

Digital Mathematics Library Copyright Committee Report

Preliminary version

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Notice

This document looks into copyright issues in the Digital Mathematics Library framework. Sections 1 to 6 deal with general considerations. They do not aim at providing legal advice but rather at pointing out the complexity of copyright issues.

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Section 7 is a first attempt at considering the possible impact of copyright issues on the structure of the Digital Mathematics Library.

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1 Copyright

1.1 Definitions

1.1.1

Copyright is the legal protection given to an original work which allows the copyright owner(s) (who may be the creator(s) of the work¹) to control how that work is copied, adapted, distributed, ... and thus to benefit economically from their creation.

Note that copyright on a work exists in all languages, not only the one it is written in (this means that because you wrote something in English doesn't mean that you don't own rights in, say, French).

Some laws recognize *moral right*, the author have the right to be identified on their work, and to object if their work is distorted (see Section 4, Moral Right). This separate right exists in Europe (with limitations such as in [1], Sections 79 and 81), not in the United States. Note that copyright (or rights subsidiary to that) can be assigned to other parties, by for example the author, whereas the moral right cannot be.

1.1.2

An original work may be a complete book² or a scribbled letter (any original text), a musical composition, a painting, an audio recording, a film, a photograph, a software program, etc.

¹This may not be the case for works created in the course of employment; see for example UK Copyright, Designs and Patents Act 1988 [1], Section 11.

²The word 'book' is used in the sense of 'literary work', not in the sense of 'physical object'. This is why ownership of a physical embodiment confers no right to copy on the owner of that embodiment.

Note that making use of a photograph involves both the copyright of the person who shot the picture and the a moral rights of the individuals who mayt appear on the photograph.

1.1.3

Copyright protection is enforceable in most countries as soon as the work is created without the need for any official act of registration.

2 Special cases

2.1 Databases

As a result of European harmonisation measures, databases might enjoy at least one and possibly two forms of protection within the European Union under copyright and related laws. Note that both types of protection are distinct from any copyright or related rights that may exist in the database contents themselves.

The first right is “database right”; this arises where substantial investment has been made in obtaining, verifying or presenting database content. Database right allows the database maker to control use by prohibiting extraction or re-utilisation of all or a substantial part of the content; for these purposes extraction/re-utilisation of a substantial part can include repeated or systematic takings of parts which, in themselves, are insubstantial. Note that a “database maker” is not the same as “an author”; this right can be enjoyed by legal persons and usually vests in an employer even in European Union civil law jurisdictions. Note that, at present, this form of protection usually only attaches to databases made in the European Union or by European Union-based legal or natural persons.

The database right extends for fifteen (15) years from the creation of the database, or if the database is published during this time, for fifteen years (15) from publication. Database protection is renewable for terms of fifteen (15) years each time it is updated significantly.

The second right is copyright; this will arise in a database which, by reason of the scheme of selection or arrangement of content, constitutes a personal intellectual creation. What this means is that where, viewed from a structural perspective, a database is not only original in the basic sense but also expresses personal creativity, it will enjoy copyright protection as a literary work; in practice, this will happen relatively rarely and so databases will generally enjoy only database right protection rather than both types. Note that because of different rules on “authorship” and “makership”, ownership of the two rights in databases often vest initially in different persons. Note that, although limited, copyright/author’s right protection *is* available to databases made outside the European Union or by non-European Union legal or natural persons.

Note that the United States do not protect databases (encyclopedias and dictionaries are protected under different criteria).

2.2 Typographical arrangement

In the United Kingdom, typographical arrangement is considered a creative act in which there is copyright. Copyright in the design and layout of a book or journal continues for twenty-five years (25) from the date of its first publication. Thus, even if the text itself is in the public domain, the design may have copyright protection that prevents the reproduction of a facsimile page without permission of the publisher. There is no copyright on typgraphical design in the United States.

2.3 Computers

2.3.1

A computer program is protected as an original work. Converting a program counts as *adapting* the work.

2.3.2

Storing any original work in a computer counts as *copying* the work. Performing any of these operations requires prior agreement by the copyright owner, unless the action in question is permitted by law (*e.g.* under ‘fair use’ or related rules in the United States, *etc.*).

2.3.3

Existing photocopying licences do not generally speaking allow any digital use or digital storage of material.

3 Limitations on the exclusive rights

In general copyright protects expression rather than ideas.

3.1

There is no copyright protection for ideas: a work in itself may be protected by copyright, but the idea behind it is not.

3.2

There is no copyright on facts. For example, the copyright in an account of an historical event will be in the unique sequence of words that are used, not in the subject matter itself. There is no copyright on mathematics.

3.3 Ownership of copyright

Although first ownership of copyright may vest in the author, the laws of many countries contain important exceptions dealing with very common situations (*e.g.* where works are “made for hire” under US copyright law, where certain types of works are made “in the course of employment” under UK law, *etc.*). Always watch out for situations where the general rule does not apply.

3.3.1

The work was created by a government employee.

Copyright in the work of a government employee is normally owned by the relevant government. This is true in the United Kingdom and in the United States. This is partially true in France (this rule does however not apply to course notes or research articles). Works of the U.S. government may not be copyrighted, i.e. are ‘in the public domain’ in the United States (they can be protected by copyright overseas).

Who holds copyright might depend on the contract of employment. For example, Cambridge University Press shares the copyright for these notes.

3.3.2

The copyright is assigned by the creator to another party, which may automatically be the grantor under the terms and conditions of certain research grants, etc.

The rules of copyright assignment may be very strict. According to the French law, any right that is not explicitly assigned is considered as remaining with the author, see [7].

3.4 Laws of copyright

3.4.1

There is no universal law of copyright. Each country has its own law, and there are sometimes quite significant differences, notably the duration of copyright and the ‘statutory exceptions’ (see Section 3.6).

3.4.2

All the countries of the European Union are now governed by the European Copyright Directive 2000, but the implementation of the Directive in the national law of each country (due by December 2002) will not be identical. The full text of the directive is available at uk.eurorights.org/issues/eucd/eucd.html

The implementation of the directive in the member states generated concern in the academic communities, see for example

uk.eurorights.org/issues/eucd/ and
www-mathdoc.ujf-grenoble.fr/DA/

3.4.3

Beside the national laws there are international conventions. The *Berne Convention for the Protection of Literary and Artistic Works* and the *Universal Copyright Convention (UCC)* are examples of such conventions. Works may also be protected under the agreement on *Trade Related Aspects of Intellectual Property Rights (TRIPS)* which forms part of the *World Trade Organisation (WTO)* agreement.

3.5 Duration of copyright

3.5.1

Copyright is finite. After a certain period of time a work goes out of copyright - ‘falls into the public domain’ - and may then be freely copied and published without permission.

3.5.2

Throughout the European Union, copyright continues for seventy (70) years after the death of the creator.

In the USA, the duration of copyright is likewise seventy (70) years after the death of the creator provided the work was in copyright under US law in 1998³, but will be shorter if the creator had died before 1978, see [9, 10] for an interesting development.

³This rule at least applies for literary works published by a single, named author. There are special rules for pseudonymous works, *etc*

3.5.3

If the work has never been made available to the public, it may be protected by *publication rights*. This is an automatic right given to the first person who makes a relevant work available to the public within the European Economic Area. The duration is then twenty-five (25) years from the publication date.

Copyright duration, a summary

Original works (from death of author).	EU USA	70 years see [5]
Previously unpublished works (from 1st publication date).	EU USA	25 years see [5]
Database (from last modification).	EU USA	15 years see [5]
Typographical design.	EU USA	25 years see [5]

3.6 Exceptions to copyright

Some exceptions to the blanket protection given by copyright are included in national laws. These are principally for educational purposes. For example, under some jurisdictions, educational institutions may copy without permission a defined amount of a work otherwise protected by copyright for strictly educational purposes.

Under the UK Copyright, Designs and Patents Act of 1988, material may be copied without permission under the provision of fair dealing for ‘criticism and review’, i.e. the material is essential for the author to make the critical point. This provision applies for printed material. The case of digital material has so far not been settled (for the US, see [2], a summary of the Digital Millennium Copyright Act).

3.7 Exploitation of copyright

Copyright is made up of separate subsidiary rights. For a book these include the right to copy it in a variety of forms and media - print, electronic, audio (as a reading on the radio or on cassette); to translate it into any language; to turn it into a play or a film; etc. The copyright owner may exploit all these rights themselves, or may license some of them to others. Unless otherwise stated copyright applies to electronic documents as well.

3.8 Copyright and the Internet

3.8.1

As a general principle, material circulating on the internet or stored on web servers will be protected under the copyright laws of the countries in which it is posted or downloaded. Note that jurisdiction is a complicated issue. Within the European Union, the general rule is that a person is sued in the country in which they are domiciled but, in the case of a tort (civil wrong - including, for these purposes, infringement of copyright), the injured party can elect to sue in the country in which the wrong took place (a tricky concept to apply in digital networks). Note also that, under these existing European Union rules, even where jurisdiction is established, it does not automatically follow that the law of that jurisdiction will apply.

When putting a work on the internet it is a good idea to mark it with the © sign followed by the name of the copyright holder and the year of publication. It is advisable to include on a web site whether and how far you allow others to use your copyright material without permission. Potential users will then be aware that you know the work is copyrighted and that you may enforce your copyright.

3.8.2

Electronic use and copying are different from photocopying. Existing photocopying licences do not, unless otherwise stated, allow any digital use or digital storage of material. Digitisation (*i.e.* scanning a paper original into digital form) cannot be done without prior consent of the copyright holder, unless a limitation to the exclusive rights does exist.

Fair dealing is allowed under some national laws and limited by strict conditions. The US Digital Millennium Copyright Act covers fair use for digital material, [2] (see also [4]). This does not seem to be the case in the UK, see [3].

3.8.3

Although inserting a hyperlink is unlikely infringe moral right (if any), it is a matter of courtesy to notify sites you intend to link to. Note that several U.S. courts have held that including hyperlinks on a page can constitute copyright infringement (if the material to which you are linking itself infringes copyright). You may then be a contributory infringer.

4 Moral rights

4.1

Moral right is recognised by the Berne Convention, but is distinct from copyright in that it is always retained by the author/creator, even if the creator has assigned copyright to another party.

4.2

US copyright law contains only limited statutory moral rights protection relating to certain works of visual art. However, an author can still seek to protect his/her non-pecuniary interests under a variety of other actions either under other Federal laws or under State law (e.g. rules relating to breach of contract, defamation, misappropriation, unfair competition, infringement of Lanham Act provisions, etc.).

On the other hand, the UK Copyright, Designs and Patents Act 1988 recognises two principal moral rights:

4.2.1

The right to be identified as the author of the work (the right of ‘paternity’). This right only comes into effect if the author ‘asserts’ it before the first publication of the work and this assertion therefore forms part of the Press’s publishing Agreements.

4.2.2

The right of integrity. This right does not have to be asserted. It is the right ‘not to have a work subjected to derogatory treatment’. What is ‘derogatory treatment’ is bound to be a subjective decision, which is why it is essential to seek the author’s approval for editorial changes and for any adaptation that may be planned. Note that putting an article or book

into house or journal style is not regarded as a substantive change. For journals especially, that publish their style on the journals cover, for example, the author implicitly agrees by submission, that the article can be so changed.

4.3

There are some types of work where neither moral right applies - collective works of reference, such as an encyclopedia or a dictionary, and the works of employees are also exempted.

5 Some copyright organisations

Here is a partial list of organisations taking care of copyright issues. Most of them are members of the *International Federation of Reproduction Rights Organisations (IFRRO)*

- IFRRO International Federation of Reproduction Rights Organisation: www.ifrro.org
- CAL Copyright Agency Limited (Australia): www.copyright.com.au
- Cancopy (Canada): www.cancopy.com
- Copy - Dan (Denmark): www.copydan.dk
- Kopioisto (Finland): www.kopioisto.fi
- CFC Centre français d'exploitation du droit de copie (France): www.cfcopies.com/
- VG WORT (Germany): www.vgwort.de
- SR Stichting Reprorecht (Netherlands): www.cedar.nl
- COPIBEC (Québec): www.copibec.qc.ca
- CEDRO (Spain): www.cedro.org
- Pro Litteris (Switzerland): www.prolitteris.ch
- CLA The Copyright Licensing Agency Ltd (United Kingdom): www.cla.co.uk
- CCC Copyright Clearance Center (United States): www.copyright.com

6 Credits

For the preparation of these notes we have made use of several leaflets and in particular

- Basic facts Copyright, The Patent Office (An Executive Agency of the Department of Trade and Industry), United Kingdom, March 2002 www.patent.gov.uk
- Digitisation and Electronic Copying, The Copyright Licensing Agency, United Kingdom, 2002 www.cla.co.uk
- Charte pour le respect de la propriété intellectuelle dans les universités, Centre français d'exploitation du droit de copie, France, 2002 www.cfcopies.com/

For a more detailed study see [8].

7 Digital Mathematics Library and the copyright point of view

One important question concerning the Digital Mathematics Library project is

“Which kind of structure should we set up for the Digital Mathematics Library ?”

Copyright is one of the main issues to address in order to answer this question.

In many cases (depending on local copyright laws), we will need to ask journals (institutions or publishers) and/or authors permission to digitise and make the papers electronically available.

Who should hold or be assigned the relevant rights on the digital archives ?

One can imagine at least three possibilities:

1. Whenever necessary, authors assign the relevant rights to the journals (*i.e.* institution or publisher). For example, in the framework of the NUMDAM programme, authors would assign the rights to the Société mathématique de France as far as the Bulletin de la Société mathématique de France is concerned, or to Springer Verlag as far as the Lecture notes in mathematics are concerned, ...). Journals make agreements with the (local) digitisation programmes and the Digital Mathematics Library.
2. Authors assign the relevant rights to (the institution responsible for) the digitisation programme. That would be Cellule MathDoc or NUMDAM in the case of the Bulletin de la Société mathématique de France or for the French seminars published in the Springer LNM series are concerned. This case of course assumes there are existing agreements between journals and digitisation programmes.
3. Authors assign the relevant rights to the DML (assuming it has been given some structure, such as a foundation, a consortium, ...). This case assumes there are existing agreements between journals and the DML.

Contributions to this questions are, to date, as follows:

Pierre Bérard (2002-11-24): I believe that (1) is more appropriate and I would expect journals (institutions or publishers) to make agreements with the local digitisation programmes (this is how we are working things out for the NUMDAM programme in France) and/or with the DML directly (assuming it has been given some structure). Journals or digitisation programmes could join the DML in the form of a coalition à la SPARC. Such agreements might of course depend on the economic models that are chosen.

John Ewing (2002-11-24): I very much agree that (1) is the only reasonable option, in almost all cases.

Options (2) and (3) seem especially unworkable in the case of authors, and I think they will scare most publishers away in any case. Publishers will want to have more control of the process.

Option (1) is also the natural choice if the DML adopts the model I feel is most workable – material is digitized for publishers by the DML (many small projects) and given back to them; in return, publishers agree to make it available on their sites. Transferring rights is therefore a minor matter in this case, and the key is rather making binding agreements that detail the publisher’s responsibilities, as well as remedies in case those are not met.

Catriona Byrne (2002-11-26): Yes, as John Ewing has said already (1) is the natural option, likely to meet with the best acceptance from authors. In all cases it needs to be made clear to authors what the implications are. It is probably not clear to most what it would mean

to transfer rights to a project like NUMDAM. Should (Can) the transfer be exclusive ? Why/Why not ?

David Tranah (2002-12-05): I agree with John; the only viable option is (1), assuming that author's employers allow them too of course (articles can be published simply with permission, and need not involve any transfer of rights, but let's not go down that road). That would ensure that there is little difference in the operational model between old content and new, and would make it simple for content owners to 'join in' later.

Of course, if the structure involves transfer of rights to DML then that would constrain the nature of the DML, and the question of what this nature is has come up before.

We want content owners to join in with this enterprise, but we have to admit that they won't give away ownership of content (nor probably will they sell it).

What sort of structure should the DML have therefore that will attract content owners: in my opinion, the DML should be a club with rules and benefits. A club is to my mind somewhat different from a consortium.

It's something that has members, with membership for a minimum time but renewable; that has few if any employees; that has rules governing membership; that provides benefits; that itself need not own property; that controls only limited funds; that charges modest membership dues. Thus the DML will be both a club, and, through its membership, a distributed collection of digital mathematical content.

Content owners can, along with other relevant bodies, join the club, and in so doing they sign up to its rules.

What the rules and benefits are must be related to the financial/business model to some degree, and ought to be established or ratified by a standing committee of the IMU/ICIAM in order to ensure that there is fair, balanced international representation for mathematicians and mathematics.

As to benefits, the DML will promote the digitization of mathematics content by establishing a set of standards and guidelines for digitization, by providing tools, by providing a stable and global window to archives. The DML should not require transfer of ownership of content to it from current owners; it need not host content.

Thierry Bouche (2002-12-06): I think it is safe that ownership and rights be left untouched by the DML. I would advocate for a neat separation between metadata and actual content. The DML should host on its own right a large database with rich metadata, freely searchable. Providing the metadata in some compatible format (and allowing its full access without charge) could be the fee content owners "pay" for joining the club.

As a counterpart, mathematicians would have a single place where to look for any digital maths resource, and the content owners would gain maximum visibility for their publications, even those with restricted access

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