to capture on record the "actions" and the response to these actions will depend on the rights which users of the appropriate information have acquired by purchase or agreement. Although the primary method of acquiring rights is to purchase these, there is no reason why a CITED facility should not permit free access if the owner so wishes. What CITED would permit is the monitoring of the free use which would in itself be a valuable piece of data. Naturally a critical area is the detection of actions which are not permitted, either generally or to a particular user. Of course, CITED can be used both as a countermeasure to such threats and as a marketing tool. Attempts at unauthorised use may bring not just a negative response but information as to how the action which has been refused could be executed. The CITED environment is therefore dynamic and can respond to a range of possibilities.

Naturally some of the technical tools used in the CITED project are adopted from the repertoire developed for the security industry. However, within the CITED project these are viewed as placing a protective guard around the copyright information in a manner which, while preventing unauthorised copying, nevertheless permits convenient access for authorised use. In fact CITED is a sort of tool kit which provides a variety of implements which may be needed in some, but not all, environments.

CITED and document supply

Clearly there are areas of document delivery where CITED would not be appropriate or possible and other where its use in an electronic environment would be essential for the benefit of both owners and users. Copying from *paper onto paper* is not something which can be protected electronically (although some research into this field is just starting), neither can *converting paper format text into electronic formats* although the copying mechanisms used can have a CITED protection built into them as part of the agreement to allow electronic copying. Copying from electronic formats onto paper can, however, be controlled.

Downloading from one electronic format to another is an action which can be suitably protected and monitored. Documents protected using the CITED model can have the facility to download or not built into their protection mechanism to permit copying. However, the technology does not at present offer protection against further copying and distribution once the work has been downloaded.

Downloading from existing electronic formats, storing and distributing to other users.

This is a basic requirement for document delivery services for the future, indeed the present. Many organisations using document delivery services as intermediaries need to acquire documents in electronic forms rather than paper. Ideally document delivery centres would like to receive documents electronically and forward them as and when necessary to their users. The CITED model provides the possibility of downloading documents and this can be done repeatedly provided the centre pays the appropriate fee. The model is also capable of limiting as well as monitoring the number of copies made. Because at present there is no mechanism to monitor and control further downloading, publishers are reluctant to allow document delivery centres and other intermediaries to undertake this action.

Meeting the needs of the document supply industry

The document supply industry is one which is growing in both size and complexity. The roles of different players are becoming less and less clear. Nevertheless the basic requirements described earlier remain the same.

The CITED solution offers the possibility of easy access, flexibility, comprehensive data and recompense for the owners of the many different rights involved in its operation.

Although collection of royalties and data can be achieved through this system, it is desirable that such collection should not be done by each rights owner separately but could be achieved through a central agency similar to a Reproduction Rights Organisation (RRO).

It is hoped that there may be ways to establish an agency which would oversee and manage such elements of the system as lend themselves to centralisation. There are still many areas of this model and its application to develop and the management of the concept is itself one of these.

Conclusion

Technology caused the problem:

technology is helping to find a solution to enable those who own intellectual property and those who wish to use it to live together in the balanced harmony that copyright law was originally designed to achieve.

Document supply will continue to be central to the role of information intermediaries in meeting the increasingly diverse needs of their customers (readers,

users). It enables publishers to reach customers beyond their capabilities and in return allows users to access a much wider range for material than would otherwise be possible. With the increasing use of electronic technology this partnership should an must grow to the mutual benefit of all those involved in the information chain.

References

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