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# The e-Framework and a service oriented approach

*Emma McCulloch* provides WIDWISAWN with a report on the recent JISC e-Framework workshop held at Aston University Business School, Birmingham

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## Introduction to the e-Framework

JISC (the UK's [Joint Information Systems Committee](#)), together with Australia's [Department of Education, Science and Training](#) (DEST), are [developing the e-Framework](#) to assist educational institutions and research organisations in their quest to "harness the potential of ICT to realise their strategic goals" [\[1\]](#). Originating within the e-learning community and extending to that of e-research and others, it has been recognised that, particularly in the age of web services, there is much benefit to be gleaned from the use of small modular tools, which can be combined and applied in different ways. Services used by multiple applications can then be isolated within a "service layer", components of which can be called upon by specific applications for specific purposes, as and when required. This vision has been labelled the "service oriented approach" and is being billed as a key means of promoting interoperability.

The current vision is that JISC will outline the service oriented approach (soa) and individual institutions will then determine the architectures they require within this framework. The approach is aimed at promoting user engagement, standards and modularity. At a basic level, the idea is to remove duplication and overlapping functionality of services from applications, to form the aforementioned service layer. To explain how this might be achieved JISC commissioned HEFCE ([Higher Education and Funding Council for England](#)) to produce an [animation](#).

A simple illustrative example would be the use of student records within an educational institution. Typically, a system held by a University's registration department will be different to that held by an institution's library service, and different again to that held within individual academic departments, making student records un-sharable and leading to duplication of information. If a commonly accessible database of student information was created and held centrally, multiple departments would be able to make use of the same dataset within their own individual context. Sounds like a sensible idea to me.

## e-Framework modelling workshop: programme and structure

To begin dissemination about the e-Framework, JISC held a workshop on 12 February 2007 at [Aston University's Business School Conference Centre](#) in Birmingham. Attendance was by invitation only with delegates representing JISC-funded projects and other interested parties (around 80 in total). I attended representing the [HILT](#) project [2].

The structure of the day was, in my opinion, unnecessarily complex. Seven topics were dealt with in total, each covered by a one-hour presentation and a separate "surgery" session. Topics comprised:

- Domain Modelling
- Service Usage Models (SUMs)
- Process Modelling
- Agile Development
- Managing requirements through to service specification
- Using and contributing to the e-Framework
- Scenario-Based Design

The first six topics on the above list were covered by six main presentations over three time slots, two parallel presentations being delivered within each slot. A seventh closing presentation on scenario-based design completed the run-through of the seven key topics covered. Also running in parallel to the three sets of main presentations were a set of "surgeries" where delegates could raise issues within a (presumably) smaller group and gain more directed knowledge from the experts present. I didn't opt to attend any of the three surgery sessions so cannot comment on their success or otherwise here, although I did hear from others that they were rather poorly attended. I'm not surprised by this since the first surgery of the day dealt with process modelling, using and contributing to the e-Framework, managing requirements through to service specification, scenario-based design and agile development, all topics on which no related information had yet been imparted. Perhaps programme organisers over-estimated delegates' prior knowledge of the e-Framework but it seems unlikely, to me, that people would be ready to discuss such specifics at length and in relation to their own projects and services, before the formal dissemination on what these topics actually comprise had begun.

In addition to the main presentations, each of the seven topics listed above were addressed by two surgery sessions. This minimised restriction in the choice of which presentations/surgeries to attend, but seemed to be "person intensive" at the same time. Four main speakers were also involved in 2 surgeries; Phil Nicholls who delivered two one-hour presentations, also participated in one surgery session and Wilbert Kraan facilitated at all three one hour surgeries. The overlap in the content of presentations, surgeries and speakers resulted in some repetition between talks and even re-use of slides across presentations. On a number of occasions speakers apologised to those who may have already seen particular slides at another session during the day.

I found this duplication of effort and overlap of topic a bit ironic since it does not seem to fit with the ethos of the e-Framework and the soa at all, where common functions are centralised to minimise replication.

Since three equally populated parallel sessions could only cope with six of the topics to be addressed, the seventh - scenario-based design - enjoyed its own unique one-hour slot at the end of the day. Although an interesting topic I initially thought that a more universal and practical topic such as "Using and contributing to the e-Framework" would have been better placed here since its at the heart of what JISC wants us all to do. Thanks to the day's structure, it is possible that some delegates didn't attend a session addressing how to actually become involved, which seems a little pointless given JISC's aims.

I think a better way to have structured the day would have been to have shorter talks covering all seven key topics, then a collective surgery at the end of the day where people could raise specific issues with the person of their choice. This format might have encouraged more attendees to raise questions after hearing some of the concerns and queries voiced by others.

On the upside, facilities, delegates' packs and catering were excellent.

## **e-Framework modelling workshop: content**

Having exhausted my thoughts on the day's organisation, I will now attempt to convey what I managed to glean from the sessions I chose to go to.

Bill Olivier of JISC introduced the day, defining the two main roles of the e-Framework as: 1) providing coordination within programmes and across institutional partners and 2) providing information in the form of e.g. a knowledge base, guidance and case studies.

The first main presentation of the day I attended gave an insight to Service Usage Models (SUMs) (run in parallel with Domain Modelling and a surgery dealing with five of the key topics). Phil Nicholls did an excellent job of explaining a fairly complex subject and was happy to be interrupted with questions throughout, which made for a less formal and accessible presentation. Phil is the UK editor of the e-Framework with specific interests in interoperability and service testing. During his talk he compared the e-Framework to IBM's component business model [\[3\]](#) before outlining the nature of SUMs. SUMs, he explained, are designed to capture a breakdown of the processes and workflow involved in a specific task upon which other services and developers can draw, and are to be registered in the e-Framework. He predicted that SUMs are likely to overlap and that portions will be re-used within different SUMs; such instances then become COmmonly REcurring SUMs or CORE SUMs (to get the ever-prevalent acronym in there).

Specifically, SUMs will [\[4\]](#):

- detail combinations of different services required to create applications for institutional use
- form blueprints that lead to good practice
- link business processes and policies with the technologies required for implementation

- provide an ideal mechanism by which institutions can publish details of their work to the wider community
- demonstrate how other institutions have solved similar problems
- Within the e-Framework high level terms will be used to avoid confusion over vocabulary used differently within different communities, with links back to community specific expressions (a role for the [HILT terminologies server](#) here, perhaps?).

There is far more to this subject area; for example different types of SUMs (exemplar, application, model), SUM elements and implementation. It is recommended that further reading be undertaken via the [e-Framework website](#), depending on your own particular context.

Following Phil's presentation Ann Apps questioned the correlation between IESR [\[5\]](#) ([Information Environment Service Registry](#)) and SUMs. Phil explained that he would be looking at all JISC projects to see where they fit and making links with the JISC standards catalogue hosted by [UKOLN \[6\]](#) also. It was encouraging to see such joined-up thinking.

Balbir Barn took on the subject of process modelling at the second main presentation I attended. Having been given a brief for the day, and clearly knowing his stuff inside out, I was dismayed by the feeling that I was attending a business studies lecture. The history of business process management, together with core reading on the subject (e.g. Davenport and Short, 1990), was outlined and progress up until the current third wave was charted. The relevance to the e-Framework was not immediately obvious; indeed it was unclear how business practice could be applied in an educational context at all. Balbir contextualised his presentation by explaining that business processes are typically modelled to assist with:

- documentation of processes
- reorganisation of processes
- monitoring and controlling of processes
- improvement
- quality management
- benchmarking
- knowledge management

A wide range of value can therefore be extracted from a formalised business process model, with coordination between tasks, parallel work and repetition typically being captured within such representations. That explains why JISC want to capture and record domain models, SUMs and so on, but still no details on how to do so ...

For the third and final main presentation, I returned to Phil Nicholls' audience who was this time talking about "using and contributing to the e-Framework". I expected an entirely practical session, where delegates could be led through the process of submitting documentation to the framework, accessing that submitted by others and witnessing evidence of the much talked about move towards improved interoperability, use of common standards and semantic continuity. There was no practical focus however. A submission template was referred to but not shown. I find it incredibly difficult to piece together a description of a practical process from pure

narrative; why not just demonstrate it? So, in hindsight, my earlier recommendation to shift this talk to the end of the day was ill-founded since it gave little practical guidance on how to become involved in the e-Framework.

The closing presentation on scenario-based design delivered by [Chris Fowler](#) of Chimera [7] (a psychologist by trade) was undoubtedly interesting and brilliantly delivered but, again, I struggled to see the direct relevance to the e-Framework itself. Clearly scenarios will form the basis of high level domain models and SUMs, with the lowest level tasks within these scenarios forming use cases, but this could have been summarised effectively within a far shorter presentation. Chris defined scenario-based design as centring around a narrative involving a user trying to achieve a task goal within a given context. He went on to describe the process of SUNA (Scenario-based User Needs Analysis, used as a means of pinpointing requirements for software and service development) [8] whereby a scenario can be broken down to an analysis of needs to form a "user needs table", thus informing developers of specific user requirements, which may be applicable within a range of different scenarios. It became clear that such processes could prove extremely useful when it comes to creating SUMs and use cases within the context of the e-Framework.

## General thoughts

Overall, I did not feel that the day did justice to a seemingly worthwhile initiative that should result in less duplication of effort and potentially huge financial savings within the education sector. Although all speakers were extremely knowledgeable of the area and delivered information effectively, I found the day to be somewhat abstract with little practical information given. I took little away from the event on what projects are being encouraged to do in relation to the e-Framework and how they should go about it. The session on "Using and contributing the e-Framework" should have been, in my opinion, a practical focus of the day yet, although the concept of the e-Framework was made a little more concrete than had been apparent thus far, the audience was not shown the template(s) via which to contribute SUMs and toolkits. We were told that submissions can be as technical as liked, that the inclusion of diagrams is encouraged and that snapshots should be given rather than trying to replicate every detail of a service. It would have been excellent to see an example of the type of thing they are looking for. With interoperability, common standards and semantic continuity specified as requirements of the e-Framework it would have been useful to illustrate the practical means of achieving such aims. The e-Framework is neither a static document nor a prescriptive blueprint [9], yet nothing dynamic or even live (web based) was showcased on the day.

The four event objectives were documented as aiming to provide participants with 1) an understanding of the goals of the e-Framework 2) an awareness of the approaches involved 3) the means by which those approaches relate to projects in general and to your project(s) in particular and 4) how to use and contribute to the e-Framework (SUMs and Services). Disappointingly, I did not feel comfortable reporting that any of the above had been fully achieved.

A website has been established at <http://www.e-framework.org/> where further information on the initiative is available. At the time of writing, presentations from

this event were not yet available on the JISC website; a reference to these will be provided in due course.

[*Note*: I see from the presentations section of this website (<http://www.e-framework.org/Resources/Presentations/tabid/650/Default.aspx>) that previous events were held on the e-Framework and SUMs back in March 2006. Perhaps attendance at these prior events would have provided the basis to extract greater practical value from the more recent forum but since I wasn't there I can't say for sure ...]

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