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Building sustainable free legal advisory systems: Experiences from the history of AI & law

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A B S T R A C T

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The enthusiasm for artificial intelligence (AI) as a source of solutions to problems is not new. In law, from the early 1980s until at least the early 2000s, considerable work was done on developing 'legal expert systems.' As the DataLex project, we participated in those developments, through research and publications, commercial and non-commercial systems, and teaching students application development. This paper commences with a brief account of that work to situate our perspective.

The main aim of this paper is an assessment of what might be of value from the experience of the DataLex Project to contemporary use of 'AI and law' by free legal advice services, who must necessarily work within funding and other constraints in developing and sustaining such systems. We draw fifteen conclusions from this experience, which we consider are relevant to development of systems for free legal advice services. The desired result, we argue, is the development of integrated legal decision-support systems, not 'expert systems' or 'robot lawyers'. We compare our insights with the approach of the leading recent text in the field, and with a critical review of the field over twenty-five years. We conclude that the approach taken by the DataLex Project, and now applied to free legal advice services, remains consistent with leading work in field of AI and law.

The paper concludes with brief suggestions of what are the most desirable improvements to tools and platforms to enable development of free legal advice systems. The objectives of free access to legal information services have much in common with those of free legal advice services. The information resources that free access to law providers (including LIIs) can provide will often be those that free legal advice services will need to use to develop and sustain free legal advisory systems. There is therefore strong potential for valuable collaborations between these two types of services providers.

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1. Changing perspectives on AI and law

1.1. Waves of enthusiasm

The enthusiasm for artificial intelligence (AI) as a source of solutions to problems in all walks of life, including law, is not

new. The first wave of excitement about AI-based solutions to a general range of problems, from the early 1980s, focussed primarily on 'legal expert systems' – that is, systems capable of rendering advice concerning specific types of problems in narrowly defined legal domains. It included a previous iteration of computing practices that were going to 'make everything different' such as Japan's 'Fifth Generation' project. Many

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believed this project would make Japan dominant in computing within a decade, because parallel processors and logic programming techniques (in which Japan was believed to have a lead) would enable inferences to be drawn from (newly possible) 'massive' databases of domain-specific knowledge. The revolution failed to launch,¹ but more modest versions of the expert system boom continued until the late 1990s,² by which time enthusiasm for the Internet attracted people's interest and greed (the first '.com' boom) in substitution. Many valuable expert systems, academic, commercial and governmental, were developed along the way.³ Attempts have been made to catalogue the most valuable 'AI and law' research of the period.⁴

In this paper, we do not attempt to add to the existing reviews of the field of AI and law in its earlier wave, nor attempt to determine whether the new enthusiasms are fundamentally different. We primarily wish to reflect on our own participation in it as 'the DataLex Project', through which we were active participants both academically (research and teaching) and commercially, from 1984 to 2001. In this paper, we attempt to distil nearly two decades of experience, because some of what we learned may still be of value. Not all experience turns out to be valuable, but proceeding in ignorance of it can often be a waste of time and money. We compare our insights with the approach of the leading recent text by a proponent of this field of research (Ashley⁵), and with a critical review of the whole field over twenty-five years (Leith).⁶

We also wish to focus on the particular issues facing one particular group of users of 'AI and law' technologies, namely services which provide free legal advice (as discussed below): we do not focus on the issues that are of more relevance to financially well-endowed commercial organisations. In the concluding parts of the paper we consider what desirable improvements to development of free legal advisory systems might now be more feasible than before, and how these could lead to new collaborations between 'free access to law' providers (such as legal information institutes) and providers of free legal advice.

1.2. A different focus: 'Sustainable free legal advisory systems'

Organisations that provide free legal advice services, such as community legal centres and advice bureaus, often have large numbers of part time volunteers and interns providing legal advice and assistance, sometimes relatively early in their legal

careers. Yet they are required to provide legal advice on a very wide range of legal issues, often with high client case-loads, and sometimes with numerous instances of similar problems (for example, consumer law or immigration law issues). They usually have few financial resources to be able to utilise outside counsel (although pro bono schemes assist in this), or simply to hire more staff. Commercial legal publishers often do not publish in the areas of law on which these services need expert information, particularly for marginalised clienteles. Therefore, they must develop their own resources, sometimes in the form of plain English 'law handbooks'.

Knowledge-based advisory systems may be able to assist these often 'semi-expert' legal advisors to meet the heavy demands placed on them. The constraints on government legal aid services are different, but these systems may also be of value to them. We must distinguish between systems which are to be used only by those who work for such services (whether as employees, interns or pro bono), from those systems which are made available to their clients for their direct use (client end-users). Such systems are likely to be significantly different. Self-represented litigants, and members of the public attempting to resolve their own legal issues without resorting to litigation, are another 'end-user client' category where knowledge-based advisory systems might play a valuable role. In this paper, we refer to all these types of services as 'free legal advice services', and knowledge-based systems to assist them, whether used only by the services or used by end-user clients, as 'free legal advisory systems.'

There are close relationships between free legal advice services and providers of free access to legal information (LIIs), such as AustLII,⁷ which have as a main motivation the provision of free access to the general public, not only to the legal profession or universities. LIIs see community legal services as intermediaries, which provide the benefits of free access legal information to the public, and thus one of the main audiences for the information they provide. Such services, often of necessity, are substantial users of LIIs and other sources of free access legal information. There are also close ties between the free legal information services and technologies provided by organisations like AustLII and other LIIs, and the information and technologies needed to create effective legal advisory systems.

Both LIIs and free legal advice services often face similar constraints: they need to operate at a relatively low cost; they have few funds to purchase outside services; they rely to a significant extent on open source software; and maintenance costs are a significant issue. Free legal advice services often have only modest levels of technical expertise on which to draw.

The result, as we see it, is that if free legal advice services are to make use of knowledge-based technologies, they need to find software and knowledge-based applications that are not only low cost (preferably free, possibly open source), but such software and applications must be maintainable from their internal resources, because external maintenance will be prohibitively expensive. We describe this goal as 'sustainable legal advisory systems'. Assisting their development and use

¹ See Feigenbaum and McCorduck, 1983; Pollack, 1992. For an overview, see Wikipedia, 'Fifth Generation Computer' (29 July 2014).

² DataLex, 1989c discusses the various 'waves' of 'AI and law'.

³ One of the earliest and best known was Capper and Susskind, 1988; SoftLaw Corporation developed decision-support systems in the early 1990s on a much larger scale, used for large-scale decision-making in Australia's social security and veterans' affairs administrations.,

⁴ Bench-Capon et al, 2012.

⁵ Ashley, 2017; Professor Kevin Ashley has been a major contributor to the field since the 1980s and is co-Editor-in-Chief of its leading journal, *Artificial Intelligence and Law*.

⁶ Leith, 2010; Professor Philip Leith was a significant contributor to the field from its earliest stages, including in the utilisation of Prolog for legal representation, and is the author of many articles in the field.

⁷ Australasian Legal Information Institute <<http://www.austlii.edu.au>>

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