



DESIGNING A KNOWLEDGE MANAGEMENT INTRANET

An internal web site – or Intranet – can provide staff with a visually appealing and easy-to-use information resource. A recent survey of UK companies by PMP Research showed that the second highest application of web technology, with 84% of respondents indicating this, is for internal information management (the highest at 100% being e-mail).

The intranet provides a gateway to databases, documents, internal web content and external web sites. It can also provide a forum for the capture of intellectual capital and staff experiences, which is so vital in transforming data and information into knowledge.

Whilst a primary purpose of this electronic community is to share knowledge and experiences, it is also a forum to help each other learn, act as a support network and publish examples of excellence.

There are strategic benefits to implementing a corporate intranet:

Problem

How much time is wasted in recreating existing solutions? How much is the quality of decision-making impaired by sources of information and experience remaining hidden?

Do you know where to go to find policies, references or publications? Do you know who to speak to get assistance? How much information exists as a single copy – is it always available? How available are training materials and manuals? Do you know if you have found the current version?

What are the costs to your business of printing and copying? What are the costs of recreating lost, damaged or destroyed paper originals?

Solution

The capture and distribution of reusable knowledge, including intellectual capital, to increase the effectiveness of decision making or problem solving.

The empowerment of staff by providing them with self-service facilities for information and e-learning; the communication of corporate policies and publications in a timely and up-to-date manner.

Reduction in the costs and risks of paper processing.

The competitive costs of underlying technology make the deployment of an intranet affordable even for smaller business.

This document focuses upon the features that can be made available within an intranet site in order to facilitate the capture, publication and discovery of reusable information and knowledge. It does not focus upon the technical components and delivery of an intranet site, although this is an area upon which we can provide advice and assistance.

Our aim is to provide a blueprint for specifying intranet content. This addresses two key questions: (i) What content should I have? and (ii) How should I profile this content to facilitate retrieval?

To assist you in such an exercise, Mint provides:

- The Ideas and Experiences gained from working with a variety of organisations
- Project Management and Development skills
- Reusable software code
- Wide knowledge of third party solutions
- Content authoring
- Management of the intranet: editorial and technical

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Section I - What Content should I have? (Knowledge Items)

The principles behind the design and management of the site should be the same as those desired for an external internet site: that it is attractive, easy to navigate, fresh, reliable, accurate and up-to-date. An intranet site would be organised in much the same way, with a Home Page providing a gateway to the available content. Inherent to our ideas is that the intranet site should be database-driven and dynamic, rather than a hierarchy of manually maintained static pages. This facilitates the query, contribution and management of content.

Firstly, we propose that you identify the types of content (or Items) that contain information and knowledge. We suggest a number of broad groupings below for clustering purposes:

- News
- Policies
- Articles
- Frequently Asked Questions (FAQs)
- Internet
- People
- Rolodex
- Community

The formats for each of these are further analysed below.

We also recommend that as one of the Profile criteria for each item you establish a standard subject hierarchy (or 'taxonomy'). An example of the highest level of the taxonomy might be:

- Accounting & Finance
- Administration
- Health & Safety
- Marketing
- Operations and Projects
- Personnel & Benefits
- Procurement
- Products
- Quality Management
- Sales
- Social

To support the query features described later, you will probably wish to take advantage of people's internet navigational experience and offer hierarchical browsing. We suggest that you focus on two options:

- (i) A navigation bar based upon the taxonomy, with items available by type with the lowest subject category level

or

- (ii) A navigation bar based upon Item Type, with the onward presentation of lists organised by subject category

We should remember that a Knowledge Management intranet should be an 'open' resource without the perceived imposition of the cultural barriers that organisation by business function might reflect.

Users should have a 'Favourites' area where they can bookmark or monitor categories, sub-categories or individual items, such as a discussion thread or story.

Procedures may require incorporation so that new content contributions are reviewed and approved prior to publication. You might also wish to automatically archive types of item when they reach a certain age.

(i) News

News keeps employees informed and involved; it can also be used as a method for recognition and salutation.

Typically this would include internal news advertising for example commercial successes, product/service announcements, marketing campaigns and social events. Within this area you could also publish press releases and newsletters.

It might also include externally sourced news, offering for example customer or market intelligence.

As with all intranet content, you will have to make a decision on how to structure a news item. A suggestion is made below. This shows how the content will be presented to the user; how it can be profiled is dealt with in Section II below.

An intranet tool would be provided for the contribution of news, with the text represented to the user as an internet document.

Field:	Comment:
Description	The unique description for this piece of text.
Author	The user who contributed the news.
Date	The date of contribution so that a user can make a value judgement on its currency.
Source	The source if copied from an external source.
Summary	A single paragraph summary will allow a user to more quickly assimilate a number of news items and make a value judgement on the relevance of a particular piece to their current needs.
Text	The main text of the news item.
Comments	Every piece of information should be organic – users should be allowed to add comments or reviews in order to contribute their views and experiences: in this way information is transformed to knowledge.

(ii) Policies

The intranet site is a vehicle to propagate best practice.

The site can offer a corporate library of internet text and hyper-linked documents summarising corporate policies, business processes, methodologies, manuals, staff handbooks, standard operating procedures and work instructions.

The library could provide access to and explanations for the use of recommended office document templates.

Field:	Comment:
Description	The unique description for this item.
Author	The user who has written the document or is responsible for its authorisation.
Hyper-link	To an underlying file.
Date	The date of contribution so that a user can make a value judgement on its currency.
Purpose	The applicability of this policy etc. to a business purpose to assist users who may be uncertain as to which reference they require; the email address of an employee who can offer assistance could be displayed.
Text	The body text for any policy etc. where this is published as an internet documents, rather than an underlying word processed or PDF file etc. resident on the network.
Comments	Contribution of experiences relating to use of policies: although this is more likely to be best contributed elsewhere as an opinion, discussion or FAQ.

(iii) Articles

An article is a document (internet, office, PDF, image etc.) that contains reusable knowledge for all users to access. We do not envisage that the intranet becomes a document management application for customer, supplier, project, transaction etc. filing. There are dedicated applications offering this functionality; although the transformation of the intranet to a portal could involve integration with a document management solution. Rather we envisage the intranet as a publication medium for those documents, irrespective of their place within a filing system, that contain such reusable knowledge.

We propose a variety of Article types:

Article Type:	Comment:
Stories	<p>Whilst a business will capture an audit trail of inputs and outputs relating to a decision, transaction, project, solution etc., this does not always form the fullest narrative of this activity, especially in capturing the decision logic and experiences. We are natural story-tellers and this is an excellent method of encouraging the voluntary contribution of knowledge.</p> <p>We recommend that a story is created for every challenge which is met that offers reusable value to others. This would provide a corporate memory of both best practice and lessons learned.</p>
Ideas & Opinions	For example a (Dear Sir) letters to the editor format.
Notes	Where a user can add a brief note regarding a matter; for example, a summary of experiences and experiences following a conference visit.
References	Useful documents, such as project reports, proposals, product specifications, users manuals, price lists, marketing collateral, electronic demos, presentations and sales scripts, maps and directions.
Publications	Sign-posting to hard copy or physical materials that are not available in digital format.

Stories

An intranet tool would be provided for the contribution of stories, with the text represented to the user as an internet document.

Field:	Comment:
Description	The unique description for this item.
Author	The user who has written the story.
Date	The date of contribution so that a user can make a value judgement on its currency.
Role of Author	The user role in relationship to the context of the story: for example, Project Manager.
Task	A brief description of the task being undertaken (such as the problem to be solved, decision to be made, solution to be created)

	that led to the narrative of the story.
Solution	A brief summary of the outcome of the story.
Purpose of the Story	A brief summary of the narrative direction or focus of the story.
Story	The main body of the text, representing a narrative of the work undertaken, judgements made, best practice followed, references used etc. This does not however, take the form of a log of activities, which is better recorded in a customer or project management system. However, sign-posting can be made to any useful supporting input/output data in such systems, as also to documents, publications or web sites.
Nota Bene	Any useful asides which have come to light.
Comments	A place for users to add their thoughts or enhance the story with their own experiences.

Ideas and Opinions

An intranet tool would be provided for the contribution of ideas and opinions, with the text represented to the user as an internet document.

Field:	Comment:
Description	The unique description for this piece of text.
Author	The user who has made the contribution.
Date	The date of contribution so that a user can make a value judgement on its currency.
Text	The main body of text wherein the user expresses a view, idea or opinion.
Comments	A place for users to add their views on the contribution.

For more interactive contributions, Discussion threads may be started. Please refer to the Community section below.

Notes

An intranet tool would be provided for the contribution of notes, with the text represented to the user as an internet document.

Field:	Comment:
Description	The unique description for this piece of text.
Author	The user who has made the contribution.
Date	The date of contribution so that a user can make a value judgement on its currency.
Text	The main body of text.

References

Field:	Comment:
Description	The unique description for this document.
Author	The user who has written the document or is responsible for its authorisation.
Date	The date of contribution so that a user can make a value judgement on its currency.
Version	The revision number of this document, if applicable.
Version Comment	Any revision comment, to identify briefly how this version has changed, if applicable.
Hyper-link	To an underlying file.
Abstract	A brief summary of the content of the document allowing the user to make a value judgement as to its relevance to the context of their current activity.
Comments	A place for users to add their comments on the use of these references.

Publications

Field:	Comment:
Description	The unique description for this publication
Author	The 'author' of the material, if applicable. This could be an individual or a production company.
Date	The date of contribution so that a user can make a value judgement on its currency.
Publication Type	For example: book, magazine, journal, video, CD etc.
Location	A sign-post to the physical location of the material. A url could be input pointing to an e-commerce site where the item is for sale or where further abstracts exist etc.
Abstract	A brief summary of the item allowing the user to make a value judgement as to its relevance to the context of their current activity.
Review	A place for users to add their comments on or reviews of the use of these publications.

(iv) FAQs (Frequently Asked Questions)

We all find ourselves at times asking or being asked the same question. Personal productivity can be improved by providing a library of the questions and answers.

An intranet tool would be provided for the contribution of FAQs, with the text represented to the user as an internet document.

Field:	Comment:
Question?	Typically a single sentence question
Answer	The answer, which can also sign-post any other references or provide an e-mail link to member of staff who can provide further assistance.
Author	The user who has written the Question & Answer or is responsible for its authorisation.
Date	The date of the FAQ so that a user can make a value judgement on its currency.
Comment	A place for users to enhance the answers from their own personal experiences.

(v) Internet

This section provides a library of useful links to internet sites. We propose classification into different site types:

Site Type:	Comment:
Companies	Links to the sites of your key customers, suppliers etc.
Search Engines	Links to the search engines which users have found useful.
Directories	Links to the directory sites where your company is listed and/or which are useful for marketing, procurement etc.
Discussions/Portals	Links to forums that support your industry sector.
Reference	Links to e.g. train, airline, weather or street-map sites etc.

For each site, you would present:

Field:	Comment:
Description	The name of the web site.
url	The internet address of the web site.
Graphic	An image of the company/organisation logo often helps visual identification in a long listing.
Contributor	The name of the user who added the web site link.
Date	The date of the contribution.
Abstract	A brief descriptive summary of the site together with a note of why it has been contributed.
Review	Comments made by other users as to the value of this web site as a resource.

(vi) People

This area will allow you to know who your colleagues are and what they do. In addition to providing employee directories and organisation structures, it can offer the function of locating expertise.

A key focus of implementing knowledge management is the 'mobilisation of collective intelligence'. If you are seeking knowledge, as well as the content available to you, you may wish to find colleagues who have skills, expertise or relevant experiences. Upon locating them in the process of meeting a challenge, you can either make contact with them off-line from the intranet or invite them to join in discussion with you.

Users with relevant expertise may also find you – for example, if they are monitoring new discussions or stories within a given category.

Below we have identified the information that could be presented to the user regarding their colleagues. This would complement any diagrammatic representations of structures.

Field:	Comment:
Name	The name of the member of staff.
Title	Their job title.
Department	Their department.
Function	Their function, which can be more descriptive than their job title.
Photograph	Often a popular option for humanising an otherwise textual representation of a company.
Resume	A brief summary of their CV can assist in evaluating the extent to which this colleague can help in a particular situation, providing added context to the more structured expertise register.
Expertise	The area where they offer either Practice or Interest, the level and age of expertise.
Contact details	Such as telephone numbers or e-mail addresses.

(vii) Rolodex

We do not advocate that the intranet site is necessarily to be used as a contact management or CRM solution. There are dedicated business applications that provide rich functionality in this area, especially in organising and recording the history of a relationship.

However, it is useful to provide basic rolodex information as part of the knowledge set which can be returned during a search for e.g. suppliers of certain goods/services, or partners who can provide advice. Where a contact management or accounts system provides further information, this can in turn be sign-posted.

Field:	Comment:
Contact Name	The name of the primary contact at the company (or of the individual if they are not associated with an organisation).
Address	Their postal address.
Telephone1	Their 'land-line' telephone number.
Telephone2	Their mobile telephone number.
Fax	Their fax number.
E-mail	Their e-mail address.
Account Manager	The user within your company (if applicable) who has primary responsibility for looking after this organisation.
System Reference	If practical, an indication of other business systems that provide further data, insights, histories or narratives.

(viii) Community

'Knowledge is Power' – this unfortunately often leads to the perception that we should retain knowledge for our own security or future advantage. However, this does not assist the development of a reusable corporate memory. We must therefore foster a spirit of collaboration through the establishment of a sense of community, encouraging electronic conversation and supporting the social mechanics of a business.

We assisted by the fact that today's intelligent, creative and perceptive workforce ('knowledge workers') typically seeks intangible benefits from their working experience. These include the opportunities for learning, personal development, collaboration and teaming. The intranet can become a forum where they can realise these goals.

There are a number of methods that can be used to facilitate community activity and collaboration.

Item Type	Comment:
Discussions	Discussion threads are a widely accepted method for gaining the contribution of tacit knowledge (intellectual capital). They can lead to the uncovering of experiences from across the corporate 'mind' and break down and traditional barriers of communication. Discussions can also take place around lighter themes to attract users to use of the intranet. Discussions could be created in their own right or be stimulated (and therefore linked to) another knowledge item, such as an opinion or a story.
Interviews	Interviews are a fun way to facilitate the contribution of experiences.
Polls	Polls and voting are a fun way of seeking opinions and helping to reach decisions.
Personal Ads	There are many ways to attract users to using the intranet, by offering non-business features. These include the placing of personal advertisements.
Events	Both social events and key business dates (for example, product launches, training sessions and marketing events).

Interviews

An intranet tool would be provided for the contribution of interviews, with the text represented to the user as an internet document.

Field:	Comment:
Description	The unique description for this item, briefly summarising the subject matter/direction of the interview.
Interviewee	Who is being interviewed.
Interviewer	Who has undertaken the interview.
Date	The date of contribution so that a user can make a value judgement on its currency.

Question	The text of the question, which should be usually a single sentence.
Answer	The text of the answer given.

Events

Field:	Comment:
Description	The unique description for the event.
Date	The date of the event.
Location	The location of the event.
Attendance	Who is the event is open to.
Contact	Who to contact regarding further information relating to this event.

Section II - How should I profile Content to facilitate retrieval? (Profiling Knowledge Items)

Searching for Knowledge

As described previously in Section I, the intranet is organised into a browseable hierarchy of subject matter – your Taxonomy.

We also recommend that each knowledge item – document, discussion thread, employee description, web site etc. – is profiled with searchable properties. We advocate the definition of a universal template to allow users to execute structured searches for information and experiences.

Ask yourself a question – how practically would you wish to filter knowledge to meet differing scenarios?

You will need to think of the fields and default values to provide ‘getting started’ drop-down lists. A number of suggestions are made below.

Field:	Value:
Business Sector	This should tie in with any classifications (text or code) used by the sales and marketing team. However, it should also take account of suppliers, competitors etc.
Company Name	This list might include key customers and suppliers, as well as the leading companies within your business sphere. You are advised to maintain a common naming policy across all applications where companies are recorded.
Contact	An item of knowledge might be attributable to a person, such as an author or guru, who does not belong to a company.
Relationship Type	For example, you might wish to retrieve all knowledge relating to people or companies who are ‘Suppliers’. This list might include: <ul style="list-style-type: none"> ▪ Competitor ▪ Contract Staff ▪ Customer ▪ Guru ▪ Influencer ▪ Media ▪ Partner ▪ Prospect ▪ Supplier ▪ Potential Supplier etc.
Category	The subject category to which this item is associated within the taxonomy. For example: <ul style="list-style-type: none"> ▪ Accounting & Finance ▪ Administration ▪ Health & Safety ▪ Marketing ▪ Operations and Projects ▪ Personnel & Benefits ▪ Procurement ▪ Products

- Quality Management
- Sales
- Social

If it is a Person (i.e. User) being profiled, then further criteria at this, sub-category or other level, would include whether this was an area of Practice or Interest; and indicators of the extent (in time) and currency of their skills to assist other users in making a value judgement in relation to their challenge.

It is worth conducting research into defining common understanding of meaning (or 'ontology') for business terms.

Sub-Category	For example, within Products, there could be a sub-category heading for each product you provide.
Matter	The task-level function that this knowledge can usefully support: for example, CRM, Supplier Research, Product Documentation etc.
Product Name	The name of any in-house or third party product that the item might have reference to.
Product Type	The type of product: for example, CRM Software or Blue Widgets.

Each item would be attributed with the appropriate fields, with one or more values selected for each field. A query would again allow the user to select the appropriate fields, choosing one or more values per field as appropriate. Boolean logic can be included (e.g operators such as and/or/not).

Each item has a unique description: as users become familiar with the items they most commonly refer to, they will include them within their Favourites, or be directly find them via their name.

A requirement may well also be to refine any search by the date of the item.

We have advocated the use of structured queries; however, this can be usefully complemented by text searching of the content. We would recommend the incorporation of third party search engine technology to deliver this function, potentially incorporating features such as word, phrase, proximity, phonic, stemming, wildcard, fuzzy, concept, pattern, synonym, thesaurus etc. search types. However, we would argue that content searches alone can lead to a glut of information and starvation of knowledge, thus debilitating the user experience and making the intranet less attractive.

Seeking Knowledge

Following a search, you may find that there is insufficient recorded knowledge to help you reach a decision, solve a problem or create a solution.

This is where it is so important to include staff expertise. The intranet facilitates knowledge sharing and creation; knowledge and even best practice is created through the interaction of its members, building on each others ideas, experiences and skills. The knowledge, skills and experiences engendered can then be applied in the creation of new outputs and knowledge items.

A colleague might have direct experience, access to useful references or knowledge of other people you can provide input. They can be located by their areas of practice or interest and then judged according to the duration and age of their expertise. You can also gain an understanding of who can assist you by reviewing who has contributed relevant items to the intranet.

We recommend that a new Story is created for each challenge where new knowledge is being sought, 'advertising' the fact you have a quest and encouraging the eventual recording of a solution. Upon profiling the story, colleagues with matching expertise can automatically be informed; colleagues monitoring this area of the taxonomy will also be notified. A Notice-board of new stories would ensure the widest exposure.

You can communicate with these colleagues off-line or invite them to join in electronic discussion. Common profiling would later allow others to find both your solution within the story plus inputs such as discussion threads and reference materials.