

# Legal Information Institutes and AI: Free Access Legal Expertise

Graham GREENLEAF, Andrew MOWBRAY and Philip CHUNG

*Australasian Legal Information Institute - AustLII (Australia)*

**Abstract.** The use of Artificial Intelligence (AI) in law has again become of great interest to lawyers and government. Legal Information Institutes (LIIs) have played a significant role in the provision of legal information via the Web. The concept of ‘free access to law’ is not static, and its principles now require a LII response to the renewed prominence of AI, possibly to include improving and expanding free access to legal advice. This overview of one approach, from justification to implementation, considers the potential for AI-aided free legal advice, its likely providers, and its importance to legal professionalism. The constraints that ‘free’ imposes lead to the potential roles LIIs may realistically play, and suggested guidelines for development of sustainable systems by free access providers. The AI-related services and tools that the Australasian Legal Information Institute (AustLII) is providing (the ‘DataLex’ platform) are outlined. Finally, ethical (or governance) issues LIIs need to address are discussed.

**Keywords.** artificial intelligence, LII - Legal Information Institute, legal advisory system

The use of Artificial Intelligence (AI) in law, including in relation to decision-support systems, has again become a matter of great interest to both the legal profession and to government. The previous wave of enthusiasm for, and investment in, ‘AI and law’ from the early 1980s to the mid-1990s was to a large extent supplanted by the development of the World-Wide-Web and the provision of legal information via the Web. Legal Information Institutes (LIIs) and the Free Access to Law Movement (FALM) played a very significant role in those developments [1]. What roles might LIIs play in this new AI-oriented environment?

The concept of ‘free access to law’ is not static, and has evolved over the past quarter-century [2]. The principles of free access to law now require a LII response to the renewed prominence of AI-related developments in law, which could include improving and expanding free access to legal advice, as part of ‘free access to law’, consistent with those of FALM’s *Declaration of Free Access to Law*<sup>1</sup>. ‘Freeing the law’ is a continuous process.

This Chapter provides an overview of one approach to all aspects of this question, from justification to implementation. We commence with a discussion of the potential for provision of AI-aided free legal advice, its likely providers, and its importance to the future of the legal profession. We then consider the constraints that the requirement of ‘free’ imposes, including on what types of free legal advice systems are sustainable, and what roles LIIs may realistically play in the development of such a ‘commons of free

---

<sup>1</sup><http://www.falm.info/declaration/>.

legal advice'. We suggest guidelines for development of such systems. The AI-related services and tools that the Australasian Legal Information Institute (AustLII) is providing (the 'DataLex' platform) are outlined, including how they implement these guidelines. Finally, we suggest questions concerning ethical (or governance) principles LIIs need to address when they are involved in using AI tools.

## 1. The New Threats and Promises that AI Presents to Legal Advice

The 'Web 2.0' context since about 2004<sup>2</sup> creates a very different environment from the pre-1995 (pre-Internet, in popular usage) context of the first wave of 'AI and law'. This context makes it more feasible to talk about the collaborative development of free legal advice services based on AI. The reasons include the significant roles that FOSS (free and open source software) and open content (exemplified by Creative Commons licensing and Wikipedia) have had on the development of the Internet; the much greater sophistication of interfaces; and the differences that interaction between AI-based tools and huge amounts of free access legal content can make.

### 1.1. *The Trajectory of Digitisation of Legal Information Toward a Commons*

We can distinguish three types of digitisation relevant to the giving of professional legal advice: representation of information used by experts; representation of expertise and its general application; and application of expertise to individual situations. These categories overlap in reality, these distinctions enable us to consider more precisely [3] how likely is it that each category will be 'liberated' and become part of the commons (in which we include availability for free access).

(I) *Representing Expert Domain Information* – 'Raw' (primary) information used by experts is the most likely aspect of expertise both to be digitised and to become part of the commons. Databases of primary information essential to legal professionals (legislation, treaties, court decisions etc.) are already substantially digitised and available online, and with increasing utility (e.g. smarter retrieval systems, and smarter data structures). In many countries substantial amounts are available as commons, at least for free access and often as open content, usually via government sources. In a few dozen countries such as Australia, free access 'legal information institutes' (LIIs) aggregate this data and add value to it, making it a resource used by professionals and the general public alike. Even there, some primary information is only available commercially, include standards, 'authorised' reports (monopolistic practices arising from privileged citation practices), and important 'pre-LII' historical data. However, in less than 25 years since the start of widespread availability of such data via the Web, the increase in free availability is extraordinary, and is tending toward a comprehensive commons.

(II) *Representing expertise in general form* – When professional expertise is represented (or embodied or reified) this is usually in a generalised form which may or may not be applicable to an individual situation where expertise is needed, because of the enormous variation of individual situations which may arise. It is up to the reader (usu-

---

<sup>2</sup>The term 'Web 2.0' was popularised from around 2004, generally taken to include web services catering for user-generated content (including all social media, blogs, Twitter etc.), and many software enhancements allowing much more responsive interfaces than plain HTML.

ally the correct term) to apply the expertise to the individual situation. Legal professionals represented their expertise in many ways prior to the Internet – in textbooks, journal articles, encyclopedias, and in very significant, but more mundane, forms such as citators and checklists (often as supervisors of non-professionals).

In the pre-Internet era, compilations of expertise may have been collective (e.g. commissioned encyclopedia articles, or *Halsbury's Laws*), but were very rarely 'crowd sourced'. The economics of publishing meant that such reification of expertise could rarely be provided as a commons, and instead it usually became an economic asset of a commercial publisher and an author. The Internet changes some but not all of these factors. Expertise is a very valuable asset of many professionals. It is very time-consuming to consciously embody it in any form, and many professionals are very reluctant to 'give it away', either because they believe it gives them a competitive advantage, or because they would prefer to be paid by a publisher, or because publishing expertise is time-consuming, difficult and potentially risky. Commercial publishers of such expertise will not disappear. Commons must always coexist with commerce.

However, the last quarter century has brought many changes, the revolutionary potential of which are only becoming apparent through the accretion of successes, including free access repositories of current scholarship, archives of published journals, and changing academic funding requirements. The crowd-sourced Wikipedia demonstrates that under certain circumstances (including viral licensing), the expert and non-expert public can combine to create the largest, free, and probably by now most reliable encyclopedia. However a 'closed wiki' model, where content may only be edited by professionals may be more suitable for law, because of its emphasis on authority. Successful commons examples exist including multi-author guidebooks [4], and automated citators performing to professional levels [5]. The result is that the combination of factors such as these – peer-reviewed free content; funding body pressure; viral licensing; crowd-sourcing; collaborative editing by closed professional groups; and automated substitutions for expertise – and many others, may threaten the viability of some types of commercial control of the publishing of expertise. More importantly, they demonstrate that it is becoming viable for professionals to control the representation of their own expertise, as a commons.

*(III) Applying Expertise to Individual Situations* – It is the third category, the application of expertise to individual situations (the problems of individual clients) via programs, which is seen widely as a major threat to the future of professionals and professions [4]. At present, the number of convincing examples and their commercial viability do not make it inevitable that there will be generalised dire results for professions. To understand the likely implications, it is necessary to distinguish at least three types of the programmatic applications of legal expertise: human expertise embodied in knowledge-bases which interact with programs; embedded knowledge in artifacts; and machine-generated expertise. The first is most relevant to free legal advice providers. The question is whether, in those areas where legal expertise can be effectively captured in knowledge-bases to be used in decision-support systems, can they be developed as a commons, or only as commercial products? The following sections explore this further.

### *1.2. AI and Threats to Legal Professionalism*

It is somewhat ironic that one of the arguments favouring the development of a commons of legal expertise is the threat that the application of AI to law poses to the legal

profession and individual legal professionalism. The extent of the threat (also presented as a promise of efficiency) is still very difficult to estimate, though often claimed to be extreme. The threat has three main sources. Where there is a substantial market for solutions to a category of legal problem, expert advisory systems can economically automate answering problems up to a certain level of complexity. Beyond that, knowledge acquisition and other bottlenecks make their applicability unproven. Embedded knowledge delivered through software will continue to permeate the material world and to impose 'normal' behaviour which adheres to medical, accounting or legal norms (including some 'smart contracts'). Machine-generated expertise will be relied upon increasingly in relation to the set of problems where prediction of a 'correct' answer is sufficient (by whatever path it is reached), and explanations in terms of underlying causes and human reasoning are not required ([4], 2.3).

If we assume that these nascent developments will accelerate, what are the implications for legal professionals? Instead of a relatively prestigious and well-paid class of 'para-professionals', who support the delivery of semi-automated packaged commercial services, there may instead develop an intermediate category of what we could call 'pseudo-lawyers', who have the training, the formal status, and the self-image of a lawyer, but are really closer to a low-paid paralegal doing repetitive work involving moderate levels of expertise. This will usually involve driving and interpreting computerised products developed by those with more expertise. Another set of possibilities (various 'Uber models') involves teams of individual legal providers put together on an ad hoc basis by intermediaries ('platform providers'), likely to involve the platform provider taking a major share of the funds paid for provision of services.

In any of these future scenarios for individual lawyers, who will own the intellectual property in the software and applications used in these types of provisions of services? It is unlikely to be the employed 'pseudo-lawyers' or the service provider in an 'Uber model': the large firm employer, or the provider of the platform will be likely to develop such expensive tools themselves, or will have the necessary very significant funds to buy them (and keep them updated) from a large commercial legal publisher. The employed solicitor, the small practitioner or the barrister in chambers, except those at the higher levels of the profession, will not be able to afford the modern equivalents of legal professional tools. We argue that protecting their professionalism may also help to produce free legal advice services.

## **2. An Alternative Future: A Commons of Legal Expertise**

Although there is as yet no obvious tendency toward commons in relation to the three categories of software-based application of expertise to individual cases, we argue that this can be encouraged to develop. Tools for knowledge engineering and for creating machine-generated expertise are available as FOSS and are of high quality, but the communities of users necessary to develop applications (similar to the FOSS or Wikipedia communities) have not yet developed. The employed solicitor, small practitioner or barrister is unlikely to contribute spontaneously to the development of commons. But the risk for such professionals in not having any role in the development of AI tools in law is that they will lose control of their standing, abilities and future as professionals, to a far greater extent than in the pre-AI structures of the legal profession.

The alternative is that there be at least some part of the development and use of AI in law that is open to participation by any lawyers, and which collectively may provide a set of AI-based applications that are an alternative to those controlled by mega-firms in law and consultancy, and the oligopoly of large publishers. For sole practitioners and small firms, some such collaboration may be the only strategy possible for them to participate.

From where could such a collaborative alternative arise? We argue that it could arise primarily from those organisations that seek to provide free legal advice, and be driven largely by their needs, but could expand to involve other participants in the legal profession.

### 2.1. *The Providers and Constraints of Free Legal Advice*

There are many situations where, at least in a country like Australia, our social expectation is that legal advice be provided without cost to the public, whether as consumers, citizens or (sometimes) litigants. The organisations most likely to be involved in providing such free legal advice are quite diverse, and include government legal aid providers, community legal centres, government and community consumer advice centres, specialist NGOs in law-related areas, government agencies giving advice relevant to their functions, and ‘chamber magistrates’ in courthouses. The legal profession, through state and regional Law Societies and advice centres they provide, and through the extensive *pro bono* schemes, also contributes. University law schools, through their involvement in community legal centres and internships in other organisations, are potential sources of contributors who often have high computing skills. Bodies assisting the legal profession as a whole to avoid liability problems, such as some legal insurers, might also wish to participate.

A common factor in most of these providers of free legal advice is that, if they choose to develop AI-related tools to assist their work, they will usually have to do so within very constrained development and maintenance budgets for software or applications. They are not in a position to pass on such costs to clients, or to purchasers of applications. Government or other grants for such developments may provide up-front development costs (at least while the hype cycle for AI is rising) but will rarely cover ongoing maintenance for applications as the law changes, or technical issues arise. Bringing in out-of-house consultants on specialised software problems, or as ‘knowledge engineers’ in relation to particular legal domains, is likely to be very expensive. It is therefore a reasonable assumption that, at least in the medium to long term, providers of free legal advice will have to work within significant financial constraints that are more severe than those experienced by commercial providers.

The implications of these constraints – limited institutional range of providers, and limited financial resources – affect the types of legal advisory systems that it is practical for this sector to develop and support.

### 2.2. *Free Legal Advisory Systems: Guidelines for Sustainability*

We have previously set out and justified our views on what approach to the use of AI tools is most likely to be of value to a free legal advice service ([6], 3.1-3.16). These guidelines are based on the assumptions discussed above of the likely limited financial and personnel resources of such a service, and on our own lengthy experience with the DataLex project. They are implemented in the DataLex platform discussed in Section 3.

First, the 'AI and law' systems that such a service could be expected to find useful are those that justify their answers at least in part in terms of the formal sources of law. These constraints will mean that only some types of 'AI and law' tools are suitable to their needs.

Second, looked at from the user perspective, which could be that of an employee of a free legal advice service, or perhaps one of its clients, what counts as a useful level of legal expertise is relative. A system may be valuable to a class of users even though it has a relatively low point at which it admits that a problem is beyond its expertise, and it may serve as a method of triage. In any event, it is not realistic to try to build legal expert systems that encapsulate all the knowledge necessary to answer user problems. The more realistic aim is to build decision support systems, in the use of which the program and the user in effect pool their knowledge/expertise to resolve a problem. Expertise can and should be represented and utilised by programs in many ways. This means the knowledge-based system (the knowledge representation and the program) should not be 'closed': it must be integrated with text retrieval, hypertext and other tools which allow and assist the user to obtain access to whatever source materials are necessary to answer the parts of a problem dependent on the user's expertise. The result is an integrated decision-support system.

Third, looked at from the developer perspective, the key contextual factor is that user-organisations such as free legal advice services, will probably need to both develop and maintain their own knowledge-bases, as the only available domain experts. The systems which non-technical legal domain experts are most likely to be able to develop and maintain are those which represent legal knowledge in a way which has a reasonably high level of isomorphism (one-to-one correspondence) with the legal sources on which it is based, where the representation is reasonably close to natural language, and where it is not necessary to prescribe the order(s) of the procedural steps necessary to reach a solution to a problem, but only to declare what legal knowledge is available, and leave it to the system to undertake the steps to apply that knowledge.

Fourth, correctly choosing the type of problem where 'AI and law' techniques are most likely to be appropriate is essential. Problem areas based on legislation, or procedural steps, and where there is complexity, will probably give the best results. Problems involving multiple instances of one factor increase logical difficulty. If it is administratively possible to have multiple organisations collaborate to build and maintain a legal knowledge-base, this may increase sustainability.

Is the approach sketched under these four headings out-of-step with current approaches to the use of AI in legal applications? Ashley, a leading current proponent of the field of AI and law, might well regard our ambitions for system development as unnecessarily modest (or perhaps just the product of our constraining assumptions), but there is little that is inconsistent between this 'legal decision support system' approach taken by the DataLex Project and its underlying rationales, and the 'cognitive computing' paradigm he advances [7].

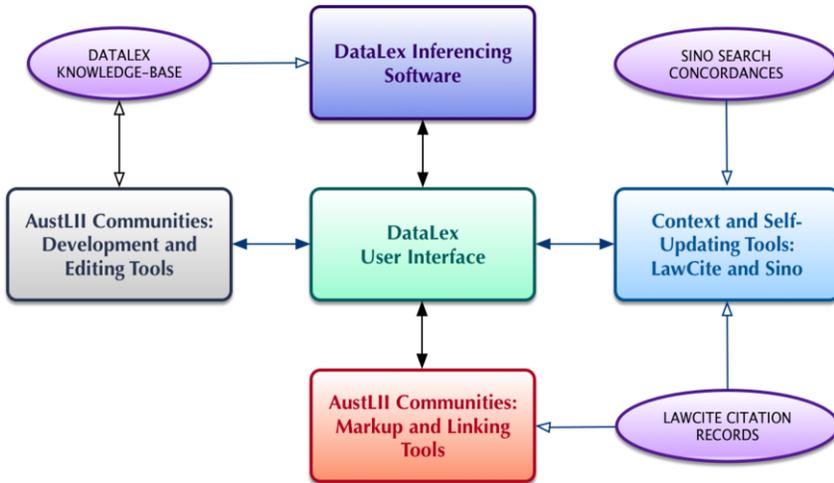
### *2.3. The Likely Roles of LIIs*

Fifth, we conclude that free access legal information institutes (LIIs) are unlikely to be the builders of legal knowledge-bases in particular legal domains, because they do not have the necessary in-house expertise in legal subject domains. They have neither the

client-base that provides a continuing need for such expertise, nor the funds to retain such expertise from outside (at least not on a continuing basis, beyond an initial grant). As a result, LIIs are much more likely to be the providers of tools by which such knowledge-bases are built, the free access legal infrastructure within which they are built, and education and support for those organisations that use their tools and services to build and maintain subject-area applications. In light of that conclusion, we now move to the tools and services that AustLII is building.

### 3. AI in a LII: AustLII's DataLex Implementation

The Australasian Legal Information Institute (AustLII), through its DataLex project [6]; [8] is developing tools and infrastructure so as to implement the above 'sustainable legal advisory systems' approach to AI and law in the context of a LII. This platform includes five main elements, rectangles in the following diagram. The features of each are then summarised (Figure 1).



**Figure 1.** Elements of AustLII's DataLex legal inferencing platform

#### 3.1. The DataLex Inferencing Software

The DataLex inferencing software<sup>3</sup> primarily carries out rule-based reasoning. It has the following key features:

- Support for backward-chaining and forward-chaining rule-based reasoning. Rules are expressed in a declarative form.
- Rule-based reasoning is supplemented by procedural code, where procedural steps in reasoning are needed.

<sup>3</sup>The DataLex inferencing software was originally written by Andrew Mowbray, as y-sh ('y-shell'), with subsequent further layers by various authors including Simon Cant and Philip Chung, to enable web-based operation.

- Rule based reasoning is also supplemented by example-based (or ‘case-based’) reasoning<sup>4</sup>, where needed.
- Rules of any degree of complexity may be written, using propositional logic.
- A quasi-natural-language knowledge-base syntax (ie one resembling English as far as is possible) is used to declare rules (and examples).
- There is no separate coding of questions, explanations and reports, because they are all generated automatically from the declared rules, in dialogues generated ‘on the fly’ when the system is in operation. This default operation can be customised where special circumstances require.
- Isomorphic (one-to-one) relationships between the knowledge-base and legislation is facilitated, and assists in debugging and updating.
- The previous three elements allow easier development, de-bugging and maintenance by domain experts (lawyers), without involvement by software experts or ‘knowledge engineers’.
- Collaborative development of larger applications across distributed knowledge-bases is supported.

An extract from the ElectKB knowledge-base [10] is shown in Figure 2:

```

RULE Commonwealth Electoral Act 1918 - Section 163(1) PROVIDES
  section 163\(1\) of the Commonwealth Electoral Act 1918 is satisfied ONLY IF
  section 163\(1\)\(a\) of the Commonwealth Electoral Act 1918 is satisfied AND
  section 163\(1\)\(b\) of the Commonwealth Electoral Act 1918 is satisfied AND
  section 163\(1\)\(c\) of the Commonwealth Electoral Act 1918 is satisfied

RULE Commonwealth Electoral Act 1918 - Section 163(1)(a) PROVIDES
  section 163\(1\)\(a\) of the Commonwealth Electoral Act 1918 is satisfied ONLY IF
  the age of the nominee IS GREATEREQUAL THAN 18

RULE Commonwealth Electoral Act 1918 - Section 163(1)(b) PROVIDES
  section 163\(1\)\(b\) of the Commonwealth Electoral Act 1918 is satisfied ONLY IF
  the nominee is an Australian citizen

```

**Figure 2.** Extract from the ElectKB knowledge-base

### 3.2. The AustLII Communities Environment – Integrating AI with a LII

The AustLII Communities environment is used to link automatically both knowledge-bases under development, and advisory systems when in operation, with all of the free access legal materials provided by a LII. The hypertext links in the above know-ledge-base extract are inserted automatically, using AustLII’s *findacts* software, into the knowledge-base as it is written and saved. Further examples of links from applications in operation are given below.

### 3.3. The DataLex Knowledge-base Development Tools

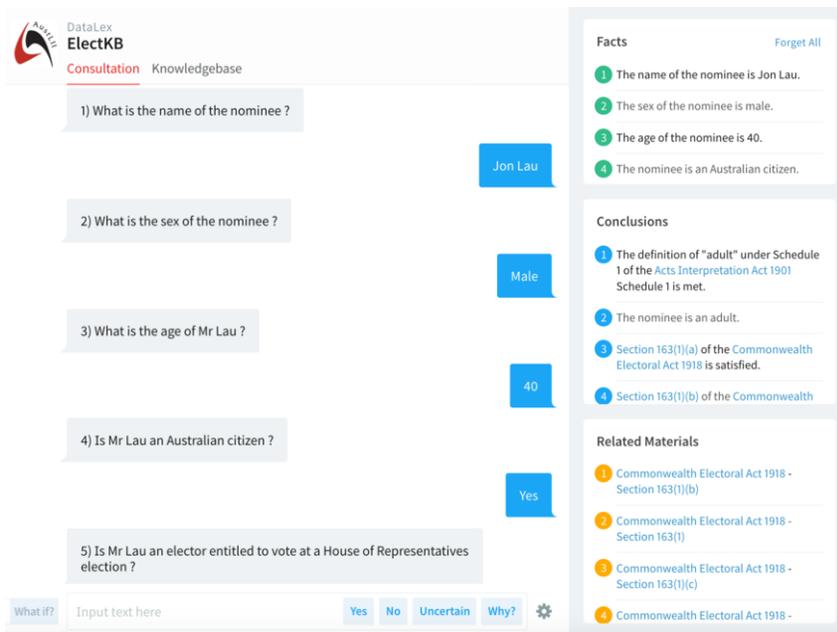
The DataLex development tools [11] are situated within the AustLII Communities infrastructure. They use a familiar wiki-like editing interface for development and maintenance of knowledge-bases (KBs). Development is within a closed wiki environment.

<sup>4</sup>PANNDA (Precedent Analysis by Nearest-Neighbour Discriminant Analysis); see [9] for details about the FINDER (finders’ cases) application of PANNDA.

### 3.4. The DataLex User Interface

The DataLex user interface uses the DataLex software and knowledge-bases, the linkages provided by the Communities environment, and user input, to provide legal advisory systems in operation. From Figure 3 the following screen, it can be seen that some of the features of the interface include:

- Questions, Facts, Conclusions, and Reports are all generated from the knowledge-base and user-provided facts, in understandable form, and are available on screen at all times.
- Facts can be deleted ('Forget?'), and questions than re-asked; Conclusions can be explained ('How?'); and reasons for Questions requested ('Why?'), generated in the same manner.
- The system also uses all information available to it, from the knowledge-base and user-supplied facts, to suggest other relevant Related Materials.



**Figure 3.** DataLex user interface features: 'Consultation', 'Facts', 'Conclusions', 'Related Materials'

As the consultation continues, conclusions are shown on the right-hand side. Selection of a numbered conclusion results in a 'How' explanation of that conclusion being presented (Figure 4).

At the end of the consultation, a composite explanation of the final result, and of all the steps necessary for it to be reached, is displayed and may be exported to word processing or other programs for use.

### 3.5. The LawCite Citator and SINO Search Engine – Updating and Expanding Advice

SINO is the open source search engine, developed by AustLII [12], used to operate AustLII and other LIIs. The LawCite citator [6] is an automated international citator for



**Figure 4.** DataLex ‘How’ explanation of a conclusion during consultation

case law and legal scholarship, accessible to end-users free of any user charges. It is developed and maintained by AustLII in conjunction with a consortium of participating legal information institutes (LIIs). LawCite currently contains index records of the citation histories of almost 5.7 million cases, law journal articles, law reform documents and treaties, going back to the 1300s. It includes citation records in significant numbers from court decisions in 75 countries. It is integrated fully into the operations of AustLII and other LIIs that use it. The technical details of LawCite are explained elsewhere [13].

The significance of both LawCite and SINO within the DataLex project is that they provide a means of (in effect) expanding the scope of a knowledge-base by providing users with access to knowledge which is not yet encoded within the knowledge-base. Examples are as follows, from the ElectKB knowledge-base [10] concerning disqualification for eligibility for election to the Australian federal Parliament:

1. Wherever the term ‘foreign power’ appears in a consultation dialogue, it does so as a hypertext link (Figure 5) which triggers a search over AustLII for all occurrences of ‘foreign power’ in the context of s. 44 of the Australian Constitution. The user is then given a list of cases, journal article etc., ranked in default by likely order of relevance, to enable them to determine the correct answer to the question (Figure 6).
2. Wherever a citation for a case appears in a dialogue, it will be linked automatically to the text of the case (where it is a neutral citation), with a further link to the LawCite record, as shown in Figure 7.

9) Is the nominee under an acknowledgment of allegiance, obedience, or adherence to a [foreign power](#) ?

**Figure 5.** Embedded search link on the words ‘foreign power’

The user is able to note from the LawCite citation record whether that case has been considered by other cases subsequent to the knowledge-base being written, and to check for any resulting changes to the law. No knowledge-base can be updated as frequently as the law might change, and this is particularly so when they are subject to the constraints discussed in Section 2. For example, the LawCite record for this case alerts the user to recent cases considering *Sykes v Cleary*, that may not yet be taken account of in the knowledge-base (Figure 8).

It should be clear from these examples that updating a legal knowledge-base through links and searches requires access to the case and legislation content of a whole legal system, updated continuously. For providers of free legal advice, the most feasible source of such information is a free access Legal Information Institute (LII).



Figure 6. Search results from embedded search link

This will help determine whether or not the situation is similar to Sykes v Cleary [1992] HCA 60.

Figure 7. Automated hypertext links to case law references

**Sykes v Cleary** **148** [H](#)

[1992] HCA 60; (1992) 176 CLR 77; (1992) 109 ALR 577; 67 ALJR 59

High Court of Australia  
Australia - Commonwealth  
25th November, 1992

**Cases Referring to this Case**

Case Name	Citation(s)	Court	Jurisdiction	Date †	Full Text	Citation Index
<a href="#">AL (Myanmar)</a>	[2018] NZIPT 801255	New Zealand Immigration and Protection Tribunal	New Zealand	14 Aug 2018	NZLII	
<a href="#">Russell v Abbey</a>	[2018] VSC 259	Supreme Court of Victoria	Australia - Victoria	22 May 2018	AustLII	2
<a href="#">Re Gallagher</a>	[2018] HCA 17	High Court of Australia	Australia - Commonwealth	9 May 2018	AustLII	
<a href="#">Obeid v Lockley</a>	[2018] NSWCA 71; (2018) 355 ALR 615	Supreme Court of New South Wales - Court of Appeal	Australia - New South Wales	12 Apr 2018	AustLII	3
<a href="#">Re Kakoschke-Moore</a>	[2018] HCA 10	High Court of Australia	Australia - Commonwealth	21 Mar 2018	AustLII	
<a href="#">Re Lambie</a>	[2018] HCA 6	High Court of Australia	Australia - Commonwealth	14 Mar 2018	AustLII	3

Figure 8. LawCite records for Sykes v Cleary

#### 4. Ethical and Governance Issues in Free Legal Expertise Systems

In the previous sections we have informally referred to ‘legal advisory systems’ for purposes of readability, but in this Section we need to distinguish between systems which aid interpretation, give advice, and make decisions, so we will use the expression ‘legal expertise systems’ to encompass all three uses, because each of them involves the embodiment and use of expertise.

‘Free legal expertise systems’ are systems which are able to be used for consultation purposes at no cost (including with no required disclosure of personal data) by any per-

son, or which are able to be used by legal advisors working for free legal advice providers in order to advise their clients.

Such ‘free’ systems include, but are broader than, fully ‘open’ legal advisory systems, which refer to those systems which are not only free to use, but for which both the knowledge-base, and the software required to operate it, are open to anyone to copy, modify and re-use. Between the minimum condition of ‘free use’ and fully open legal advisory systems there are many intermediate points, all of which we regard as consistent with ‘free and open legal advisory systems’.

Multiple parties may be involved in providing such systems, including pro bono knowledge-base developers (from law firms or academia), intermediaries such as a LII, and free advice providers such as community legal centres (CLCs) or others. In our view, these parties need to consider at least the following issues, and to adopt Principles for the ethical development and governance of such systems. These issues apply specifically to the context of free consultation and free advice, rather than the more general commercial context in which AI is employed in law. Principles adopted should, in our view, be consistent with the principles of free access to legal information.

Here, we are only identifying issues which need to be addressed. In a subsequent paper we will propose the principles which should be adopted to address these issues.

- (i) Legal expertise systems to aid interpretation, to give advice, and to make decisions must be distinguished. Such distinctions will determine whether warnings must be given that they do not provide legal advice, or who is responsible for any legal advice provided, or the consequences of decisions being made as a result of their use.
- (ii) Legal expertise needs to be based transparently on sources of law, whereas this may not be necessary for other uses of AI in relation to law.
- (iii) Legal knowledge-bases may need to have transparent attribution of authors and publishers, and of the date of the law they claim to represent. The role of anonymous authorship is very questionable in relation to legal expertise systems.
- (iv) Legal knowledge-bases may need to be transparent, and its text available for free access whenever the system is used.
- (v) The logic and assumptions of legal expertise systems implementations may need to be transparent, not only the text of the knowledge-base.
- (vi) What is needed to ensure that systems claiming to provide free expertise do not charge end users, directly or indirectly?
- (vii) Should end-users of legal expertise systems always be able to remain anonymous to the systems in use?
- (viii) How can legal knowledge-bases be licensed appropriately for the effective and expanding provision of free legal expertise?
- (ix) How can software for legal expertise systems be licensed appropriately so as to expand provision of free legal expertise?
- (x) Legal expertise systems will need to observe emerging principles of ethical use of AI, which are becoming numerous [14]; [15]; [16]; [17].

## **5. Conclusions – When Is AI Feasible for Free Legal Advice Providers?**

In this Chapter we have identified why providers of free legal advice are likely to face significant constraints on the resources available to them to develop and maintain AI-

based legal advisory systems, and the implications this has for the types of systems they are most likely to use.

We have set out the approach that AustLII, through its DataLex platform, is taking to facilitate the development of such systems, and how the DataLex approach allows implementation of the guidelines for sustainable legal AI that we have proposed. We suggest that similar approaches could be worth considering by other LIIs.

We have identified ten questions about ethical/governance issues which require consideration by those who wish to develop legal expertise systems for the purposes of free legal interpretation assistance and free legal advice provision. These guidelines and Principles will enable development which is sustainable by the organisations likely to be providing such advice, and to which will contribute to an expanding commons of legal expertise embodied in AI-based tools.

## References

- [1] Greenleaf, G., Chung, P. & Mowbray, A. (2018). *Legal Information Institutes and the Free Access to Law Movement (UPDATE)*. Globalex (Hauser Law School, NYU), [http://www.nyulawglobal.org/globalex/Legal\\_Information\\_Institutes1.html](http://www.nyulawglobal.org/globalex/Legal_Information_Institutes1.html).
- [2] Greenleaf, G., Mowbray, A. & Chung, P. (2013). The Meaning of 'Free Access to Legal Information': A Twenty Year Evolution'. *Journal of Open Access to Law*, 1(1), [https://papers.ssrn.com/sol3/papers.cfm?abstract\\_id=2158868](https://papers.ssrn.com/sol3/papers.cfm?abstract_id=2158868).
- [3] Greenleaf, G. (2017). Review Essay – Technology and the Professions: Utopian and Dystopian Futures. *UNSWLJ*, 40(1), 302-321, <https://ssrn.com/abstract=2973244>; or (2017) *University of New South Wales Faculty of Law Research Series*, 12.
- [4] Schroeder, M. (Ed.) (2016). *Northern Territory Law Handbook*. AustLII Communities, <http://austlii.community/foswiki/NTLawHbk/NTLawHandbook>.
- [5] Mowbray, A. (2008). *LawCite Citor AustLII*, <http://www.austlii.edu.au/lawcite/>.
- [6] Greenleaf, G., Mowbray, A. & Chung, P. (2018). Building Sustainable Free Legal Advisory Systems: Experiences from the History of AI & Law. *Computer Law & Security Review*, 34, 314-326.
- [7] Ashley, K. D. (2017). *Artificial Intelligence and Legal Analytics: New Tools for Law Practice in the Digital Age*. Cambridge University Press.
- [8] Greenleaf, G., Mowbray, A. & Chung, P. (2018). The Datalex Project: History and Bibliography. *UNSW Law Research Paper*, 18-4, <https://ssrn.com/abstract=3095897>; or (2018) *University of New South Wales Faculty of Law Research Series*, 4.
- [9] Tyree, A., Greenleaf, G. & Mowbray, A. (1989). Generating Legal Arguments. *Knowledge-Based Systems*, 2(1), 46-51, [https://papers.ssrn.com/sol3/papers.cfm?abstract\\_id=2988931](https://papers.ssrn.com/sol3/papers.cfm?abstract_id=2988931).
- [10] Mowbray, A. (2019). *ElectKB Knowledge-base*. AustLII, <http://austlii.community/foswiki/DataLex/ElectKB>.
- [11] *AustLII DataLex Development Tools*, <http://austlii.community/wiki/DataLex/>.
- [12] Mowbray, A. (1996-). SINO Free Text Search Engine – Software (Open Source) (Unix/C), <http://www.austlii.edu.au/techlib/software/sino/>.
- [13] Mowbray, A., Chung, P. & Greenleaf, G. (2016). A Free Access, Automated Law Citor with International Scope: The LawCite Project. *European Journal of Law and Technology*, 7(3); (pre-print) <https://ssrn.com/abstract=2768104>; *University of New South Wales Faculty of Law Research Series*, 32.
- [14] Consultative Committee of Convention 108 (2018). *Guidelines on Artificial Intelligence and Data Protection*. Council of Europe.
- [15] European Commission (2018). *Ethics Guidelines for Trustworthy AI*, <https://ec.europa.eu/digital-single-market/en/news/draft-ethics-guidelines-trustworthy-ai>.
- [16] *Universal Guidelines for Artificial Intelligence*, Brussels, 23 October 2018, <https://thepublicvoice.org/ai-universal-guidelines/>.
- [17] Human Rights Commissioner (Australia) (2019). *White Paper. Artificial Intelligence: Governance and Leadership*, [https://tech.humanrights.gov.au/sites/default/files/2019-02/AHRC\\_WEF\\_AI\\_WhitePaper2019.pdf](https://tech.humanrights.gov.au/sites/default/files/2019-02/AHRC_WEF_AI_WhitePaper2019.pdf).