architecture' or 'content management' and so on. Immediately this brave new world begins to loose its glamour for those of us brought up with a more formal approach to information retrieval. The problem is obviously the one that all indexers experience –using terms to describe the resource which will also be used by searchers at some later date.

In January, Louis Rosenfeld – one of the panelists – wrote in his blog (http://louisrosenfeld.com/home/bloug_archive/000330.html) that folksonomies "don't support searching and other types of browsing nearly as well as tags from controlledvocabularies applied by professionals. Folksonomies aren't likely to organically arrive at preferred terms for concepts, or even evolve synonymous clusters" and he repeated this during the summit debate. Another point of view is put by Stewart Butterfield, one of Flickr's (one of many social-networking sites that allow the sharing of photographs – http://www.flickr.com/) co-founders who suggests that "the job of tags isn't to organize all the world's information into tidy categories. It's to add value to the giant piles of data that are already out there" (http://www.wired.com/news/technology/0,1282,66456,00.html) … but, to my mind, it's a limited value if retrieval is only randomly succesful. The good news is that Connotea, at least, are considering the implications and possibilities of controlled language tagging. They will, of course, have to come up with a new derivative name: perhaps "folksaurus" may do!

The other 'niggle' is to do with folk indexing, too; and brings me full-circle to the point I made at the beginning of this piece: information overload and strategies – and whether they succeed. In the latest issue of *Information Research* (Volume 10 No 3 April, 2005 – http://informationr.net/ir/10-3/infres103.html), Harry Bruce has an article on "Personal anticipated information need". Tom Wilson summed it up in his editorial as, "related to the habits we have of retaining and storing (or bookmarking) information sources that we think may be of relevance to us in the future. Personally, I gave up doing that a long, long time ago, when I realised that my chances of accurately predicting future need were pretty close to zero. … I now assume that, if something catches my attention as of possible future use, I'll be able to find it again." I begin to think – and I speak as someone using three shared bookmarking tools, with similar but not identical sets of bookmarks on the three computers I use, who runs a personal bibliographic database with some 4,000 records in it, and who tidies emails into subject-based folders (which do not coincide with the file-structure on my computer!) – that there may be something in this! However, my concern lies not so much in my ability to find the item again, but in remembering that I had found it in the first place! Now that would be an IR tool to come up with!

Making seven intranets into one.... and then personalizing the content

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Abstract
This case study provides a brief overview of intranet and portal developments at Boots The Chemists, a large chain of health and beauty stores in the UK. The story starts in 2001, when Boots Group had seven intranets, each with a different look and feel. The intranet rationalization project was initiated to tackle this situation and included the introduction of a content management system (CMS). The paper looks at the issues involved in having several intranets and how the new intranet management team implemented the necessary changes to move the intranet to the new model. It describes the benefits resulting from (and challenges involved in) introducing the new CMS. It examines the resulting single intranet and assesses its delivery of content to different audiences across the business. Finally, it discusses how the company has successfully used portal technology, integrated with the CMS, to deliver true personalization.

Introduction: about Boots

Readers who live in (or are frequent visitors to) the UK will be familiar with Boots the Chemists, whose head office is in Nottingham.

The company has three main areas of activity. The first and most visible is the chain of over 1400 health and beauty stores (similar to drugstores). There are several stores in every city and at least one small store in most market towns. The large stores, usually located in the centre or at the periphery of towns, include pharmacies, baby and child sections, health, beauty and opticians' services. The stores in London tend to be on the smaller side, although there are plans to open a flagship store there in the near future.

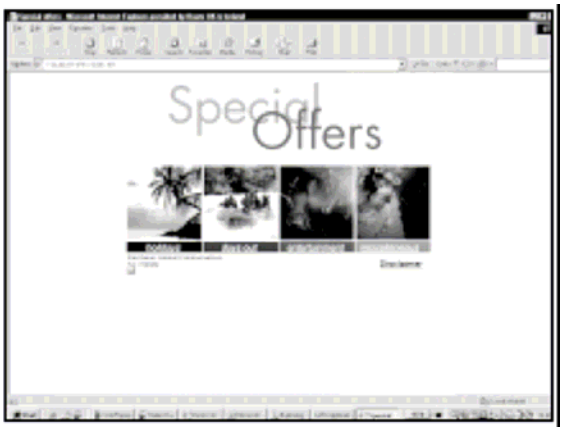
This side of the business has expanded overseas in recent years, with Boots stores opening in Ireland and Thailand and implants opening in Taiwan and Hong Kong with AS Watson. We've also recently started a similar implant model in the US within Target and CVS. In addition, we sell some of our key brands via other retail outlets worldwide. Examples of this are 'No 7' and '17', two of the leading cosmetics brands in the UK.

The second side of the business is the provision of international over-the-counter medicines. Brands such as Nurofen, Optrex, Strepsils and Clearasil are sold via many different outlets in over 80 countries worldwide.

The third side is the internet business, which continues to expand, selling all these products as well as providing an on-line pharmacy and an outlet for other product ranges such as telephones, computers and kitchen appliances.

Too many intranets?

By 2001 there were seven company intranets, each with a very different look and feel. As is clear from the sample screen shots below, the various sites had different designs and modes of navigation.



Issues and opportunities

We identified three major issues: (1) business, (2) technical, and (3) future requirements around our use of web technology at work.

It was clear that the plurality of intranets, with a variety of designs and modes of navigation, was negatively affecting the business. It made accessing the content difficult for end users, who had to learn how to find their way around each one. Content tended to be mirror the organizational structure, with each department having its own site. In order to find anything, users needed to understand this structure before they even started. This in turn encouraged silo thinking, which was far from an ideal situation, especially for anyone joining the business.

The intranets were hosted on different servers, all with different publishing models, using different software and therefore needing different technical support. This was very inefficient, especially at a time when we were outsourcing our IT requirements and were looking for increased efficiencies to help reduce costs.

We also needed to consider our changing business. As a group we had reorganized from seven independent businesses into one business with only two divisions: UK retail and international over-the-counter brands. The company was working hard to integrate and function as a single entity and we needed an intranet to support this. We also knew SAP systems were coming along, with major changes to our core purchasing and HR processes, and that this would all be delivered via a web-based SAP interface on our desktops. Finally, we needed to make sure we would be able to comply with new Disability Discrimination Act (DDA) regulations, with regard to webbased systems for our employees.

The intranet rationalization project

The intranet rationalization project began in 2001, with the following business and infrastructure objectives:

- Design a new, consistent user interface and information architecture (IA). This would improve findability, especially for new/recent hires who didn't already understand the organizational structure of Boots.
- Transfer all content to the new IA and some initial content to the new look and feel.
- Create, publish, maintain and enforce standards for policies and processes.
- Implement a single CMS to consolidate the web platform from the existing intranet platforms to a centralized model, supported centrally, but allowing distributed publishing.
- Provide the means to target different areas of the business (e.g. stores/non-stores).
- Build an infrastructure to enable effective integration of new web applications (e.g. SAP and portal technology).
- Establish a centralized intranet management team to identify and manage the extensive changes required.

The project was completed by January 2003, when the intranet management team took over the ongoing management of the publishing process and assumed ownership of the CMS.

A new way of managing content

Implementing a CMS has enabled us to develop a customized publishing model. Like many other implementations in other companies and industries, it fundamentally separates centrally managed design from devolved authoring of content. This meant we could deliver a consistent design across the business, whatever the business area or audience. It allowed us to deliver a single look and feel, even if the content was tailored to different business areas. This supported the wider objective of creating a more integrated business. It also meant authors no longer needed to spend time and resource worrying about the design of their web content.

This in turn supported authoring of content by subject experts (not just the person in a team who was a bit 'techy' and thus seen as the web expert), which meant that it was more clearly owned by the correct people. The subject experts (or their managers/nominated approvers) were thus able to publish without first going through a central editorial function (who probably knew little about the subject matter in the first place).

How it works

Authors fill in forms or templates, of which there are only six, in an attempt to reduce complexity whilst making them as flexible as possible. They then insert content in the relevant boxes and browse other pages to create links or image files to include pictures. The template illustrated here (at left) when saved and generated, produces the following web page (at right):

The page adopts the design, colours, layout, fonts, bullets and navigation of the central design. The authors, by simply entering text and allocating it over a number of pages, produce a professional looking web site.

Also, because the layout is similar to other web sites, new users will very quickly be able to navigate the content with ease. This is helped by having consistent components like the left hand navigation ('*in this section*' in the above example). A local menu, specific to the site or 'content area', is defined in one place and automatically included on every page. This local navigation, combined with the global navigation along the top, means the user should never feel 'lost'.

Implementing the business change

Having delivered the new infrastructure, a new CMS, and transformed some content so that it matched the new 'look and feel', the final stage of the project involved setting up the intranet management team (IMT) to take the changes forward and implement them across the 350+ sites still sitting on old servers and in the old format. This is where I joined the picture full time as the new Group Intranet Manager.

The IMT reported to the Internal Communication Manager and were an integral part of the communications team. This helped progress all the communication content. Team objectives for the first 12-18 months were to: (1) set up the required guidelines, policies and business processes for creating and managing intranet content; (2) facilitate the transfer of all the old content into the new system; (3) manage the business relationship with our newly outsourced IS providers in supporting the new set up and (4) worry about all other aspects of managing the intranet!

With regard to the 350+ sites, we first had to work out what they all were, what they were about, who owned them and who their target audiences were. There were many sites which were old, out of date and without clear ownership. The initial stages of the process involved lots of legwork. Numerous duplicate sites were uncovered; for example, there were six different sites for claiming expenses.

Once we had an idea of the overall size of the project, we set about working with the content owners. Through one-to-one meetings, workshops, training sessions and ongoing communication we explained why we were moving to the CMS, what deadlines we were working to and how we could help them. They were told that ultimately they were

responsible for moving the content or it would be removed.

We built a model where the communication team owned language and brand and developed published guidelines for this area. We explained about wanting to make the content user-centric and how this might mean different owners working together to reauthor content.

For a higher level view of a business area - for example to review all finance content - we sought senior level sponsors who could give a clear steer on what content should be reauthored as a priority and how it should be focused.

We worked with the training team to develop courses to support new users of the CMS. We found that they needed support to understand how to structure their site, including breaking down content into sensibly sized pages. The IMT provided consultancy type support in this context. We also managed the administration system, which set up new users and linked new sites to the relevant drop-down menus for different audiences once they were on the live server.

Finally, we managed and owned any developments concerning the intranet. These included: (1) the creation of new templates, to ensure they were as generic as possible; (2) the enhancement of templates, and (3) ensuring that content complied with new DDA regulations and was presented through the new portal.

Benefits of the CMS

Authoring is independent of end user technology
Authors no longer need to worry about which browser or which device the end user will be using. They just fill in the templates and set the local navigation once; this is stored in the content management repository. Different presentation templates are then combined with the content to deliver the latter in a format suitable for the enduser device or interface. The content is thus authored once and can be delivered to many different devices.

The design can be changed centrally
If, for example, the DDA review means that we need to change the colour of our page titles, or the font size of the section headings, this can all be done centrally and is immediately reflected across the intranet.

A single authoring tool
Having just one authoring tool across the business means support is more streamlined and authors develop their own communities of mutual support. Gone is the mystique and the domain of ‘technical experts’.

Editorial control
There is no longer a central editorial team who have to review all content (particularly content they don’t understand). However, we do still have a very structured editorial process. Approval now resides with the content experts, so updates are quicker and more efficient. Authors submit their finished pages, they are reviewed by the nominated approver for their content area via email and if approved are instantly live. Approval processes can be different for different content areas, whatever is most appropriate to the specific content type.

Version control
All content is versioned within the CMS, allowing roll-back at document level or site level if required.

User-centric navigation model
As we needed to recreate all of our intranet content anyway, moving it from the old systems into the CMS gave us

an ideal opportunity to look at the way it was structured. In the old model many sites were structured around the authoring department rather than the user. We wanted to ensure that under the new system content was more centred on the user.

A simple example will suffice. Looking on the old intranet for information about volunteering at local schools (a scheme the company runs with schools in Nottingham) involved navigating first to the 'Boots Group' intranet, then to 'investor relations' and then to 'community investment'. This assumed from the start that you already knew that the community investment team managed volunteering in schools, that they were organizationally part of investor relations and that the team sat within Boots Group.

This made information pretty hard to find unless you already knew the structure of the company very well. It hampered the search efforts of even long-serving members of staff, let alone those who had recently joined. The project therefore reviewed navigation from the point of view of the whole company and of the individual end user. This content is now found under 'Boots & me', 'My development', and 'Volunteering and charities'. No longer is there any need to know which department manages what you need to know before you can find it!

Central resource management
The new system also allows us to centrally manage resources, such as images, through a global image library.

Other benefits
- Reduced training costs, as we are only using one system.
- Content life-cycle management, with pages automatically tagged for review after a fixed time. Emails are sent to content area administrators with 4, 2 and 1 week(s) notice of expiry; if the content is not reviewed and approved then the pages are removed.
- Workflow for content approval and publishing is mandatory and cannot be avoided. If the workflow isn't followed then the content isn't published; compliance isn't a problem.
- When new pages are added they are automatically listed in the relevant index pages.
- Global search mechanism searches all content across the group, a functionality we didn't have before.
- Content deployment can be deferred to a particular date or time. Especially helpful in avoiding a 5.30 am start on annual results day for our communications teams!

Challenges posed by implementation

Along with the benefits come the challenges. It's not been an easy ride all the way!

Perceived cost
The original justification for rationalization was provided by the communications and HR side of the business. However, the content management aspect was driven by IT and many people in the company didn't understand this area of the project. Once it was installed, the members of the IMT had to go out to and persuade people to re-author their content. Sometimes there was resistance. Why should they spend all that time re-authoring something which was already up and working? Rumours also spread about how much the project and system had cost and many people couldn't see the benefits. Much of our time, before the migration of the content to the new system, was actually spent selling the much wider picture, explaining about future opportunities such as portals and personalization.

Departmental politics
People quite liked having a departmental site with *'this is who we are and what we do'* type content. Once we explained the benefits for them of it being user-centric (i.e. their content was more likely to be found and used) it became easier, but this was an uphill battle with over 300 sites and site owners to consider. Also the user-centric design meant departments often had to work together to present a single integrated area of content for the user. Although everyone often agreed it was the right thing to do, finding the time to work together, agreeing who had overall responsibility and project managing the migration sometimes proved tricky.

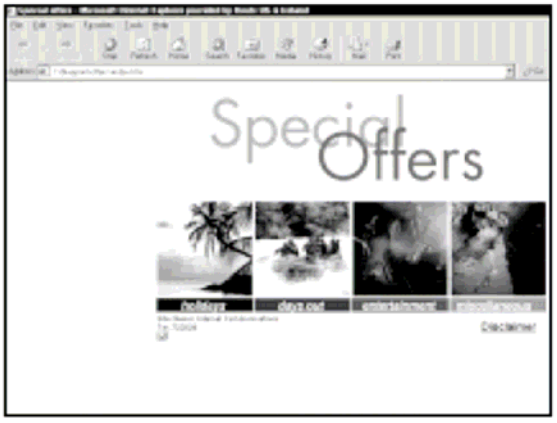
Navigation
The navigation wasn't liked by everyone. Although many appreciated that we had brought together content from many different intranets (and found content easier to find as a result) there were still those who still couldn't find the content they wanted and were vocal about it. There was also the challenge that for 18 months we had the new navigation in place co-existing with hundreds of old sites still written in the old way. This meant we had usercentric navigation mixed with new user-centric content and old author-centric content. We had known from the outset that this would take up to 2 years to sort out, but it did mean it didn't always make sense to the users. We had to convince them it would all be okay in the end.

Time
One of the biggest challenges. We knew the project would take between 18 months and 2 years to implement. While everyone agreed it supported wider business change, the company was itself changing rapidly. The project was sometimes seen as yet another change, with lower priority. People would also leave and we would have to start from scratch, explaining the whole process again.

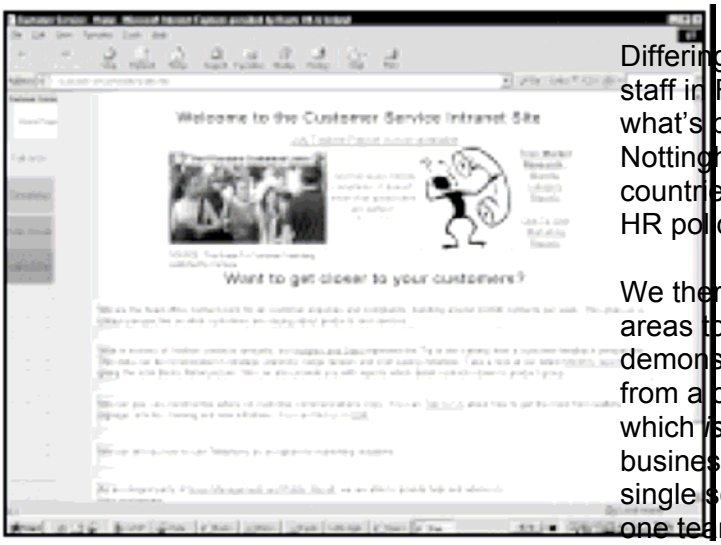
A single intranet

The following screen shots show the new home page and some old and new versions of a couple of content areas. They all have a consistent look and feel, layout and navigation. Users going to a new content area can immediately navigate their way around. The intranet finally looks like it's from one company.

New home page



Old site (left) and new (right)



Old site

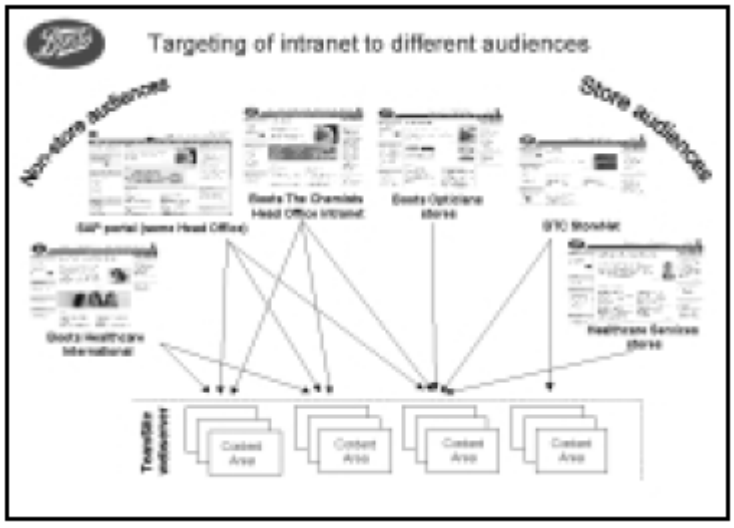
A single intranet with multiple versions

Although we had now developed a consistent look and feel and a single repository of content areas (sites), complaints were voiced by different areas of the business. These centred around the home page and wanting to only see content areas which were relevant to them.

The CMS's site administration facility allowed us to provide different home pages for various broadly defined audience sectors; these were managed by the various communication teams with some common and some specific content for each audience. We designed the top-level navigation to direct each audience to the relevant content areas.

Differing information needs range from staff in France not wanting to know what's being served in the canteen in Nottingham to departments in various countries requiring access to different HR policies and advice.

We therefore direct different content areas to different audiences, as demonstrated below. As all content is from a common repository, any content which is relevant across different business areas will always only have a single source, managed in one place by one team, ensuring consistent information when appropriate.



The portal: the beginning of true personalization

One of the key reasons for implementing the CMS was to enable the integration and presentation of the content is different ways and through different systems. The first real manifestation of this ability is through the new portal.

One of the first areas of our business to benefit from the use of portal technology was the retail stores. The store intranet, known as StoreNet, was relaunched to the 1400 stores, with all content rewritten, in spring 2004. This presented a single version of the intranet - every store saw the same thing - but we wanted to provide tools to enable the store managers to drive sales. We looked to portal technology to deliver true personalization: the portal, named MyStoreNet, was defined as a change project at the end of 2003 and work started in early 2004. Our key objectives were to:

- Display content which was relevant to individual stores.
- Enable content to be created in stores for use within them (e.g. simple messages).
- Display different content for people performing different roles within a store (e.g. pharmacists, store managers, sales assistants).
- Display content at the most relevant place for the user, supporting our drive to have as many staff on the shop floor as possible, not stuck behind the scenes. For a sales assistant this might be on a till, for a pharmacist it may on a PC in the pharmacy, for a store manager it may be on a handheld PC on the shop floor.

The screen shot below shows an example of a store manager interface for a particular store. Elements include: (1) a sales tracker which enables the manager to set local sales targets and track them against actual sales (via back-office servers connected to the tills); (2) the ability to display both target and actual sales on a till for all staff to keep up to date with progress; (3) the ability to create in-store messages for delivery via PCs, tills and handhelds, as well as many other new functions, alongside the static content, from within the CMS.

Although we are using very different technology, we have maintained the look and feel and simply updated the name from StoreNet to MyStoreNet. We felt that it was important not to be seen as launching a new tool, with a new name and new way of doing things. Our people were already comfortable with StoreNet. The term *portal* sounds good, but means different things to different people, and nothing to many. We've therefore avoided too much technical labelling of the project and have described it as the next version of StoreNet. At the time of writing we are planning the full pilot, training and roll out to all 1400 stores over the next 6 months.

Conclusions

In this paper I have briefly described our journey from many different intranets to a single CMS, how we migrated over

300 old sites into the new system, and moved from an author-centric to a user-centric model. The new model supports a single look and feel, with centralized management of design and devolved ownership and managed content. We now have a single repository of content areas but deliver different views of that content to different broad audiences. Finally, we are using that content to feed new portal developments which will enable true personalization and application integration. And so, no doubt, the story will continue....

Contact

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Online

Hosted by Aberystwyth Online User Group (AberOLUG) and co-ordinated by Joy Cadwallader, University of Wales, Aberystwyth. Please send your submissions for the next edition to jrc@aber.ac.uk

Blackwell
(http://www.blackwellpublishing.com/)
Blackwell Publishing has launched a new open access journals service for peer-reviewed articles. The service, Online Open, will be trialled for participating journals until the end of 2006. Authors can take an option to pay for online access to all via the Blackwell Synergy journals platform.

EBSCO (http://www.ebsco.com)
Recent acquisitions for EBSCO include SPORTDiscus from the Sport Information Resource Centre, a not-for-profit organization based in Ontario, Canada, and HealthGate's The Natural Pharmacist. SPORTDiscus is used globally for sports research by academic and medical libraries. Also, from the Natural Pharmacist acquisition, EBSCO have launched two full-text complementary and alternative medicine databases, Natural & Alternative Treatments™ (NAT) and Evidence-Based Complementary Medicine™ (EBCM).

Further EBSCO launches include Old Testament Abstracts Online and GLBT Life with Full Text. Previously available only in print or CD-ROM, Old Testament Abstracts Online contains indexing and abstracts from more than 450 journals in religious studies and associated subjects going back to 1978. The product has become available through a partnership with the American Theological Library Association (ATLA) and the Catholic Biblical Association. A full-text component has been added to GLBT Life, an existing online bibliographic database provided by EBSCO covering Gay, Lesbian, Bisexual and Transgender issues. Over 400 periodicals, books and news sources are indexed and abstracted, together with selected gray literature. Full text is now available for 50 key periodicals and newspapers, and for a selection of monographs.

EDINA (http://www.edina.ac.uk)
Digital scans of early Landmark OS paper map sheets are to be offered by EDINA to HE and FE following an agreement with HEFCE. The Historic Mapping Service collection will include, "all available County Series maps at 1:2,500 and 1:10560 scales published between 1843 and 1939; and all available National Grid maps at 1:1,250, 1:2,500 and 1:10560/10,000 scales published from 1945 and before the introduction of the Ordnance Survey's digital Land-Line product".