KM COLUMN

CASE STUDY (OCTOBER 2007)

Intranet redesign for Canon Australia

Over a number of years, Canon Australia developed an extensive portal-based intranet, known as iCON, for use by staff throughout the organisation. This included several phases of intensive redevelopment, in parallel with changes to the underlying technology platform.

The intranet continued to grow and expand, eventually being given the mandate to deliver to a diverse range of audiences, including both internal and external users (effectively creating an extranet).

This widening of the audience prompted a re-evaluation of the intranet, with the goal of ensuring that the site is effective in meeting the needs of current and future users.

In mid-2006, Canon sought the assistance of Step Two Designs to begin the process of evaluating and redesigning iCON. This case study aims to give an overview of the process undertaken, as well as the initial outcomes.

Project goals

The Canon intranet team had seen iCON through two previous redesigns, so there was a good understanding of what is involved in designing and maintaining an intranet.

As outlined above, the widening of the intended audience for iCON sparked off the latest project. Our first goal was to understand the organisation's needs and suitably prepare for this expansion of the intranet's role.

Leading up to this project, the intranet team was well aware of a number of inadequacies with iCON. In order to properly understand these issues and sketch a picture of how the organisation worked, steps were taken to review business objectives and gather the input of staff across the organisation.

This provided a clear direction for the intranet redesign, as well as identifying opportunities for new intranet capabilities and content.

> Needs analysis provided a clear direction for the redesign

Ultimately, iCON will be completely redesigned, but the immediate product of this project was the development of high-level design blueprints. These will feed into detailed design and implementation work further down the track.

The intranet team felt that this was a good opportunity to bring in some external assistance, to ensure the process went smoothly and to strengthen their own skills.

Accordingly, a methodology was devised to allow project activities to be conducted as swiftly as possible, while enabling the Step Two Designs team to mentor the intranet team. This would give Canon the skills and support to allow them to drive the intranet forward, and to reshape it into a powerful business tool that will help Canon to meet its strategic and operational objectives.

Overview of methodology

The project was made up of two phases, 'needs analysis' and redesign.

The purpose of needs analysis was to uncover, capture and understand the needs of Canon staff and the requirements of the business.

Once this had been completed, a user-centered design phase began to develop a new information architecture for iCON.

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Understanding needs

It is very important to base design on a good understanding of requirements. Too often, intranets (as well as websites and software applications) are designed purely on the basis of functional or technical requirements, or simply based on the whim of the designer.

It is important to get an 'end-user' perspective on the information needs within an organisation, and the ways the intranet can help meet them.

Combined with Canon's business objectives, this user research provided the necessary input to design a revised intranet.

A number of techniques were employed during this phase of the project, including:

- interviews with a variety of staff
- stakeholders 'alignment' workshop
- analysis of usage data
- heuristic inspection of the current site
- task analysis

Good representation of staff from across Canon was achieved, but particular attention was paid to 'doers' and 'getters'—to use the parlance of Canon's Customer-Focused Organisation Model (known colloquially as 'the wedge' due to the associated diagram, see below).

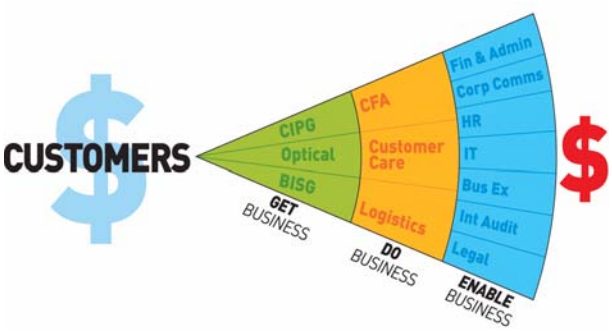

Figure 1—'The wedge'.

The specific needs of this 'pointy end of the wedge' were not well understood by the intranet team, and this project was a significant step towards understanding these needs and unlocking iCON's potential for delivering substantial business benefits.

Making sense of the research

Without analysis, research is essential useless. After immersing ourselves in the everyday workings of Canon, a sensemaking process began. This included a basic form of 'tagging' of qualitative data to identify themes that emerged across many different interviews. This was combined with analysis of quantitative data such as intranet search logs.

Documentation was kept deliberately lightweight during this phase, and instead the team instead made use of debrief sessions with the intranet team to present findings.

Following this, strategic and tactical recommendations were developed to address the issues found.

For further information on conducting intranet needs analysis, see an earlier paper: *steptwo.com.au/papers/kmc_needsanalysis/*

Key findings

Out of the issues identified during the user research—and confirmed during subsequent conversations with senior staff and the intranet team—several key themes emerged.

These themes tell the story of life at Canon, and shed light on the significant impact of information management and technology on staff member's working days.

Each theme included in the report was supported by direct quotes from staff and, where possible, examples to clearly illustrate the situation.

The key themes are outlined below.

iCON usage varies greatly across Canon

Staff usage of iCON is patchy at best. Some staff are well catered for and use it a lot (eg call centre operators) but most have few reasons to visit.

Regardless of how big a part it plays in their day-to-day work, staff rarely browse, turning to iCON only for specific and infrequent purposes, such as HR tasks. They prefer 'push' to 'pull' (eg emails containing a direct link).

When faced with a lack of information, staff make use of a variety of alternatives, such as paper files, asking colleagues, and the internet.

Staff at the pointy end of 'the wedge' are not well equipped

Frontline staff lack access to all the information they need to do their jobs.

Some staff, and third party personnel associated with Canon, are not able to access information directly, for example sales reps, account managers, field technicians on-the-road and dealers and agents.

The problem lies in not only lack of access to information, but also in the way the information is provided. For instance, staff were unable to get a consolidated view of key information.

Collaboration is difficult due to silos and divisions

Many silos exist within Canon, inhibiting communication and collaboration. This also leads to a lack of understanding of what other parts of the business are responsible for, and who to contact.

At an individual level too, 'expertise location' is very difficult; staff "need to know people". For example, it's not currently possible to find the person who looks after 'dealer rebates', using iCON.

iCON and other technological tools are not used in a way which effectively meets both the internal and external needs of each business unit.

iCON can help streamline processes

Processes within Canon can be quite complicated and involve many manual steps or duplication between business units. There are plenty of opportunities for iCON to come to the rescue.

Most staff rely on a personal network of colleagues to find information and get things done. This network fills the gaps (and indeed can replace) official systems and procedures.

For example, when trying to find a particular form, most staff refer to their own files (usually hardcopy) and if this fails they ask those in their immediate vicinity.

The lesson here for iCON is to try and capture this tacit knowledge that exists only in people's heads.

Information is difficult to find on iCON

Staff struggle to find information on iCON, and both the navigation and structure could be improved. Ultimately iCON must move away from being a publishing platform and towards becoming a place to do things.

Besides the findability of content, the content itself is an issue. Content is often out of date and duplicated in several places. Different versions of documents are not easily distinguishable.

Redesigning the intranet

The design process was built on top of a solid foundation of understanding; an understanding of how the organisation works, how staff perform their jobs, where they turn for answers and how they react to specific situations.

A number of best-practice techniques were employed, including:

- task-based assessment of IA
- card sorting
- prototyping
- usability testing

Development of the top level IA

A draft information architecture for the intranet was developed, drawing upon all the information learnt about iCON and its users. The top few levels of the information architecture were designed this way, in collaboration with the intranet team.

> The wireframes are based on usability and needs analysis

Usability testing of the design was conducted using a technique known as 'card-based classification evaluation'. This highlighted areas of the navigation that were working well, and other areas which needed further revision. This technique had been used previously to assess the existing IA, thus giving a means of comparison. For further information on this technique, see:
steptwo.com.au/papers/ext_cardbased/

Development of low level IA

Once the site structure had been finalised and tested, page layouts (or 'wireframes') were prepared for key pages, including the home page, key navigation pages, content pages, and other special pages (such as search results).

Wireframes aim to convey the content and functionality of a site, without applying the full visual design. Whilst some aspects will change as the visual design is developed (and implemented) the finished site should reflect the wireframes at its core because they are based on usability principles, and more importantly, the needs analysis that was conducted.

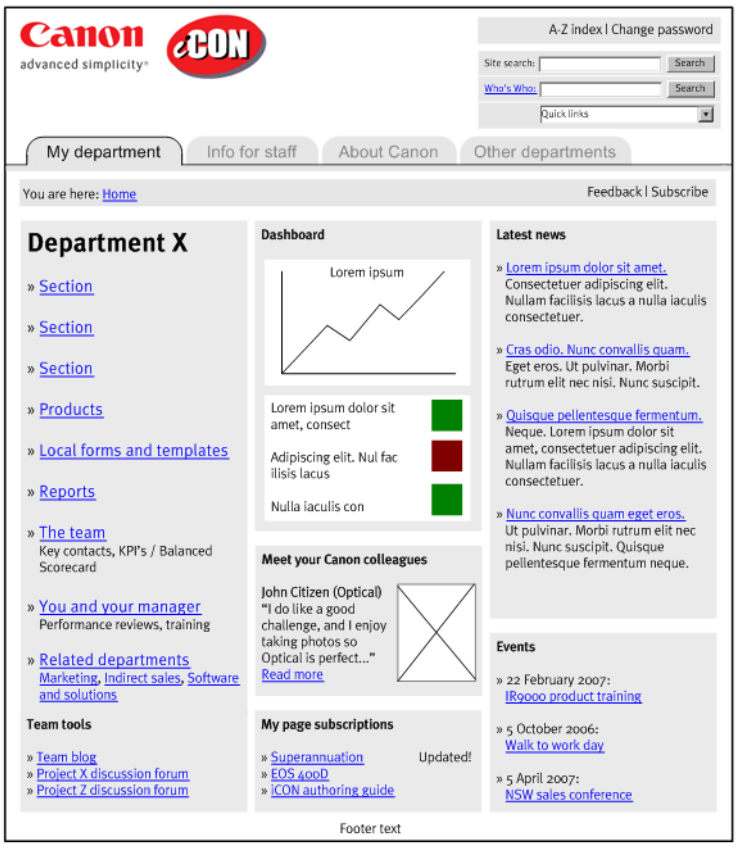

Figure 2—Wireframe for tailored home page.

The wireframes and accompanying site map provide an overall direction for iCON and serve as a guideline for graphic design and technical construction. However, further work is required to take this direction and create a workable site, in particular, the lower level pages.

With this in mind, a wireframe was not produced for every single page. Instead, wireframes have been created for each type of page, including:

- The home page (see *Figure 2* on page 4)
- Section pages (see *Figure 3* on page 5)
- Key content pages (see *Figure 4* on page 6)
- Search results (see *Figure 5* on page 7)

Task-based usability testing was then conducted with end users of the intranet, using paper prototypes, to give insight into how the new page designs would work in context.

For further suggestions on undertaking an intranet redesign, see:
steptwo.com.au/papers/cmb_fullsiteredesign/

Key features of the new design

The underlying principle behind the new information architecture was that iCON must be transformed into a useful business tool. To this end, the organisation of information was rearranged so that the things most useful to staff take centre stage.

The resulting information architecture includes several uncommon features, adopted because they allow the design to meet Canon's particular needs. These features include:

- no corporate home page
- syndicated content
- tabbed navigation

There is no corporate home page

Possibly the biggest departure from 'traditional' intranet design was the elimination of the corporate home page for iCON.

Instead of one home page for all users, the new Canon intranet will introduce a form of tactical personalisation, so that the *My department* page (see *Figure 2* on page 4) acts as a home page for each user.

My department focuses on content relevant to the immediate vicinity of the user, that is, used every day to get their job done. It is tailored for the staff in each business unit and only staff who work in that unit would ever see it.

The reason for this design is to eradicate the turf wars that are fought over intranet home page real estate. Each division of the company, and each special project and initiative, battle it out to promote their wares.

While this situation can be managed, it typically results in content that is irrelevant for most users dominating the home page of the intranet. By doing away with the home page, the temptation to 'spam' all intranet users is substantially reduced, and any such domination of the home page will affect only staff within a particular department.

For this design to work, the specific needs of each department need to be well understood in order to effectively produce this part of the intranet. It is *their* section of the intranet, as opposed to the rest of iCON which will be more tightly controlled.

Syndication for knowledge sharing

The elimination of the corporate intranet home page is likely to cause concern in most organisations. Intranets are often used to deliver organisation-wide news to satisfy the horizontal communication needs of the organisation.

However, an intranet home page is not a useful mechanism for delivery of news, as users need to visit the intranet to read the news.

The design for iCON is an improvement in two ways. Firstly, rather than a blanket approach to placing news items on the home page, content can be targeted to particular groups of users.

A list of news items appears on the side of the home page (see *Figure 2* on page 4) including local news but also news syndicated from corporate sources. Simple rules govern the content of this list.

The second improvement this design delivers is the ability to push this tailored list of news items to other applications. Rather than staff having to visit the intranet to stay informed, news feeds could be directed to news aggregator software or email software as a 'push' medium.

Tab based IA

The site has been simplified significantly to just four main sections, each of which will be presented as a 'tab' in the navigation. This

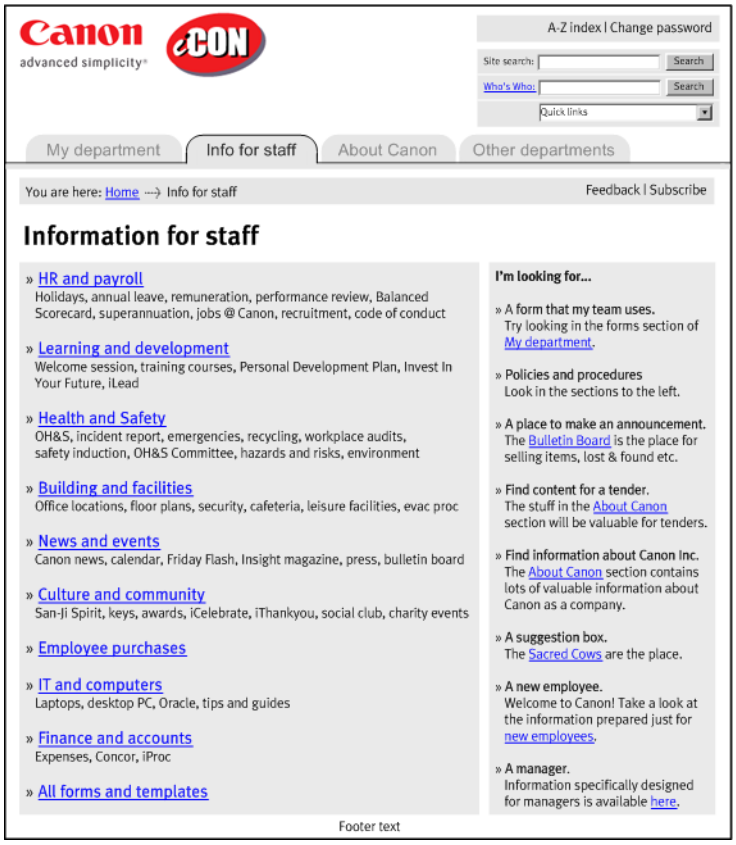

Figure 3—Wireframe for 'Info for staff' page.

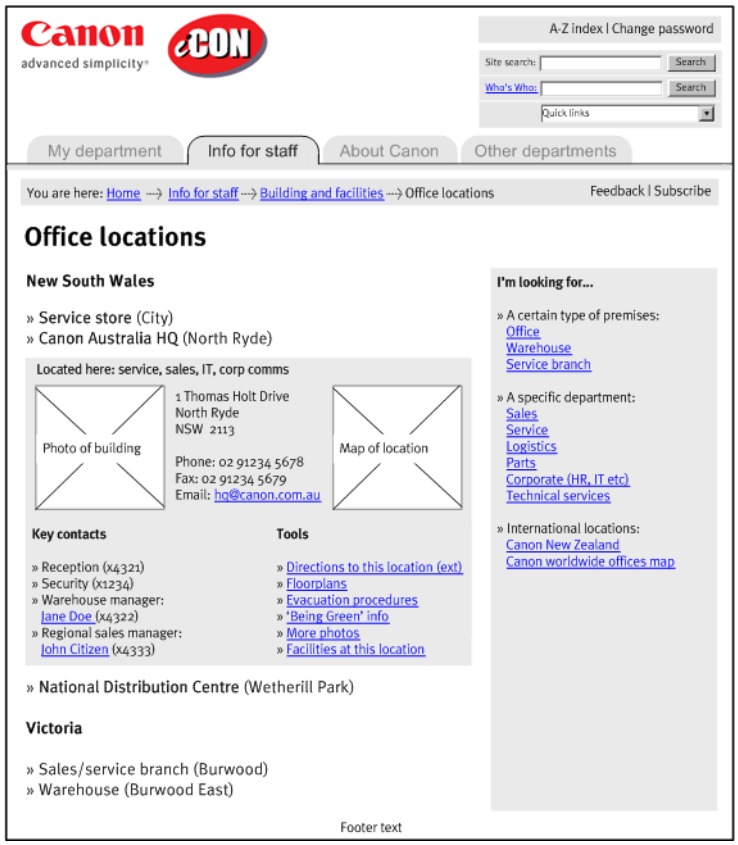

Figure 4—Wireframe for 'Office locations' page.

is a marked improvement on the thirteen or more sections crowding the old design.

These four tabs neatly separate content and functionality according to frequency of use, as well as the different ways that staff look for information (eg organisation structure vs task/subject).

My department

The first tab is the *My department* tab, which doubles as the intranet home page, as discussed above.

If iCON is to become a key business tool, this is where the action will need to take place. The biggest benefit will be gained by improving the content and tools that directly affect their working day, and placing that in front of staff. Putting effort into rarely used functionality or content will not bring about a massive shift in intranet usage, nor assist staff in doing their jobs.

The wireframe for the *My department* home page (see *Figure 2* on page 4) gives some rough direction on how the page should be utilised, but ultimately, specific staff needs will determine what is useful and should be included.

Info for staff

The *Information for staff* section contains all the information to do with being a Canon employee (see *Figure 3* on page 5). This is the next most relevant to staff (and hence next most used). Whilst staff might not use the information in this section daily, the content is crucial to life at Canon, including things like human resources, payroll and training.

This section is task- or subject-based rather than organised according to the department responsible for each function or each piece of content. While many staff do categorise everything according to the department responsible (and the information architecture caters for this behaviour in places) this approach can lead to problems, when the staff's mental models of departments and responsibilities do not match reality, when departments change name, structure or responsibility, or when staff are new and don't have any idea who is responsible.

This was a major change to the intranet structure and aimed to make the information easier to find for everyone.

About Canon

The *About Canon* tab contains information that relates to Canon as a company. This contrasts with *Info for staff* since it's not about staff but about the company. Staff were comfortable with this distinction, perhaps because it touches on an 'us and them' attitude.

There are, however, some topics that do not fit cleanly into either section. Examples include: health and safety, environment, facilities and corporate philosophy. The information architecture attempts to address this by separating these subjects into the aspects which directly affect staff (placed in *Info for staff*) and aspects that relate to corporate policy and 'PR' (placed in *About Canon*).

Additionally, cross links between the two sections attempt to get staff to the right information if they happen to look in the 'wrong' section.

As with *Info for staff*, this section uses a task- or subject-based organisation, and the use of department names has been avoided.

Other departments

The last tab is *Other departments*, which contrasts with *My department* by containing information from parts of the business other than where the user belongs.

This section is structured according to the Canon Australia 'org chart' (or at least the common perception of it) and presents an opportunity for each business unit to publish information that is required by staff outside of that unit. This will need to be strictly controlled by the intranet team to ensure it does not become bloated with irrelevant and unnecessary content.

This concept also resonated well with staff, they understood and appreciated the fact that this section contains the external content from each department, whereas *My department* contains the content internal to their own department.

This distinction will help address the current problem with iCON where these two roles are mixed up, resulting in an information source that is poorly organised and difficult to use for any staff.

Needs-based information architecture

There is a link between the depth and quality of research, and the depth of detail and quality of the resulting design. By better understanding the problem space it is possible to design a better solution.

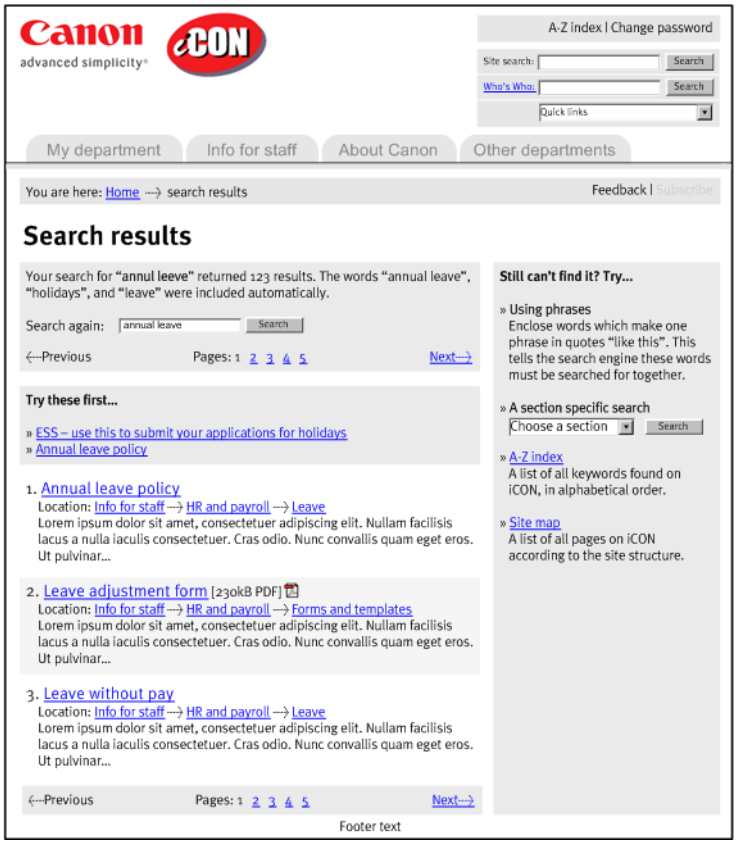

Figure 5—Wireframe for the search results page.

Typically, a new intranet information architecture will outline the top few levels of the content hierarchy and include generous amounts of latin text. The design for iCON, especially the wireframes, specifies a great deal of detail. The design aimed to resolve the specific issues discovered during needs analysis.

A good example of this link between needs analysis and design is to be found on the *My department* page (see *Figure 2* on page 4). The 'you and your manager' item in the bottom left was introduced because a strong theme encountered during staff interviews indicated that many performance appraisal issues were seen as quite private and for discussion with one's immediate superior only.

This went hand-in-hand with the fact that a staff member's own team or department was almost always their first port of call for information and activity.

There is a link between depth of research and detail of design

Another example is the *Office locations* page (see *Figure 4* on page 6). It was found that accurate and convenient information about each of Canon's locations was difficult to access. Obtaining this information was crucial, since the company's operations are spread across the country and most staff do not have regular contact with other locations.

Thus, the new design brings all the key information about these locations onto one page. This page can be linked to from various other parts of the intranet (eg staff directory) where office locations are referred to.

One intranet, multiple views

The design allows for many different 'views' of iCON, to accommodate the varying needs of different audience groups. For example, personalisation of *My department* will be based on who is logged in to iCON. Additionally, the content internal to each department will be restricted to staff who are in that department.

Another view will be used to provide a different version of iCON for Canon New Zealand. Much of the content is the same, but those staff will undoubtedly have their own unique needs.

Similarly, third party users such as Canon dealers will have yet another view quite different to that which is documented by these wireframes. This will effectively create an extranet for these partner organisations, which is part of the broader remit for iCON.

Login-based views will also be necessary for staff in the interstate branches, in order to present the correct information to the user. For example, a certain page of content might need to differ for each state, but rather than using a menu or series of links off to different versions of the page, the personalisation capabilities of iCON could be used to simply present the relevant content to the user. This could also be used when displaying news and events.

Navigation and information scent

The new information architecture makes use of carefully designed 'intermediate pages' or 'jump pages' (eg *Info for staff* and *About Canon*). These pages help funnel users to the content they're looking for by providing lists of links with plenty of 'information scent'.

This involves raising key words and phrases up onto the intermediate pages (higher in the information hierarchy) enabling staff to more easily choose a category by spotting words that reflect the task they're trying to achieve.

In addition to navigation, a key recommendation for iCON was to improve the site search. Whilst part of this involves redesigning the results pages (see *Figure 5* on page 7) more work was required to fix the back end, including changing the search engine product.

Two additional navigation mechanisms were included in the design to help staff find the information they need; an *A-Z index* and *Site map*. Both of these are useful additions to the design and will allow the completed site to accommodate a wide variety of ways in which users look for information.

Moving forward with the new iCON

The process described so far has been completed, and work is in progress on preparing to implement the design. As the project continues, more will be learnt and the design will be further refined.

The information architecture designed for iCON was relatively high level (although the wireframes were very detailed in some cas-

es) and in order to build a site from it, further work is required.

The tailored home pages, in particular, could not be fully designed during the project because they need to be crafted to the specific needs of each department in Canon. Such a detailed focus was not adopted for this project.

Writing and editing of new content, and content migration, will also require effort once the new intranet has been built.

To guide the wider project of redeveloping the intranet, Canon are using the *Intranet Roadmap*™ as a guide. For further information on the roadmap, see:
steptwo.com.au/products/roadmap/

Conclusion

This project highlighted that intranets do not need to be structured in the 'traditional' way (ie like public websites).

Instead of a single home page and a rigid view of the site, a fresh approach was taken, and the information architecture for iCON makes use of personalisation to efficiently meet the needs of Canon staff.

The intranet information architecture that was designed for iCON has been shown to a number of key stakeholders within Canon and the feedback so far has been overwhelmingly positive.

Success was also achieved in working with the Canon intranet team. Skills-transfer and collaboration were important aspects of the mode of engagement. This will ensure the effects of the project last well into the future, as the new intranet is launched and evolves.

Intranets do not need to be structured like websites

Lastly, it is worth noting that the information architecture techniques devised for websites apply equally to intranets, sometimes more so. This is a key lesson for experienced information architecture practitioners.

Acknowledgements

This project would not have been a success without collaboration between Canon Australia and Step Two Designs, in particular the efforts of Vanessa Shevelev and Greg Bellchambers from the Canon Corporate Communications department.

The author would also like to thank James Robertson and Stephen Cox for their input and invaluable advice.

Redesigning and restructuring the intranet

An intranet is only successful if staff can easily find the information they need, which is increasingly difficult as the intranet grows in size.

The design and structure of the intranet is crucial to ensuring that the site is effective and manageable. This includes the top-level structure, page layout, navigation, as well as the design of key pages and applications.

Usability and *information architecture* techniques provide a strong foundation for conducting a user-centred redesign of the intranet. These offer practical approaches that ensure that the redesigned intranet is easy and efficient to use.

We can work with intranet teams to conduct a rapid but effective redesign and restructure of the intranet. This includes using a range of structured techniques to involve staff throughout the design process.

Our services include:

- Using techniques such as “card sorting” and “card-based classification evaluation” to develop and refine a new structure for the intranet.
- Creating new page layouts and designs, including the development of wireframes suitable for testing.
- Application of usability testing to evaluate draft designs.
- Redesign of key intranet pages and applications.
- Skills transfer to the intranet team throughout the redesign project.

In only 15–20 days of work, our best-practice methodology will deliver a new high-level structure for the site, as well as page layouts for key pages. Further work can then be done to address detailed design issues and challenges.

Demonstrated experience

Step Two Designs has a unique focus on intranet design and strategy, particularly relating to large and complex sites.

We regularly run public workshops on *Usability Testing Fundamentals* and *Information Architecture Fundamentals*, as well as conducting more advanced sessions (including in-house training for organisations such as Medicare, Australian Tax Office and Department of Defence).

We have published the *Intranet Roadmap*™, the only methodology that outlines all the activities needed to design or redesign an intranet, along with the *Staff Directories* and *Improving Intranet Search* reports. We have also released many articles on intranet issues.

We have redesigned intranets within a wide range of organisations, including Commonwealth Ombudsman, FaCS and National Native Title Tribunal. We are currently working with the UNHCR (in Geneva) to redesign their multi-national corporate intranet.

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