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Handling Criminal Appeals through an Integrated, Computerised Case Management System

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Abstract

This paper builds on our paper at the 1999 BILETA Conference in York, entitled *Decision making at the firm level: the experience of a criminal legal aid case management system - interim report on work in progress.*

In this paper we will explore the creation of this appeals extension, from the design process of capturing the system itself in a structured fashion. We also consider the creation and implantation of rules to manage and control the business process - which necessitated the extraction of expert knowledge from solicitors within the firm and advocates at the Scottish Bar.

We shall also demonstrate the system itself and illustrate its deployment in the practice.

Introduction

This paper traces the development of a criminal case management system for legal aid funded appeals litigation in a Glasgow based law practice, funded in part by the Teaching Companies Scheme. It attempts to place this development in the context of the general trend towards the deployment of such IT solutions to legal problems in a fast-changing environment (Susskind 1998) and, more particularly, the development of IT deployment in Scottish legal firms (Barton 2000). It also addresses the impact of such developments in an asymmetric C&IT relationship between legal service provider and public authority (Huntley 1999). It also attempts to place this development in a knowledge management context.

There has been a significant increase of interest in the deployment of C&IT by legal firms in the management of legal knowledge and processes. Susskind in particular has been emphatic on the impact which C&IT will have on the provision of legal services (Susskind, 1998) and there have been notable studies of such generic impact in the United Kingdom (notably Wall 1997) and, more particularly in Scotland (Barton 2000). There is also an increased interest in understanding how such applications are used to manage knowledge and processes within the law firm (Gottschalk 1999), although there is little in terms of published studies (Gottschalk; Edwards 1997).

Little, however, has been published by way of concrete study of particular applications of C&IT within legal firms. This project is therefore a rare opportunity to analyse such deployment within a particular firm. It is particularly rare because TCS funding is difficult to come by for law firms. Unlike England and Wales, TCS in Scotland was prepared to fund a project in a law firm. It is even

more rare to become involved in the design of such management systems and processes and to be permitted to discuss and disseminate the findings of such applied work. Indeed we have, wherever possible, attempted to disseminate our findings far more widely than this particular forum (Thomson 1999; Thomson 2000; Huntley 1999; Huntley 2000). The lessons, we believe, are of interest and use far beyond the confines of the legal profession.

Nevertheless, the project has evolved and developed in an unlikely environment. Barton et al (Barton 2000) suggest that the most frequent reason for law firms resorting to IT solutions was to maximise the efficiency of working time and, as a consequence, to transfer routine administrative tasks to managed IT systems (Barton 2000). This is a process which, elsewhere (Huntley 1999) we have described as "the maximisation of lawyering" within the firm. The firm does, however, disport the characteristics in which the deployment of IT might be efficacious. The data gathered by Barton (Barton 2000) suggested that, in the contiguous Paisley area of the west of Scotland, significant percentages of fee earners in criminal practice used IT applications for client databases, word processing, client feeing, administrative databases and time recording. Far fewer relied upon IT applications for document assembly, electronic versions of standard forms and integrated practice management software. More significantly, the findings suggested relatively wide use of consultants in IT development. Friel & Co., although in profile not significantly different from most criminal law practitioners, is atypical in that it has taken an integrated approach to the deployment of IT and in-house project development. LOCI, the Case Management System designed to the firm's specifications some years ago, remains a significantly advanced case management and knowledge management system.

Managing the criminal appeals process is complex and time consuming for the law firm. In particular controlling the documentation process at all levels in the firm (funding, correspondence with the client and crown) is tedious and prone to error. In criminal legal aid, this process is complicated further by intricate billing requirements, precise time accounting requirements imposed on the lawyers and inefficient court interactions.

Manual control of the process, although manageable, is complex and difficult (Huntley 1999). To gain a measure of control over this process, the firm has relied upon IT to automate not only the document generation process, but also the interrelationship between documents, records, billing and time management. The hoped for result is an integrated, computerised case management system which gives the firm control over a process which is costly and, in the present climate decisive in terms of profitability.

This is part of a continuing drive within the firm to harness modern C&IT technology and management strategies to create such a distinct advantage for the firm and this TCS project is one feature of that drive. The emphasis within the firm in every individual case is on maintaining margins and controlling the impact of the administrative process which, uncontrolled, could cancel any profit that a case could generate.

Initial Stages

Elsewhere (Thomson 2000) we have highlighted certain limitations of the existing LOCI package. Nevertheless, the application automates the first instance litigation caseload of the firm, enabling it to make considerable use of document & process automation to generate cost savings. It provides overall administrative control over the entire litigation process, including billing. In designing the appeals package, the firm wished to replicate such control over both the accounting of the appeals and in tracking of the details of the actions that had been taken on behalf of the client in the case. Having resolved that it must move away from a manual appeals process, the firm turned to IT solutions to allow it to implement necessary efficiencies in its management control structure.

This project to recreate this system for the appeals process using modern design and coding

technologies, with funding from the Teaching Companies Scheme, began in August 1998. This paper will cover the progress of the TCS appeals project to date, from the initial mapping of the criminal legal appeal system to their codification into a deployed test system.

The several key limitations of the LOCI system that would have to be addressed in any addition or upgrade to the system we identified early in the project's life (Thomson 2000), notably: interface, data mining, management tools and reporting and communication limitations and bottlenecks. Compensating for these limitations has had significant effects on this project and we have outlined elsewhere (Thomson 2000) the formal software methodology, N-tier development, deployed to compensate for them. . N-tiered development is based on an Object-Oriented (OO) paradigm of computing. In this project a three-tiered model (Graphical User Interface (GUI), Business Object Layer (BOL) and Data Services Layer (DSL)) was used.

Software & Hardware Framework

Implementation of the appeals package is seen by the firm as a springboard for IT development. LOCI, originally implemented in 1995, was programmed in SuperBase 2.2 and designed to run on Windows 3.1. The original hardware was a network of 486 machines. The innovative feature of what now, five years later, seems a fairly archaic application, was that it was designed for delivery over a computer network. In the west of Scotland this was certainly unusual in all but the largest firms and is probably still outside the norm today. Barton et al. (Barton 2000) point out:

"Standalone personal computers (PCs) were the main hardware platform, used by 80% of firms. The hardware options available to firms are not mutually exclusive. A quarter of the firms (26%) had at least some of the PCs networked and two firms mentioned the use of laptops. Server and dumb terminals were combined with standalone PCs in four firms and with a PC network in another two."

It was also part of the Appeals Package specification that it would be delivered across a computer network - either the office Ethernet or, if possible, via a dial up connection to the Internet. It was also specified that the Appeals Package must interact with the original, yet technologically different and now dated LOCI application. The costs of doing otherwise would be prohibitive. The solution adopted was to quarantine Appeals from LOCI, but at the same time permit interaction with LOCI's data store. Because this would be done in a 3-tiered application, wasteful duplication of such data would be reduced (Lhotka 1998). Via dedicated application server (the NT server) it was possible to tap into the data warehouse embedded in LOCI. Thus a central, possibly unique feature of this project, is this interaction between a flexible, object oriented application over a network environment within such an established yet rigid original framework. The experience so far is that significant innovations can be achieved, without the need for major, incremental rewrites. In terms of cost savings to the firm, this has proved significant.

In such a potentially difficult design environment, it was first necessary to identify the tools and hardware appropriate and necessary to create the project. All of these decisions were formalised within the TCS decision-making structure and founded on a report to the company in late 1998. This in turn was founded on a period of consultation with various systems and programming tool vendors. Even at the time when this was being done we were aware of developments in operating systems design which brought into question the need to rely on a Microsoft platform. Nevertheless, at an initial stage in the project, following this evaluation of what was commercially available, the decision was taken to stay with the Microsoft platform, at least on the client side of the application. All major software/hardware decisions in the process had knock-on effect on each other, as indicated in Diagram 1.

Diagram 1

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The reasoning for selecting the Microsoft platform was itself predicated on the coding language that would be selected to write the application. A decision had already been made that the actual product itself would be coded in Visual Basic 6 (VB6). The key driver for that decision was that, unlike the original LOCI design, this would allow the code written to the Appeals Package to be compiled as libraries which could be used for more than one application. In particular, it could be reused in a planned rewrite of the LOCI application itself - something which was beyond the scope of the TCS project, but which nevertheless the firm acknowledged as a medium term objective. All planning was therefore founded on the potential, planned integration of the two systems into a single application.

The selection of VB6 had immediate knock on effects on all potential hardware and language features. In particular, the decision was taken to remain within the Microsoft platform for the client side of the system. In particular, important aspects of the server side transactions with databases etc. were still, at that stage, under investigation. The main aspects of server functionality for the VB6 application were a robust, scalable and reliable relation database management system (RDBMS). The view was taken that, at the time, three options satisfied these criteria. Two of these options were based on the UNIX operating system. Selection of either of these options was seen as an unnecessary duplication of systems within the firm. Most importantly, it would add significant cost to systems maintenance.

At the time when these decisions were being made, Microsoft had just released their latest version of their SQL Server RDBMS, thus providing a low cost Windows solution that would satisfy the project's database needs. The decision was taken to design the data warehouse on SQL Server 7, which would allow all the scalability that the project might require at any stage.

The selection of Microsoft SQL Server dictated that the server architecture needed to be either Windows NT (or its successor Windows 2000). This was almost inevitable, since the firm's long-term IT strategy is based upon the Microsoft platform at the client level. Extending this to the server level was the only logical option.

A second aspect of the reasoning behind this selection was that the use of SQL Server 7 and Windows NT Server permits the creation of an environment that would readily facilitate dial-up access to the firm's server systems. This would allow, in the longer term, remote connection to the system via laptops or palmtops, using the TCP/IP protocol (although other options are already appearing, as WAP provision becomes feasible). This would mean that the system would no longer be site constrained, permitting access to firm data regardless of location - a requirement that the firm was keen to meet.

It is worth reflecting on the rationalisation of the decision to use the Microsoft platform. This has lessons not just for law firms, but for all small to medium sized firms seeking to create customised software applications. Almost inexorably, such firms are, in practical terms, pushed towards the integrated Microsoft offering. The costs of diversity in the various elements of an integrated network would be too great. Although this is not the place to comment on the Microsoft litigation in the US courts, there can be little doubt, when involved in taking commercial decisions of this nature, of the ubiquity and dominance of the Microsoft platform.

Mapping the System

Selection of a robust set of technological tools facilitated the formulation of clearer specifications for the intended Appeals application software. The process adopted was significantly different from that used by the knowledge engineer in standard "expert systems" applications (MacAulay, 1994; Edwards, 1992). Rather, a semi-structured mapping process, cognitive maps (Ackermann; Eden), was used to facilitate, capture and assimilate the knowledge and perceptions of all involved in the design process, namely the lawyers and their support staff in the firm. In effect, this methodology generated a map of the system for the firm. The primary tool in this mapping process was a

management science package, *Decision Explorer*. The rapid generation of cognitive maps from several individuals at the same time and its compilation into a comprehensive overview speeded up this stage of the design phase and made it highly iterative for the number of individuals involved.

Earlier analysis (Thomson, 2000) had indicated that two areas required to be mapped: the definition of the application's functionality; and the Scottish criminal appeals process itself.

The Application's Functionality

A programme of structured interviews with the lawyers and support staff allowed the system's functionality to be outlined as a set of interrelated sections of the cognitive map.[1]

The map in Diagram 2 reveals clearly the basic functionality of the application, but is not expressed in detail. This became the starting point for the full system specification based on the tersely stated requirements of the firm for the new application.

Diagram 2

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The Appeals Process

The Appeals Process

The cognitive map in Diagram 3 summarises those aspects of the Scottish criminal appeals process that the system would assist the practice to control. Again with consultation we built up an appropriate series of maps.

No assumptions were made about the nature or scope of the domain (the Scottish criminal appeals process). The approach taken was to map the various perceptions of the process and its operation from the various perspectives of those involved both within and outwith the firm. These cognitive maps were designed on the basis of feedback from lawyers and paralegal staff, court staff in Glasgow and the High Court in Edinburgh and various legal experts, ranging from advocates involved in criminal appeals and legal academics at the University of Strathclyde and elsewhere. The main maps went through several iterations until all parties were satisfied they represented a true reflection of the process from their several perspectives.

Diagram 3

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The cognitive map in Diagram 3 is a top-level statement of the application's functionality and became the starting point for the full system specification.[2] The generic systems of the appeals process having been mapped out, it became necessary to place the many types of appeals within the identified framework. To attach these to the generic framework required capture of the specifics of each separate avenue of appeal. Elliptical nodes had to be placed at every point in the generic framework where appeals specific information was required. This generated a series of "drill-down" maps below the generic framework. In the context of the "sift" process, for example, the level 1 node 4 in Diagram 3 ("Mark note of appeal at court and move for interim liberation") drills down into a sub-layer illustrated in Diagram 4, which explores the sifting process in more detail.

Click here for Picture

Diagram 4

The vast majority of criminal appeals in Scotland take one of three forms: the solemn note of appeal (SolNOA);

the summary note of appeal (SumNOA); and the summary stated case (SumSC). Of these, the solemn note of appeal is by far the most common. Other forms of appeal (notably appeals to the *Nobile Officium* or natural justice) are very rare and will be encompassed by the application if and where time allows (see diagram 5).

Click here for Picture

Diagram 5

The success of the application will be judged on how effectively it can handle the three most common types of appeal. Appeals to the *nobile officium* would in any case be difficult to code these into the system because it is the route of last resort - and hence follows no standard procedure that might lend itself to codification. The application will be able to do little more than alert the user to the fact that the client has no other option for appeal and leave the rest to the solicitor and advocate representing the client in question. Although the intention is to design a system that will ultimately cope with even such an open-ended and fuzzy area of the criminal law, it is, for the present, beyond the scope of the Appeals Package project.

Mapping the Business Processes: Automating System Design and Removal of Error

A key feature of the system specification was to maximise the degree of automation in administering the legal aid appeals process. The original LOCI system displayed a large measure of process and information entry automation. The new appeals system, harnessing the technologies and methodologies now available presented the opportunity of accessing the data source of LOCI itself. This would facilitate the automation of the appeals process at least one step further than the general criminal legal aid process automated by LOCI. More specifically, we were in a position with Appeals Package to eliminate altogether the need for a data entry section to the program. Client details and all relevant details relating to case history, charges, contacts and so on could be automatically transferred from the case file already established (and now closed) in LOCI.

Errors in the documentation process are particularly costly to the client and to the firm. They invariably cause delay, both in the client's action and in the firm's feeing process. The removal of error and the potential for error through automation is thus an overriding objective in the design of the application and has been undertaken at all points in the creation of new software. This philosophy has, for example, led to the creation of data entry systems where manual entry has been reduced to a minimum by ensuring that user interfaces are built from tables of default values. For example, if a user wants to specify the advocate handling an appeal, instead of entering a free form text string (where the spelling of the name might be entered incorrectly) they are presented with a selection set in a drop down list. This means that the data has only to be entered once correctly (in the database that the list is populated from) to be available to the whole workforce with zero errors time and time again.

This philosophy is being applied to all aspects of the project. Taken to its logical conclusion it is especially useful is in removing the burden of determining complex legal issues from the person entering data. For example, even the decision on the type of appeal, although ultimately a decision for the lawyer or advocate involved in the case has been reduced to a simple decision matrix.

Through reliance on the object maps, it was possible to achieve the two main objects of the system: first, to derive hard rules capable of being coded into the VB6-written application. Secondly, it was

now possible to incorporate into the application's design methods for triggering actions within the application. Two alternative methods were deployed for triggering actions: a time after entry basis; and direct application reaction to data entry (Thomson 2000).

 Within the LOCI environment, the appeals package could draw inferences from the date of entry of the appeal and then, on a case by case basis, indicate what actions were required in any given case. For example, the intimation to appeal must be lodged win two weeks in a Solemn Note of Appeal against Conviction or Conviction and Sentence). The system needs also to ensure that necessary actions have been taken, and to verify that such actions have been taken. To that end, and particularly with such actions that are immediate and delay could have serious repercussions for client and action, the application removes from the user any discretion and itself undertakes the action. For example, on starting an appeal, a letter requesting counsel's opinion is advantageous. The system generates this as soon as it can confirm that the appeal has been lodged. In this way, not only does the practitioner have greater control over the management of the process and the time devoted to it; but also what is often regarded as a tedious, yet inevitable function of a criminal practitioner's lot is passed down to administrative staff. In a sense, such automatic actions do tend to "dumb-down" the process, but with resultant advantage to all concerned.

The Fixed Fee environment and the IT factor

It is important to note that this project has been carried out in a turbulent environment. The uncertainty surrounding legal aid support for criminal cases has generated a degree of confusion and not an insignificant amount of litigation in its own right. In particular, the implementation of fixed fees has been and is being challenged, on Human Rights grounds (the Human Rights Act being already in force in Scotland) amongst others. Such uncertainty has made the development of the Appeals application even more of an imperative for the firm. In particular, the fact that flat fees have not been applied to solemn proceedings and, more particularly to appeals, has made the automation of those processes even more critical to the firm's profitability.

Within those parts of the criminal legal aid process to which flat fees do not apply, the billing system for criminal cases in Scotland is on a bill per action basis. "Every action taken - the writing an informal letter to a client, for example - is individually charged and added to the total bill for that particular action of that particular client. Thus the practitioner is compensated for the complexity of the case being handled. The bill for cases requiring extensive work, such as investigation and time in court in a fraud action, for example, reflect the costs generated by the amount of work involved." (Huntley 1999)

 Within a flat fee structure, on the other hand, the fee is now paid regardless of time and effort expended on the case. "Factors like the level of investigation, or the extent of advocacy in court, are irrelevant. Distances travelled, for example to visit clients often on remand in remote prisons, the number of times the case is on the court roll but not called all generate a charge on the firm and many other circumstances, often beyond the control of the firm incur costs. Such costs are not "billable" in the way they formerly would have been recoverable." (Huntley 1999)

 The short-term effect of such changes has been to make most summary cases unprofitable. Practitioners are faced with stark choices, or a combination of such choices. It might consider offering a far less extensive service to their clients (which would, sooner or later raise issues of professional integrity). Where it can rely, for example, on IT, it might attempt reducing radically or eliminating inefficiencies within the firm's control. Alternatively, it might accept that summary proceedings are unprofitable, but that, for various reasons, should be cross - subsidised from other profitable areas of its operations (such as solemn criminal proceedings where fees more reflective of true costs can be recovered, because no fixed fee applies). Finally, it may decide, as many have done, to withdraw entirely from such work. At the very least, it will have to prioritise the type of work it will take on, while continuing to capture and reduce the costs of those areas of work which it does

undertake - including appeals.

To achieve these aims demands significant investment and capital outlay. The squeeze on profits created by fixed fees makes this difficult for most firms. Even a firm committed to an effective programme of IT led automation and knowledge management must be in a position to generate profits adequate to reinvest in such medium term development. A firm struggling to remain profitable in a fixed fee world is now far less likely to invest in the automation which might change its margins.

In the face of the significant obstacles generated by the administration of criminal legal aid and the court administration, it is difficult to remain sanguine about the potential for IT development in this field. There is little doubt, in our experience, of the benefits to the firm and its clients; there is every reason to doubt that internal efficiency generated by IT applications would result in improvements in external fee income. We have elsewhere (Huntley 2000) given illustrations of the types of impediments to IT developments generated by the administration of Legal Aid in criminal cases. We noted in particular that, "although forms are available in electronic format, they are not geared for the automated office. They are directed at the paper-based, word processor driven processes of many legal offices. There is little that an IT conscious firm can do to digitise and make better use of such documentation." We also suggested that "although the automated office can interact with SLAB processes, it cannot do so on an optimal basis - for example, through the use of email and via access to information (for example, court timetables) through the Internet. This can be frustratingly debilitating to the user of an automated system. The inability to interact efficiently with external agencies is a significant barrier to efficiency gains."

Conclusions

The outcome of the project, now nearing its final phase, has been to produce a three-tiered application which facilitates the core work of the firm: legal aid funded criminal litigation and the appeals arising from such litigation. In particular, the application has, at prototype level, achieved the following:

* The generation of all necessary and appropriate documentation for the most common and numerous appeals in the firm;

* Built-in awareness of the timing requirements imposed by both the appeals process and by the legal aid scheme itself, thus facilitating all necessary action, rather than being proactive and reactive (the general norm amongst competitors);

* Provision of a constant and clear view of how a case is progressing at any particular time;

* Extensive utilisation of client and case data resident in LOCI;

* The necessary information and systems for ensuring efficient and timeous billing at the appeals stage of every case within the firm.

This last point is of particular value to the firm. The ability to harness the extensive amount of case and client related data already *in situ* is a substantial saving, although difficult to quantify. The system also ensures that, unlike practice in many legal offices, the process of communication with the Scottish Legal Aid Board and, therefore, securing of an income stream, is done at the earliest possible point. Even more significant as a saving is the ability to generate error-free documentation. Most importantly, the introduction of the system reinforces the cultural change instituted by the introduction of LOCI. For example, whereas in most criminal law firms the complex and detailed formal documentation relating to legal aid applications is handled by busy solicitors and spends

much of its life on that solicitor's desk. Within this firm, support staff almost exclusively does such work. The entire process has, to a degree, been de-skilled but has, as a consequence, increased the job satisfaction of such members of staff.

 We have suggested that a far clearer steer must be provided by those responsible for the administration of justice and, more particularly, for the administration of Legal Aid where the fixed fee structure has so fundamentally changed profit patterns (Huntley 1999). The silence so far has been almost deafening and ill-befitting an administration committed to "joined-up government". We have also suggested that such leadership take two forms: "first, the establishment of "best practice" in the field and a system of benchmarking against such practice. This can be done only by o thorough investigation of what has been achieved so far in the use of IT and what is yet to be achieved. Secondly SLAB must at the same time take the initiative by facilitating the digitisation and automation of legal aid processes in the law office. At the moment, its efforts to do so can at best be described as dilatory; at worst, obstructive. What is clear is that there is little debate and discussion of these issues. If we accept that the paper-based practices of most law offices are, in the present IT environment, unacceptably inefficient, then SLAB must encourage and promote change by facilitating it in its own processes and procedures."

 Our general conclusion is that **benchmarking** of the most efficient use of IT in the administration of criminal legal aid is essential, taking note of best practice amongst firms committed to reducing or eliminating inefficiencies in the disposal of their criminal caseload. Nevertheless, the major obstacles to full implementation of the benefits of the system are the general attitudes of the profession and, more seriously, the attitude of the Scottish Legal Aid Board itself. The attitude of the profession generally verges on derision. SLAB's unwillingness to consider any form of electronic transmission of data reflects the general attitude of practitioners. Rather than eliminating the waste which the present paper based system generates, SLAB is increasingly insisting on hard copy support for all actions for which a claim is made. Once a file is completed within the firm, the practitioner must then manually prepare a hard copy account for SLAB - an account which could at every point in the process be generated in seconds at the click of a computer key. The practitioner must submit hand-written copies of all notes. The firm has, for example, failed to convince that the use of a digital camera for the taking of photographs of the *locus* requires a receipt to indicate that every such photograph has been taken. The photograph itself is not proof that the photograph has been taken! Worst of all is the gross waste generated by the Board's refusal to accept electronically transmitted documents. In a recent solemn case, the firm submitted four large boxes of documents to SLAB and dispatched them at a cost of over £100. It could have transmitted them electronically for the cost of a ten-minute local telephone call. This asymmetry between the competitive, IT-conscious practitioner and the public, IT-constrained public authority monopoly is an effective block on further development. The indications are that the lawyer is no longer the IT bottleneck; in criminal legal aid at least, it appears to be SLAB.

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[1] The numbers attached to boxes in the cognitive maps are a function of Decision Explorer and not of any particular significance for the purposes of this paper. The maps are in no sense decision trees.

[2] Decision Explorer permits the user to "drill down" into any particular item to reveal an infinite umber of levels of specification, rather in the way of a hypertext application.