The Development of an Information and Knowledge Portal at Borden Ladner Gervais LLP – A Practitioners' Story and Case Study

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ABSTRACT
This paper describes the process that was followed in developing a corporate portal for a national law firm. The system development involved taking an intranet that had been developed for a regional office and modifying it to suit the needs of the national (five office) firm.

In this paper, we used our experiences to describe the differences between the traditional cooperative approaches to system development and to show how Participatory Design can help make deployments such as this more effective.

Categories and Subject Descriptors
D.2.2 [**Software Engineering**]: Design Tools and Techniques – *evolutionary prototyping, user interfaces, modules and interfaces*

General Terms
Design, Human Factors

Keywords
Corporate Portals, Intranets, Collaboration, Knowledge Management, Participatory Design

1. INTRODUCTION
In March 2000, the National law firm of Borden Ladner Gervais, LLP was formed by the merger of five of Canada's top regional law firms: Howard, Mackie (Calgary), McMaster Gervais (Montreal), Scott & Aylen (Ottawa), Borden & Elliot (Toronto), and Ladner Downs (Vancouver). While these five firms shared common values and interests, the subtle differences between these firms and the geographic distribution of the offices present organizational architectural challenges.

The founding firms set high goals for BLG: "to build the best national law firm in Canada [and] to provide the best working environment and training for our lawyers, patent and trade-mark agents, students, and staff." [2].

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One of the early initiatives for the merged firm was to put in place an IT strategy to support the integration of the five firms into 'one firm' nationally. A cornerstone of the IT Strategy was to implement a National Portal, modeled after the Montreal Intranet, called 'Genie', the most advanced of the four intranets in place. The portal was launched in January 2002 as a vehicle for sharing information and knowledge and providing access to applications across the firm.

The Montreal office had developed Genie and had been using it for a year before the merger. This was done using a traditional systems design and development approach. The initial portal design drew significantly from prior work in the Montreal office where usage and participation was the result of a number of key factors. First, the office had replaced the phone directory, which used to be published in print form as loose leaf inserts into a small format three ring binder, with an online version available through the Intranet (Genie). Second, all financial reports were delivered as online information (reports) in Genie – here too, the paper had been entirely removed from the system and information on performance and related statistics were provided online only. While there was some resistance to the removal of paper initially, by late 2001, when the IT strategy was being developed, acceptance was high and most users in the Montreal office showered Genie with praise.

The Intranets in place (Toronto, Calgary, and Vancouver) had not achieved the same level of acceptance and offered varying levels of functionality. Accordingly, the strategy to build on Genie was recommended by the consultants and agreed to by the IT Steering Committee. After a few false starts, which included a failed attempt to secure the rights for the National firm from the incumbent vendor in Montreal, and a Request For Proposal which attempted to source a development partner for this new Portal, the firm decided to use the Novell Portal Services (NPS) portal as the basis for developing the new National portal and to use in-house and contract resources as staffing for this project. Through an in-house name competition, this new Portal was named Sesame.

To make up for lost time, and to get the portal launched for use by the entire firm, this project was fast tracked. Using Genie as a working prototype, the new portal was launched in approximately four months; with most of the functionality the Montreal users had. Little consultation was done with users in the other offices; as the portal development team felt the Montreal experience was scalable to the entire firm. As a result, the initial launch of Sesame was done by a team of web developers working with user representatives in the other offices (local office coordinators). The local office coordinators were familiar with other Intranet frameworks – as had been developed in their offices. They had no tangible sense as to what the new portal would look like until later in the development process – closer to launch. Some early screen designs were shared with the local office coordinators. However, feedback was limited. These local office coordinators acted as emissaries for the development team, seeking out information from the regional offices and gathering items as requested; but they often felt 'in the dark' or 'without voice'. As well, the coordinators all had different views of what a 'portal' was to do and the functionality that should be included. However, 'marching orders' were clear, the first version of Sesame was going to be similar to Genie and we would then build out from there.

One flaw in the early approach was the use of IT and Library managers and staff as the user coordinators. Though they were good 'emissaries', they were not true users by any definition – traditional or PD. However, to compensate for this, various end users have been consulted for usability testing exercises and in 'focus groups' for reviewing requirements and designs.

The first version of Sesame was launched in a few months as the development team rushed to have this infrastructure in place. Over the year that followed, additional functionality was added on a modular basis. The most significant functionality, added in 2003, was the release of a Financial module which allows all individuals – from associate to partner to those in management positions a view of the firm's financial information – commensurate with that individuals scope of responsibility and authority. For example: Associates can see their financial information; Partners can see information for those that report to them – either client service personnel on their teams or, where senior lawyers are responsible for practice groups or an entire office – they can see all of the people on that team; and, the National Chief Operating Officer (COO) and the National Managing Partner (CEO) can see the entire firm.

Additional functionality is being added all of the time. This includes: a web based Client Relationship Management (CRM) system; a system for booking facilities (meeting rooms, refreshments to be served, equipment required – projectors, video conferencing, etc.,) in any of the offices from any of the offices; online surveying tools; tools for the evaluation of support staff and lawyers; an online telephone directory – that is maintained by the local HR departments as people come and go; access to the firm's Document Management System (DMS); knowledge artifacts – like precedents, research memos, unreported decisions; online collaboration forums; access to human resource information – such as the new national benefits package; a web store – for purchasing merchandise with the firm's logo; etc.

The first time that the firm used formal usability testing was in the spring of 2003. The web services development team was working on the deployment of a precedent system – which was to house precedents in a commercial off the shelf Document Management System (DMS) and provide access through Sesame (web based). The DMS was a mature product on the back end, having gone through at least five major product releases. But, the web interface was new. The project team developed a usability test script and used front line workers (lawyers and their legal assistants) as subjects for this exercise. The results were shocking! Lawyers and their administrative staff (users) found it hard to navigate around the system and reported that the system was not intuitive. The project team made several adjustments to the interface that were within its control before deploying the system for firm-wide use. The major lesson from this exercise was that usability testing provided benefits – even when deciding how to deploy 'off the shelf' software.

BLG has embraced usability design *and* participatory design (PD). The team views these as overlapping and complementary approaches. The firm has moved development for portal components from a more traditional approach to systems development which emphasizes a static, four stage process [requirements definition, systems analysis, systems design and implementation], to PD – emphasizing the dynamic, interactive and iterative nature of systems design. The approach to PD draws from early approaches including: the use of working groups or study circles; software prototyping; organizational prototyping; other forms of practical 'envisionment'; diaries; and work analysis [3]. In embracing a PD approach, the team had moved towards addressing social and cultural issues within the organization – moving beyond the technological.

One other observation of note: PD practitioners need to be attentive to the power relationships within the law firm setting – the different roles of partners, associate professionals and staff (often viewed as non-lawyers in a semi-derogatory fashion).

2. THE TRADITIONAL APPROACH VS. THE COOPERATIVE APPROACH

The web services development team (WST) has adopted the instruments of PD; embracing the notion that a PD approach 'takes more of a people oriented perspective than the more traditional approach'.

The differences between these two approaches is well described by Greenbaum and Kyng as follows (Greenbaum & Kyng, 1991):

Table 1. The Focus of theTraditional and Cooperative Approaches

Traditional Approach	**Cooperative Approach**
Problems	Situations
Information flow	Social relationships
Tasks	Knowledge
Describable skills	Tacit skills
Expert rules	Mutual competencies
Individuals	Group interaction
Rule-based procedures	Experience-based work

Using this as a framework to examine portal development at BLG we summarize experiences to date as follows:

2.1 Problems Vs. Situations

Historically, information systems have been created in order to address problems within the law firm. Time and billing and financial systems were early candidates, followed by document authoring (Word Perfect and MS Word), production and management (DMS). Subsequently, e-mail became the primary form of communication and collaboration within the firm and with clients. However these systems and applications were done with the perspective of accounting and IT in mind. As recently described by the CEO, who remarked – "you need to make sure you are not putting systems in place for the convenience of the [accounting] staff; but rather to support the professionals in their day to day work."

Using a PD approach, the WST attempts to design systems with the actual situation in which it will be used in mind. This approach challenges web services developers to view their product offerings as tools intended to facilitate the work practices of the individual professionals (lawyers, trade mark and patent agents) on a daily basis. Process and work flow analysis have become more important aspects of design.

2.2 Information Flows Vs. Social Relationships

The WST is mindful of the fact that PD reminds us that work is by its very nature social and that the interaction between professionals and with staff is essential to the execution of work. The social relationship dimension of work reminds us that tasks are usually performed cooperatively. Accordingly, the firm is looking for ways to support collaboration and team-work – drawing on the related disciplines of Computer Supported Cooperative Work and Learning (CSCW and CSCL).

The development of the BLG portal necessitated a recognition that social relationships lie at the heart of a lawyers' practice of law. It is through these social practices that lawyers build the relationships with each other, staff and clients in order to elicit the legal needs that are to be met by their legal offerings and to deliver appropriate client service. Indeed, the recent teachings from social network analysis [4] and the science of complex adaptive networks [1] are being used as lenses for this analysis.

2.3 Tasks Vs. Knowledge

Initial efforts for information systems and Intranets at BLG were aimed at reducing the work that is performed within the firm to a series of tasks that resulted in a completed product or service. While this approach may work in an industrial setting, the knowledge work performed by the firm requires an acknowledgement of the expertise, or knowledge, associated with the practice of law. This expertise is not easily automated and thus requires designers to respect the inability to faithfully reproduce the work practices within a static system offering.

Sesame is intended to facilitate the knowledge-based practice of law. It is intended to assist lawyers in drawing a distinction between the repetitive, data intensive aspects of their work and the original, knowledge intensive requirements of their practice. The plan is to use the portal to facilitate the data intensive tasks by providing access to templates and knowledge objects that can be reused for similar client needs. Such reuse would enable lawyers to spend more time building up, sharing and trading their knowledge and legal expertise.

2.4 Describable Skills Vs. Tacit Skills

Our approach recognizes that tacit skills and knowledge transcend systems, data bases and the formal descriptions of the work. Accordingly, frameworks are being studied to facilitate and support the tacit dimension. For example, the firm is working on the design of an expertise location system or experts directory for internal and external experts. The hope is that this directory, made available through Sesame, will provide professionals with the ability to locate a given expert more quickly, improving client service.

2.5 Expert Rules Vs. Mutual Competencies

Like most professional service firms, BLG is collegial in nature and as a result, mutual respect for mutual competencies becomes an important part of the fabric of the firm. This too needs to be supported by information and knowledge systems as well as the portal. At the same time, pathfinders (that embody 'task knowledge' and 'expert rules') are being developed to facilitate learning (e.g. how to guide a client through a share purchase transaction) for the professionals in the early stages of their careers. These pathfinders act more as guides than strict rules.

2.6 Individual Vs. Group Interaction

Traditionally, lawyers practiced in their own singular worlds rather than in teams – serving clients with the assistance of an apprentice (i.e. associate), law clerks and legal assistants (i.e. secretaries). But this view of the practice is myopic – it devalues the interaction and exchange of relevant practice information between members of the firm. Indeed, the firm is a collection of communities of practice [6][7]. A recognition of the importance of understanding 'group interaction' results in better tools and systems.

2.7 Rule Based Procedures Vs. Experience-Based Work

The firm has moved from viewing work as rule-based (i.e. reducing work to a series of unambiguous processes) to acknowledging that "there is more to the practice of law than the formal articulation of a set of rules". This belief is guiding the design of Sesame. Our Portal is intended to enable knowledge workers to leverage their experience in their practice.

3. CONCLUSION

BLG has and will benefit from the use of PD to further the utility and relevance of Sesame. The development of corporate knowledge portals requires a consultative approach that is well suited to the application of PD practices.

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