Design: A Quick-Reference Summary

Phase 4: Design

At this point of your training, you have covered Phases 1 through 3, solidifying the requirements gathering, prioritizing the needs, and have begun to build the early foundations of the ECM system.

Focus now turns to phase 4, which is the Design phase.

Phase 4 finalises the design of the overall solution by building on the architecture, modelling and re-engineering work from the Foundation Activities. The design will now be further hardened and solidified where prototyping has happened, and build upon that prototype to continue movement towards an iteration that can be developed and deployed.

User support & operational procedures design

The user support and operational procedures design activity is intended to create the documentation and training programs for all users and technical support staff as they relate to the current iteration of the project. Rather than designing these materials after the fact, they are generated in concert with the actual working implementation in each iteration of the project.

Some of the work involved in this activity will have already been done, most notably the identification of the target audience or audiences for the support and operational procedures necessary for the ECM environment.

The design will deliver confirmation of the audience or audiences that are in scope for this iteration. Furthermore, it will determine the training needs for those audiences, create outlines for operational manuals, document requirements, and begin the design of online help within the system. It will also put forth the anticipated training plan to support these efforts.

Tasks include:

- Identify audiences
- Identify training and administration guide requirements
- Develop outlines for operational manuals
- Develop help and tutorial styles for end users

Identify audiences - The purpose of this task is to identify the audiences from a support perspective, but keep in mind that you will not be identifying audiences from scratch. At this point you should have uncovered the various audiences or groups of users that will be making use of the ECM environment overall, particularly in the work done in scoping and designing the metadata, taxonomy and security models.

Identify training and administration guide requirements - At this stage, you will examine those audiences to understand the nature of the audience and the contexts they will be using the ECM environment. Are some departments ECM experts? Are some afraid of technology?

Who will need the documentation, at what level, when, and why? There is no point in creating documentation that is unnecessary, so the task is to target your efforts to a genuine anticipated need.

Operational manuals will need to be developed for each audience that has been identified. Typical high-level audiences are users, system operators and management.
The level of detail required from an operations standpoint will vary according to the user type.

Typical examples of operation manuals include:

- The user procedures manual is targeted to the departmental users of the system, and describes how the user interacts with the system to accomplish specific business functions. Documentation for all user actions, user interfaces, reports and processes that utilise user input or review would be within this manual.

- The operations procedures manual is focused on the technical operations of the environment, including the procedures and schedules necessary for daily, weekly, and period-end operations. This is the operations bible, documenting system restart procedures, backup policies and error logging activities.

- Desk procedures encompass the documentation for how a person does a specific job using the system. This documentation can be quite detailed, and would be used to onboard new hires, enable auditors to thoroughly understand the flow of the system, as well as for supervisors who need to understand the system at a lower level of detail level than they would normally need on a day-to-day basis.

Develop help and tutorial styles for end users - Throughout the project there will be training and support requirements to consider. This particular task is oriented to the bulk of users of the ECM environment, which will be the business end users. MIKE2 highly recommends focusing explicitly and constantly on ensuring users' successful use of the environment.

Online and integrated contextual help is the best option, if possible, rather than requiring a separate system or set of documentation accessed outside the ECM system. Of course, it is all too easy to create poor online help systems, thus disappointing the business users. USEFUL online help cannot simply be “thrown together,” even with the most skilled of personnel.

The ramifications of unsuitable help are poor adoption of the system, poor quality of the content within the system and the processes oriented around the ECM environment, such as “garbage metadata” for users who do not understand the value of metadata they are providing and the downstream effects of missing or inappropriate metadata, and the potential to drive heavy cost increases in the form of calls or requests to support desks to understand the most basic functions of the system.

Security design

Security design now takes the decisions made and documented in the conceptual security design in the previous phase of the foundation activities and builds in the appropriate content security model, supporting security at the desired level of the system – whether at the repository, folder/collection, document, element or physical levels.

Depending upon the scope of this iteration, there may be single or multiple security models – based on audiences supported for this iteration. Concern over scope creep at each iteration is a reason to keep the project on task and not over-extend the security model too far beyond the current need.

Lastly, you will need to ensure that “content security” is aligned with traditional “information security” at the desktop, host and network layers, to be sure that inadvertent security holes and inconsistencies haven’t been introduced by misalignment of these independent security layers.
Enterprise Content Management (ECM)

If integration at some point in the project is going to intersect with single sign-on for example, ensuring that the ECM system can be integrated into your single sign-on solution is an important detail to attend to. These systems should also synchronise login credentials.

**Infrastructure management process design**

The infrastructure management process design activity provides a set of requirements for the physical implementation of the information platform and its associated management functions.

The target audience for the design documents produced by this activity are operations staff such as Systems Administrators and Systems Operators.

While MIKE2 lists many possible tasks within this activity, the key activity, and the most complex, is the design of backup and recovery procedures.

The design of backup and recovery procedures for an ECM implementation is not nearly as straightforward as it may appear. The moving components of an ECM deployment can be quite complex, and are not as “self-contained” as many applications or systems can be.

If your solution is based on a single provider, single repository - in a word, simple – backup and recovery should be fairly straightforward. Follow and verify the recommendations of the provider regarding the system, document and periodically test.

For distributed, federated, and tightly integrated solutions across providers, networks, and hosts, the issues become exponentially more complex.

The dirty secret of the ECM industry is that backup and recovery is exceedingly difficult when it involves, as it often does, multiple repositories, multiple integration paths, and multiple databases or indices.

The best approach to take in designing appropriate procedures for backup and recovery is to work closely with your solution provider and/or integrator to design and verify backup and recovery that will actually work.

**User collaboration conceptual design**

This defines the collaborative technology environment, assuming that collaborative work is expected to be accomplished within your ECM system.

This may be ad-hoc, project-based collaboration, or collaboration as a result of workflow or business process management – ANY form of collaboration that is necessary for the proposed solution, whether involving internal or external users and a content management environment.

The design of the collaboration environment should be particularly prototype-oriented, with active user involvement, in order to verify that the form of collaboration that is required or expected will actually be able to be accomplished in this new environment.

The requirements driving this environment should have surfaced via the technology blueprint of Phase 2, and been prioritised through the roadmap.

A useful framework to consider in designing the user collaboration, content creation and classification for your ECM environment, is the SLATES framework created by Harvard professor Andrew McAfee in 2006, to describe core capabilities or requirements for Enterprise 2.0 systems.

SLATES stands for: Search, Links, Authorship, Tags, Extensions, and Signals.
While MIKE2 is essentially a “2.0” implementation methodology, and heavily influenced by Web 2.0 and Enterprise 2.0 thinking, MIKE2 does not presume that your ECM implementation will REQUIRE conformance to the SLATES framework. We are using SLATES here simply as a guide to help orient those of you taking the ECM course, who may be looking beyond traditional ECM technologies and functionality. This can than also include tools such as wikis and blogs within your ECM environment. SLATES can help you to understand what these capabilities provide.

Search refers to the discoverability of information via search, browsing, metadata and taxonomies. This has been spoken of as Findability in the Practitioner module.

Links relates to the hyperlinked nature of most 2.0 environments. Taking advantage of hyperlinking is a rich and relatively new capability for many systems. This relates to what MIKE2 calls user driven content.

Authorship relates to the ability of any and all users in a 2.0 environment having ready access to create, comment or edit content within the enterprise. This also relates to user driven content.

Tags refer to folksonomies and social bookmarking, or any freeform “tagging” of content as has been mentioned in Findability, and is discussed under the MIKE2 terminology of user driven classification.

Extensions relates to automated intelligence around content, which highlights related information to users, surfaces usage patterns, and can lead to insightful business intelligence for the business.

Lastly, Signals relates to providing a variety of proactive notifications to users, in Enterprise 2.0, most typically based on the RSS standard, although potentially via e-mail, instant messages or any other message or output format. This has been partly addressed in Findability regarding the use of search-based agents. In the terminology of MIKE2, this is called user signaling.

User interface design

The user interface design activity is specifically focused on the layout, information access and information presentation of the ECM environment.

This is closely related to the prototyping and usability improvement tasks of MIKE2, however, the previous tasks were targeted at creating an environment and processes to DO prototyping.

There are four basic tasks involved in the user interface design activity:

- Usability awareness
- User interface layout
- Information access design
- Analytics design

As with the early awareness building of ECM in general, and the value of enterprise content, “selling” the value of usability in ECM may be necessary. Employee-facing systems are notorious for being highly UN-usable. Systems that are difficult to use will likely be avoided or sabotaged. Prototyping and testing PRIOR to launch is highly recommended, and should really be required.

Of course the user interface design activity would be woefully incomplete without specifically considering the user interface layout, or more likely, layouts necessary for the ECM solution.
Enterprise Content Management (ECM)

This task provides the conceptual design for the user interface itself, and in early rounds, is represented by interfaces mocked up as prototypes. As you may have already anticipated, it is recommended to use low-fidelity prototypes in the early stages. This can also be required even once solutions are up and running, to quickly verify changes to UI before implementing in code.

It will nearly always be cheaper and faster, except for extremely small changes to the user interface such as changing the colour, size, or position of elements of the UI, to use a low-fidelity prototyping method to test changes. Most project teams would presume that once a working system of any kind has been created prototyping should occur within that system, but the advantages of working OUTSIDE the system can still be quite high. It is worth keeping that in mind, to help foster a prototype-driven environment, as it will serve you well both within your current project and in getting the team accustomed to working in this environment for other, future projects.

The information access design task relates to “thin” access devices such as search, portals and taxonomies in accessing collections of content, rather than content-creation oriented activities.

Concerns of this task relate to how best to include the previously executed tasks of user or corporate driven classification, user or corporate driven content, and user signaling will be implemented in working interfaces.

This task frequently involves process re-engineering and content re-engineering, as mentioned in the content integration design. How, for example, can what is currently a multiple screen interface for the searching and location of a legal contract, be able to be collapsed to a single screen or two?

Decisions made at this point would include determining how best to balance the benefits of taxonomies vs. “pure” search, or the ways in which they should be combined, based on examined user habits, the nature of the content, and the context of use.

Lastly, there are the management-oriented interfaces used to provide the analytics and business intelligence of the functioning ECM solution and the business objectives which are impacted.

In most organisations today, the “intelligence” created by ECM systems as part of normal operations goes largely untapped. This is primarily due to the fact that no one has planned for how and when to harvest this intelligence. Creating such a plan and approach is the purpose of the analytics design task.

The ECM team, based on its observations made during Phase 1, the Business Assessment, should determine if any of the types of “intelligence” that can be extracted from an ECM system ARE of value to the organisation, and if so, the best way to present that intelligence in the form of a business report or dashboard.