

Free Access to Law and Open Source Software

Daniel Poulin, Andrew Mowbray and Pierre-Paul Lemyre

Abstract

Accessing basic legal information is of fundamental importance, however before the Internet, the provision of legal databases was entirely commercial and accessing it was costly. The Legal Information Institutes played a central role in changing that, today in many countries, primary legal information now flows directly and freely from courts and governments to citizens. Not surprisingly, most of the LIIs are strongly reliant upon open source software. The approaches favored by the LIIs closely match open source trends: avoidance of monopolistic control, reuse of information, standardization, tools sharing, avoidance of revenues models depending on selling information as a product.

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The *Free Access to Law Movement* is a set of international projects that share a common vision to promote and facilitate open access to public legal information. There are direct synergies between the notion of “freeing the law” by providing an alternative to commercial systems and the ideals that underpin *open source software*. In addition, open source software has been an essential foundation for the work that has been done and new open source code has been developed.

The objectives of this chapter are to: outline the *Free Access to Law Movement*; to set out the philosophies and principles behind this; and to discuss the role that open source software has played both in terms of its use and development. It concludes with an assessment of what has been achieved and of the similarities between the Free Access to Law and Open Source Software movements.

●Background

Law consists of legislation, judicial decisions and interpretative material. *Public legal information* means legal information produced by public bodies that have a duty to produce law and make it public. This includes the law itself (so-called *primary materials*) as well as various *secondary* (interpretative) public sources such as reports on preparatory work and law reform and resulting from boards of inquiry and available scholarly writing. It also includes legal documents created as a result of public funding.

Lawyers have been interested in the electronic publication of legal materials and associated information retrieval systems for a very long time. The earliest reported experiment is generally said to have been done by John Horty at the University of Pittsburgh in the late 1950s (Bing, 2004). The first major commercial system appeared in 1973 with the launch of *Lexis* (now *LexisNexis*). This was based on an earlier system developed by the Ohio Bar (OBAR) which had

been established in 1969. OBAR was acquired by Mead Data Central and redesigned to become Lexis. LexisNexis is now one of the largest commercial text databases in the world. It is currently owned by the Reid publishing group. Lexis was followed by *Westlaw* in 1976. Westlaw is now owned by Thomson Publishing and is the major business competitor to Lexis. Several other commercial and government based systems also appeared about this time, but were largely ultimately unsuccessful such as the now defunct European system *EUROLEX* and the Australian system *SCALE* (Greenleaf, 1988).

In the eighties and nineties, Lexis and WestLaw expanded the scope of their services to include international collections and in their original jurisdiction (the United States) established a near duopoly (McKnight, 1997; Arewa, 2006). Attempts were made in various other places such as Australia and Canada to create either government or government sanctioned commercial monopolies (Greenleaf, 1988).

The resulting environment was, and to some extent still is one that is characterised by limited access to basic legal materials. Whilst the commercial systems provide a very sophisticated set of services they are for the most part targeted at the legal profession, they require significant training in order to use them. The services are very expensive and generally are not available for casual use. Non-lawyers seldom access the commercial systems and even lawyers can often not afford to use them.

● **Why is free access to legal information important?**

At the most fundamental level, access to public legal information supports the rule of law. Citizens are governed by laws and so have a need and right for effective access to these laws. Businesses also generally operate in a regulated environment and have similar needs. Effective access to basic legal information is essential both from a social perspective and also to facilitate the proper operation of business and commerce.

Apart from being able to access domestic laws, there is also increasingly a need to access law from other jurisdictions. Business operates on an international basis. Corporations need to be aware of international regulatory requirements and countries need to make their legal systems transparent to encourage international investment and trade. Particularly in the case of

developing countries, there is a major need for access to international laws to assist with law reform and development (Poulin, 2004B).

●The Free Access to Law Movement

The *Free Access to Law Movement* has grown out of a set of projects that have attempted to address these issues and to provide alternatives to the commercial legal publishers' systems. Most of these projects are called *Legal Information Institutes* (or *LIIs* for short).

The earliest initiatives were in the United States and Canada. In 1992, Tom Bruce and Peter Martin established the Cornell *Legal Information Institute* (Bruce, 2000A and 2000B). This service was initially based on *Gopher* and provided free access to decisions of the United States Supreme Court and the United States code. It moved to the web in 1994. In Canada, Daniel Poulin and his team at *LexUM* started publishing the full text of decisions of the Canadian Supreme Court in 1993 (Poulin, 1995).

Both systems helped to identify a strong demand for free public access to primary legal materials. In Australia, Graham Greenleaf and Andrew Mowbray founded *AustLII* (the *Australasian Legal Information Institute*) in 1995 (Greenleaf, 1995). By the end of the year, *AustLII* was publishing some 16 databases including the decisions of most of the major Australian federal courts as well as federal and state legislation and by 1998 became the first LII to achieve national coverage. It now includes over 200 databases covering virtually all courts and tribunals in the country.

Other systems adopting a similar approach followed. These included the *British and Irish Legal Information Institute (BAILII)* in 1999, the *Pacific Islands Legal Information Institute (PACLII)* and the *Canadian Legal Information Institute* in 2000 and the *Hong Kong Legal Information Institute (HKLII)* in 2003 (Greenleaf 2002, Poulin 2004A). Various *meta-systems* were also built that drew upon the information contained in the other LIIs (*WorldLII*, *Droit francophone* and *CommonLII*).

The *Free Access to Law Movement* was proclaimed at the annual *Law via the Internet* conference in Montreal in 2002. The current terms of the *Montreal Declaration* (as amended in Sydney, November 29, 2005 and Paris November 5, 2004) are (in part):

Legal information institutes of the world, meeting in Montreal, declare that :

- *Public legal information from all countries and international institutions is part of the common heritage of humanity maximising access to this information promotes justice and the rule of law;*
- *Public legal information is digital common property and should be accessible to all on a non-profit basis and free of charge;*
- *Independent non-profit organisations have the right to publish public legal information and the government bodies that create or control that information should provide access to it so that it can be published.*

...

Legal information institutes:

- *Publish via the internet public legal information originating from more than one public body;*
- *Provide free, full and anonymous public access to that information;*
- *Do not impede others from publishing public legal information; and*
- *Support the objectives set out in this Declaration.*

...

Each LII is responsible for publishing legal materials for a particular country or geographical region. AustLII, for example, publishes materials for Australasia (that is, Australia and New Zealand). Apart from providing access to the full-text decisions of all major courts (such as the High Court, Federal Court and State Supreme Courts), as has been said, AustLII also publishes decisions of nearly all Australian tribunals. Access to consolidated (and in some cases, *point in time*) legislation and regulations from all nine jurisdictions is also available. Other content includes: Law Reform Commission reports from most States; access to most Australian law journals; and a database of all bilateral and multi-party treaties.

Like most of the other LIIs, AustLII uses automated processes to add rich hypertext markup to its materials. In all, the system currently includes around 40 million internal hypertext links. Free text searching is available over the entire system or selected databases. AustLII is the major source of legal information in Australia and accounts for 25-30% of all legally related traffic in the country.

At the time of writing, the various LIIs together publish around 663 databases containing legal materials from 86 countries as well as 21 international collections. The total number of individual documents exceeds 3 million. Total usage is estimated to be in the vicinity of 3.5M direct hits (or page accesses) per day.

The content of these databases consists mainly of *primary materials* – that is, court decisions, legislation and treaties, but increasingly secondary materials such as law journals, law reform commission reports and the like are being added.

The LIIs have changed the way that law is made available to the public. Whereas in the past, there was exclusive reliance upon commercial publishers as conduits for the dissemination of this information, primary legal information now flows directly from courts and governments to consumers. The LIIs freely offer a level of value adding that establishes a new baseline for commercial publishers. Examples of this value adding include hypertext markup and search

capabilities. The citator created by LexUM for CanLII (Reflex) provides a further example (Poulin et al., 2005).

Each LII concentrates on making available domestic laws, but beyond these local endeavors all LIIs collaborate to expand the freely accessible law space internationally. This collaboration takes many forms. First of all, they all participate in promoting and supporting free access to the law by lobbying data providers such as courts, governments and other bodies. They also provide, within their means, technical assistance and advice and training to other organizations. They hold annual conferences in order to exchange information and share knowledge. These conferences are public and all those interested can register to take part. Since many LIIs are based in universities, a significant part of those conferences is set aside for academic exchange of research results.

This cooperative spirit can be easily illustrated by the collaboration between the University of the South Pacific and AustLII to establish PacLII. Robynne Blake had worked for a number of years to build a substantial collection of South Pacific legal materials. AustLII assisted by provision of technical know how and their software. In 2006, after many years of progress PacLII obtained a large grant from New Zealand Aid to expand its reach towards making the laws of the various states of the area freely accessible on the Internet. PacLII is now (in terms of the number of staff) one of the largest of the LIIs.

Similarly, LexUM collaborated with many interested parties in Burkina Faso to establish Juriburkina. Today, Juriburkina is operated from Ouagadougou by the local bar association and with the support of the higher courts, Government General Secretariat and a local Internet startup called ZCP informatique. A similar approach is being followed in Senegal and the project has reached implementation stage.

●Development of Interest in Open Source Software

The LII promoters and developers were not always early adopters of open source software. Although most of the LIIs were Unix based, the significance of open source software only started to become more evident towards the end of the nineties. Today, not only is most of the

software used by LIIs open source, but the LIIs have themselves started to offer elements of their own production software under open source licences.

Many reasons may be put forward to explain the initial caution. First of all, in the early nineties, open source was not as developed and mature as it is today. At the time, the LIIs rightly set “making the law accessible for free” as their principal agenda item. To achieve this, the most effective software, proprietary or otherwise was deployed. The reluctance towards more generally embracing open source by the LIIs, was partly based on the lack of maturity of the available open source software and partly attributable to the dominant prevailing prejudice towards conventional corporate approaches.

There was a major reappraisal of the initial attitude towards open source software from around 1998. At the time, for example, the operating system of choice for the LexUM’s servers was Solaris from Sun Microsystems (this was also in use at AustLII and the Cornell LII). However, LexUM’s programmers were mostly undergraduates and some of them had Linux installed on their home computers. These programmers were aware of the value of open source and argued strongly for the adoption of GNU/Linux. In the course of this campaign, they had even installed for demonstration purposes another open source flagship of the time, the already well respected – Apache web server to replace the Netscape Enterprise Server that was then in use. But despite the apparent functioning of Apache, LexUM, was reluctant to abandon the safety of using a proprietary solution for what appeared to be a more risky free alternative.

Then as today, LexUM was working with the Supreme Court of Canada (SCC) to make its decisions available for free in a timely manner. A long-awaited SCC judgment was expected on August 20th 1998 when the Court’s decision on the legality of a unilateral secession of Quebec from Canada was to be published. The morning the decision became available, the LexUM Netscape Enterprise based server went down at the moment the decision became available. The server was unable to cope with the rise in demand. After over an hour of rebooting the server, LexUM’s student programmers brought up the Apache based sever. The move saved the day, and Apache kept running without failure for many weeks. From then on, LexUM used Apache as its Web server. In the following years, LexUM switched all of its servers to Linux and Apache.

The other LIIs had similar experiences. Most either had already or were soon to adopt Apache. Many moved to Linux and to generally adopt open source software as the basis of their production systems.

●**Current Use of Open Source Software**

Although the commitment to open source has never been a religious one, most of the LIIs are nevertheless strongly reliant upon open source software. Although this is partly a matter of simple economics, this is not of itself sufficient to drive the adoption of open source as even free bad software is still obviously a poor choice. The open source orientation leads to a twofold benefit: savings in licence costs, but more importantly it led to the provision of reliable tools and powerful products to achieve the vision of freely accessible law. The current approaches used by the LIIs closely match open source trends. Open source developers develop many tools targeted for the Web that closely meet the needs of LIIs.

As has been said above, most of the LIIs use GNU/Linux and Apache. In addition some commonly used open source programs include database and indexing programs such as PostgreSQL, Open LDAP, Apache Lucene and Nutch; programming languages and tools that include: perl, python, gcc, Eclipse, mod_perl and Mason; and various other tools such as FastCGI and Mason.

Proprietary software is still used but only where a suitable open source solution cannot be identified. For example, most LIIs still rely upon proprietary software for a significant part of basic document preparation and conversion (such as Microsoft Word) and for some aspects of network security (for example, AustLII uses Check Point and Tripwire).

●**Development of Open Source Software by LIIs**

Prior to the World Wide Web, the publishing of databases of legal information was essentially the work of commercial publishers who used specialised software that had often been developed in-house. The Web brought with it a number of generic publishing tools such as conversion tools, search tools and web servers. However, tools to support more specialised legal publishing needs remained rare. This led a number of the LIIs to develop the tools they needed.

One of the first of these was *Sino* (short for "size is no object"). *Sino* is a high performance free text search engine. It was originally written in 1995 and has been mainly used to provide production level search facilities for most of the Legal Information Institutes that form part of the Free Access to Law Movement. *Sino* went to a major rewrite in 2006 that makes it even faster and adds new functionality (Mowbray, 2006). *Sino* from its initial release has always been a very fast search engine and its indexing and searching time have been kept at the level of the fastest proprietary products.

Sino is designed to be easy to interface with via a simple C/Perl API as well as a ready written interactive interface for testing or for actual use on Unix sockets. The tool is relatively small and easy to understand at about 12K lines of ANSI/POSIX.1 compliant C code. *Sino* concordances (indexes) are portable across platforms with different architectures. *Sino* has been in use on a number of major web sites answering many millions of requests for the past 10 years and so is robust and reliable.

Sino is a tool aimed at improving the access to the law. It was at the heart of AUSTLII from the very beginning and has been subsequently adopted by BAILII, PacLII and HKLII. LexUM used it for CanLII for many years. From 1995 until 2006, *Sino* and its source code were made available for free to anybody wanting to publish the law openly and for free. With its last rewrite, *Sino* became open source and it is now licensed under the GNU General Public Licence (GPL).

LexUM has also developed a number of pieces of open source software. *LexEDO* is a legal publishing platform aimed at providing a ready-made and easy to use solution for small-scale publication projects particularly in the developing world. *LexEDO* provides a means to manage legislation, caselaw and legal periodicals as simple databases, to automatically convert documents to PDF and HTML and to generate a website accordingly. All of these tasks can be accomplished by lawyers or law students acting as editors through web-based management interfaces.

LexEDO has been distributed to such organisations as the Bar of Burkina Faso, the Government General Secretariat of Burkina Faso and the Bar of Senegal. In the context of these projects, the

availability of the source code was critical for capacity building purposes. In Burkina Faso for instance, LexEDO has been maintained locally for a period of over two years by a private host called ZCP Informatique. To some extent, the fact that LexEDO source code is available allows ZCP to develop local solutions to local problems without requiring LexUM's assistance. It also provides them with the means to control the evolution of their project, or even to replicate it elsewhere thus spreading Free Access to Law. As is the case for Sino, LexEDO is distributed under the GPL.

LexUM has also developed a program called NOME to assist with the anonymisation of judicial decisions. In many jurisdictions some or all judgments must not contain the names of parties or accused. For instance, anonymisation of judicial decisions involving young offenders is mandatory in Canada. To efficiently achieve this result, LexUM worked with the Computer Science Department at the University of Montreal (Plamondon et al., 2004). The result was a small program which is capable of guessing and initialising proper names in Word documents. NOME is now distributed for free with its source code.

In respect to software developed in LIIs, Sino is certainly the most mature. Sino, LexEDO and NOME are distributed under the GPL. Various other software tools have been developed and are distributed by the LIIs to various partner organisations. As other tools become of more general application, they will become candidates to become new open source offerings.

●Conclusion

The use of Open Source Software by the LIIs reflects the fact that both movements are well aligned and in many senses similar. The most evident of these similarities can be listed as follows:

Avoiding monopolistic control over the information

Legal information, similarly to source code, *wants to be free* (Williams, 2002). Both the Free Access to Law and the Open Source Software movements were conceived in reaction to the seizure of information by entities (state or commercial) not willing to share it freely with others.

Promote the reuse of information by third parties

As is the case for source code, legal information is useful only if it can be reused for various purposes. Users need the possibility to save legal documents in different formats, to send them to colleagues and to present them in courts. Some users might even need the right to reuse documents in a commercial context (for the publication of a paper based law report for example).

Promote the development of standards

As for software development, the dissemination of legal information is improved by the adoption of standards by the players involved. These standards can take the form of uniform citation mechanisms, drafting practices or workflow models. Historically, LIIs are at the center of such initiatives (Poulin, 1999).

Need to share tools

Organizations involved in Free Access to Law all face the same difficulties. They constitute a community tied together by the need to edit and convert large volume of legal documents, to publish them on the Web and to provide information retrieval tools to their users. Similarly to every Open Source Software community, LIIs have incentives to share their efforts in the achievement of common goals.

Proponents do not derive revenue from selling information as a product

The source of revenue of LIIs and Open Source Software developers is the same. It flows not from the information they publish but from the expertise they developed doing so.

Considering all these similarities, the use of Open Source Software can easily be seen as an complementary strategy to strengthen Free Access to Law. It allows the LIIs to achieve near complete transparency by opening-up not only the legal information, but also their publication process. By doing so, the LIIs achieve several goals at once: they guarantee (to a certain degree) the integrity of their data; they facilitate interactions with the other players in the field; and finally, they help foster the emergence of additional Free Access to Law projects.

For people or organisations that would like to pursue free access to law projects in their own country or region, the required software is now available. There are many high quality resources available from the open source community that can be used to establish web services. The major distributions of Linux (and other open source operating systems) and the Apache web server are of world-class quality. There are a number of suitable search engines available. The Web and the availability of open source software means that it is now relatively straight forward to disseminate information.

For the more specialized requirements involved in publishing the law such as the conversion of data, hypertext markup, metadata extraction and the like, the LIIs are able to make a contribution. As a result, it is increasingly the case that for those who wish to make the law more accessible, there are available tools.

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