KM COLUMN

MAY 2002

Using usability to direct knowledge management systems

Knowledge management is a comparatively young discipline, one that draws upon many existing fields of study. While the value of KM is clear, how to apply it to practical business projects is less obvious.

Usability and user-centred design are well-established disciplines, with a wealth of concrete studies, processes and guidelines.

Both of these disciplines share a broad focus on technology, people (users) and processes. Indeed, there are more similarities between the two than differences.

Knowledge management has much to learn from its older cousin, usability. In fact, usability provides many useful starting points for structuring and managing knowledge management projects.

Most importantly, user-centred design efficiently and comprehensively identifies the business problems that need to be solved by knowledge management projects.

The goals of knowledge management

The Standards Australia 'Knowledge Management Framework' defines KM as:

> Knowledge management is a multi-disciplined approach to achieving organisational objectives by making the best use of knowledge — it focuses on processes such as acquiring, creating and sharing knowledge and the cultural and technical foundations that support them. The aim of knowledge management is to align knowledge processes with organisational objectives.

About the author

James Robertson is the managing director of Step Two Designs, a knowledge management consultancy based in Sydney, Australia. James specialises in establishing knowledge management systems, information design, usability and XML development.

The challenge of many KM projects is knowing where to start

Or to paraphrase:

> Knowledge management is a process for ensuring staff have access to the information they need, when they need it.

The goals of usability and user-centred design

A working definition of usability is as follows:

> Usability is a process for ensuring users can do what they need (and want) to do with a system.

A number of attributes are typically identified for usability:

- Learnability – the system must be easy to learn.
- Efficiency – once learnt, the system must allow the user to work productively.
- Memorability – the system must be easy to remember, so that skills do not have to be re-learnt.
- Errors – the system should be designed so that the user's error rate is low. Ideally, errors should be prevented wherever possible.
- Satisfaction – the user must be pleased with the way the system works.

User-centred design takes these principles one step further, to develop a process whereby users are involved at all stages.

It starts by identifying goals and requirements, and then users, actions and information. This provides a framework for an iterative design process that covers information flow, interface design and data modelling.

© Copyright 2002, Step Two Designs Pty Ltd • **www.steptwo.com.au**
Knowledge management consultancy • XML, SGML & HTML

Finally, user involvement and usability testing ensure that the system does what users need.

Applying knowledge management

The Knowledge Management Framework identifies many critical areas that need to be adequately addressed in a KM project. These include:

- analysis & planning
- knowledge sharing, acquisition and creation
- knowledge culture
- technology
- sustaining systems

While this provides a checklist for a KM project manager, it does not help to address questions such as:

- What are the problems with our current systems?
- What current issues cause the greatest loss of staff efficiency?
- What should the next KM project focus on?
- What practical activities will ensure the success of a KM project?
- How do I meet both business goals and user needs in a KM project?
- How do I ensure that the new KM system will be used by staff?

Many KM approaches allow the high-level strategy to be identified, along with the goals to be met. Often, though, little guidance is provided regarding the concrete steps that need to be taken to achieve these goals.

User-centred design identifies the relationships between users, actions and information

KM and usability

Usability and user-centred design provide a 'toolbox' of methods and approaches for ensuring IT projects meet their strategic goals.

With the focus squarely on the user, they prevent the project from getting snared in IT problems and solutions. In this way, the cultural and business issues are naturally drawn into project activities.

Knowledge management is often strategic, while usability is always practical

Valuable usability tools for KM

This section outlines some of the processes and tools from usability that are of value to KM projects. Spend some time reading up on usability yourself, to discover other useful approaches.

User-centred design

The process of user-centred design involves users from the very beginning of a project. This approach ensures that the real-world needs of users are met by KM projects.

The user focus of this approach naturally raises the 'human' aspects of any KM project, including cultural change and business processes.

Usability testing

Testing current systems will quickly identify key areas that need to be addressed by KM projects.

All new KM systems will need to be usability tested, to ensure they meet business and user goals.

Observation

One of the simplest and most effective forms of usability testing is to conduct 'in the field' observations. This involves quietly watching users conduct their everyday activities.

Spending a day in the field will, without doubt, identify several major KM problems that need to be solved.

Information architecture

Use information architecture processes to determine useful structure and navigation for information presented by KM systems.

Interface design

Without an effective user interface, a KM system will fail, regardless of the value of the knowledge stored within.

Interface design strategies such as prototyping are also an efficient way of identifying the required 'flow of information' in a KM system.

© Copyright 2002, Step Two Designs Pty Ltd • **www.steptwo.com.au**

Card sorting

This is a practical way of identifying the relationships between information items used by your staff. A card sorting session also offers a structured way of identifying current knowledge deficiencies.

Usability heuristics

These guidelines or 'rules of thumb' have been distilled out of years of experience. Following these will help you avoid many common mistakes in information architecture and interface design.

Usage logging

Track how staff make use of the KM system. This provides the basis for 'on the fly' usability testing, allowing you to identify deficiencies in the system, along with areas that should be further enhanced or expanded.

The next step

The previous section identified a number of usability tools that will assist in KM projects. The association, however, between usability and KM can still be taken one step further.

It can be argued that usability, not knowledge management is the primary discipline when systems are being developed. If user-centred principles are being followed, required KM activities will automatically be identified as the project proceeds.

These requirements then become the basis for the next project, and so on. When you truly involve users in systems design and development, it becomes hard **not** to solve KM problems.

Knowledge management then becomes a strategic umbrella for 'on the ground' activities, providing guidance when the direction is unclear.

Whichever way it is viewed, you will need to adequately address both the high-level strategic needs of your business, as well as the daily requirements of your staff. Both knowledge management and usability will help you to achieve this.

Limitations of usability in KM

Usability primarily addresses tangible and explicit knowledge. It has little to say about the implicit or intangible.

A knowledge management project may consist of nothing more than organising after-work drinks for members of different teams, or setting up communities of practice.

Usability has nothing to add in these situations. When a KM project involves the creation of an IT system, then usability has a large role to play.

> Knowledge is useless if staff cannot use the KM system that it resides in

Conclusion

No knowledge manager should be without an understanding of usability and user-centred design. These disciplines have much of value to offer KM projects, including tools, guidelines and processes.

User-centred design may even be the master of KM system projects, providing a simple way of identifying needs and managing outcomes.

Further reading

Standards Australia *Knowledge Management – A framework for succeeding in the knowledge era* (HB 275–2001), Sydney 2001.

John Cato *User-Centered Web Design* Addison-Wesley, Great Britain 2001.

Jakob Nielsen *Usability Engineering* Morgan Kaufmann, USA 1993.

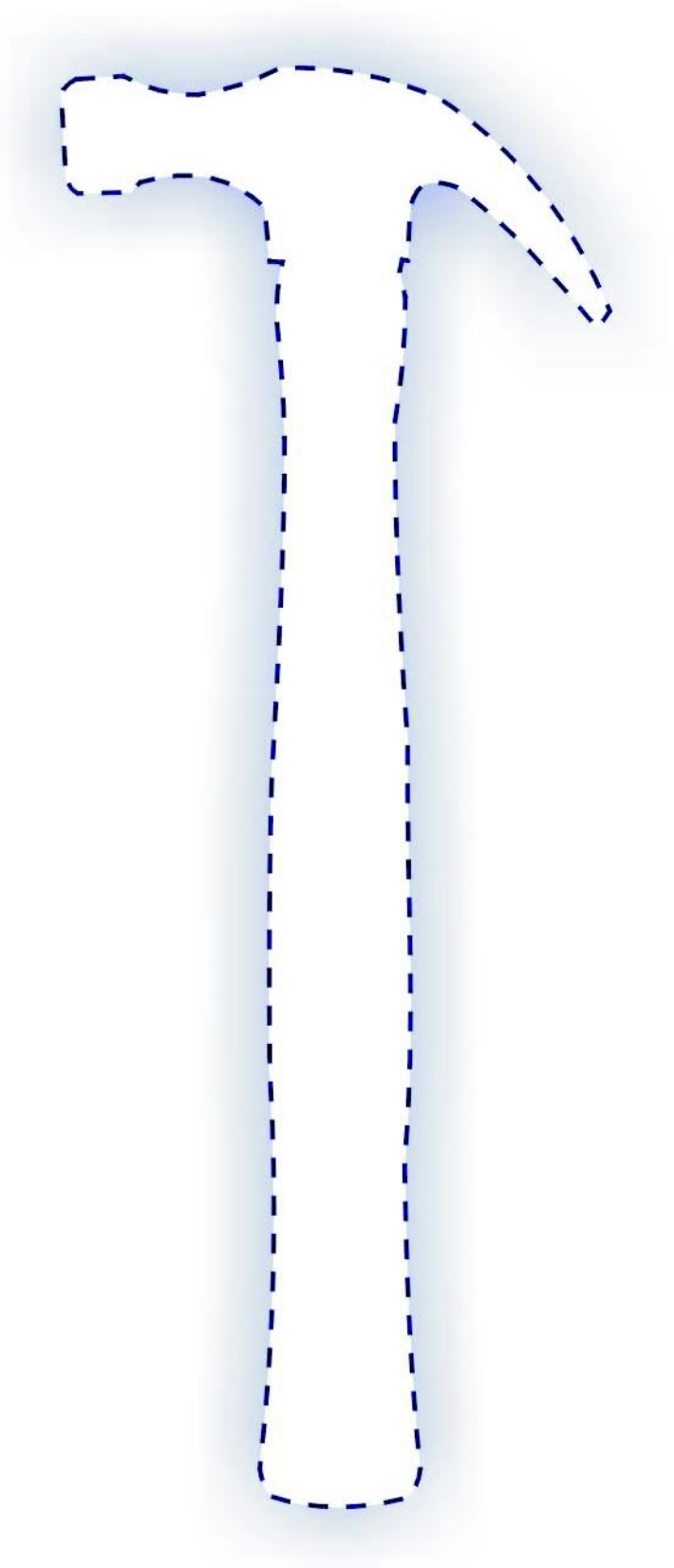
The KM **Column** is proudly sponsored by:

Step Two Designs Pty Ltd

www.steptwo.com.au • contact@steptwo.com.au

Knowledge management consultancy • SGML, XML & HTML

© Copyright 2002, Step Two Designs Pty Ltd • **www.steptwo.com.au**



Can't find the right tool for the job?

Content Management Requirements Toolkit

Choosing an enterprise-wide Content Management System (CMS) is not easy. When examined in detail, there are hundreds of specific business and technical requirements to be identified and documented.

The Content Management Requirements Toolkit contains **112 fully-developed** CMS requirements, across five main categories:

- **content creation**
- **content management**
- **publishing**
- **presentation**
- **contract & business**

These ready to use requirements can be **cut-and-pasted** directly into your tender document.

This will save you dozens of hours writing and reviewing, and is an invaluable checklist to ensure that no critical requirements are missed.

Clear and concise, these requirements have been distilled from real-world experience, and reflect actual business needs.

Also contains a **dictionary of CMS terms** and definitions, for use in your tender.

Fully-downloadable package
64 pages, April 2002
Only US$375!

For more information on the Requirements Toolkit, sample pages, and secure online ordering, visit:
www.steptwo.com.au

Step Two DESIGNS

CMSLIFECYCLE

Produced and published by **Step Two Designs**