

All things 'e': understanding the real challenges in an accelerating world.

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- Background of general high level of expectation in future of ICT based organisations
- Assumption that governance and education can become 'e' and make real improvements

BUT

ICT changes things....

Changing Nature of Governance and of Education

- Questioning of power and sovereignty or authority
- Questioning of roles of state/institution and of individual and of groups
- Radical shifts in power
- Radical shifts in information access

Emergence of Communities and of the Idea of Communities

- Smart Communities
- Communities of Practice
- Smart Mobs (Paquet)

Governance

- Also emergence of ideas on governance and administration

Aspects of 'Advanced' Governance – another myth?

- There are:
 - Policy and political leadership
 - Enhanced access to information
 - Representation strategies
 - On-line consultation and community building

Aspects of e-Learning – another myth?

- There are:
 - Independent learners
 - Autonomous learners
 - Social structures for learning
 - Ubiquitous access to information

There are Blockages

- Need for new 'social' technologies – cant do it!
The 'e' isn't good enough
- Stronger approaches to governance/education needed – how to do it? Having 'e' is not enough
- Understanding the omnipresent danger of a centralised mindset - inhibits participation
- Dominance of an administrative culture - inhibits and antagonises

Aspects of Transformation in Public Service/Education

- From hierarchical government to distributed governance – difficult power shift?
- From egalitarianism to subsidiarity - resisted
- New forms of collective intelligence and social learning – slow to emerge and be accepted

Possible/Actual Scenarios

- Resistance to change
- Status quo or incremental change
- Radical adaptation for a digital world

Where are we?

- Overall somewhere between the first and second....

In other words.....

- it hasn't happened yet

How to Progress

- One way of asking the key question...
- How to control smart mobs both within and without government?
 - Transform principles and structures of government/education
 - Transforming the culture and ethos of governing and being governed/of teaching and learning
 - Transform processes and especially mechanisms in public life/education

- First two are not viable
 - We do not know enough
- Transforming processes and mechanisms is viable
 - We know a great deal about how to do that

Creation and Control of Smart Mobs

- Going from where we are now based on:
 - Organisational and management theory
 - Building process mechanisms
 - »But how?

- Lets look at the second of these options....

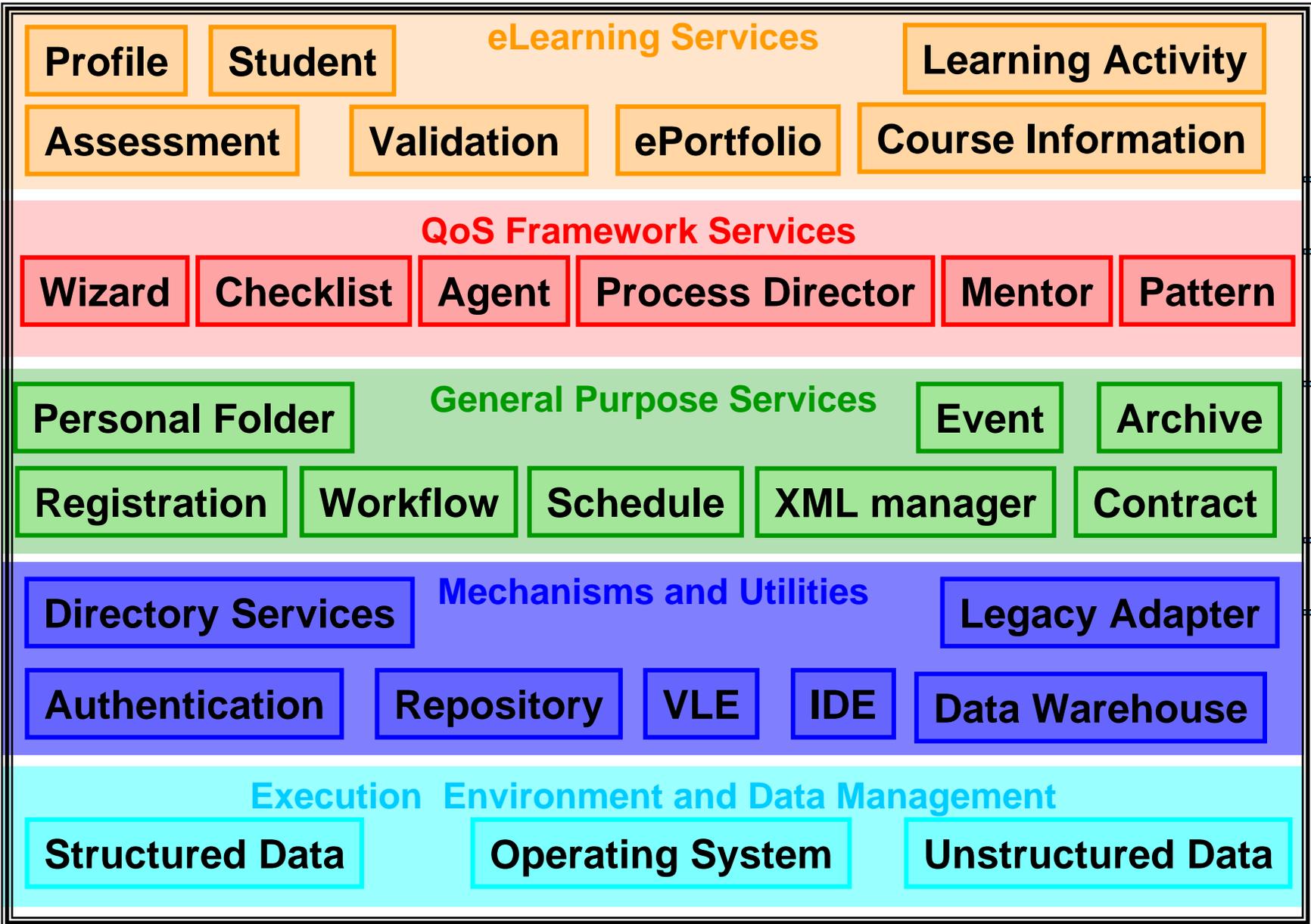
Approaches to Controlling Smart Mobs

- Basics:
 - building adaptable flexible systems that can be made to respond to needs
 - Key is architecture of IT systems to allow dynamic development, not system upheaval
 - Key is a service approach with focus on user
 - Key is quality of service framework– intelligence in systems to guide user

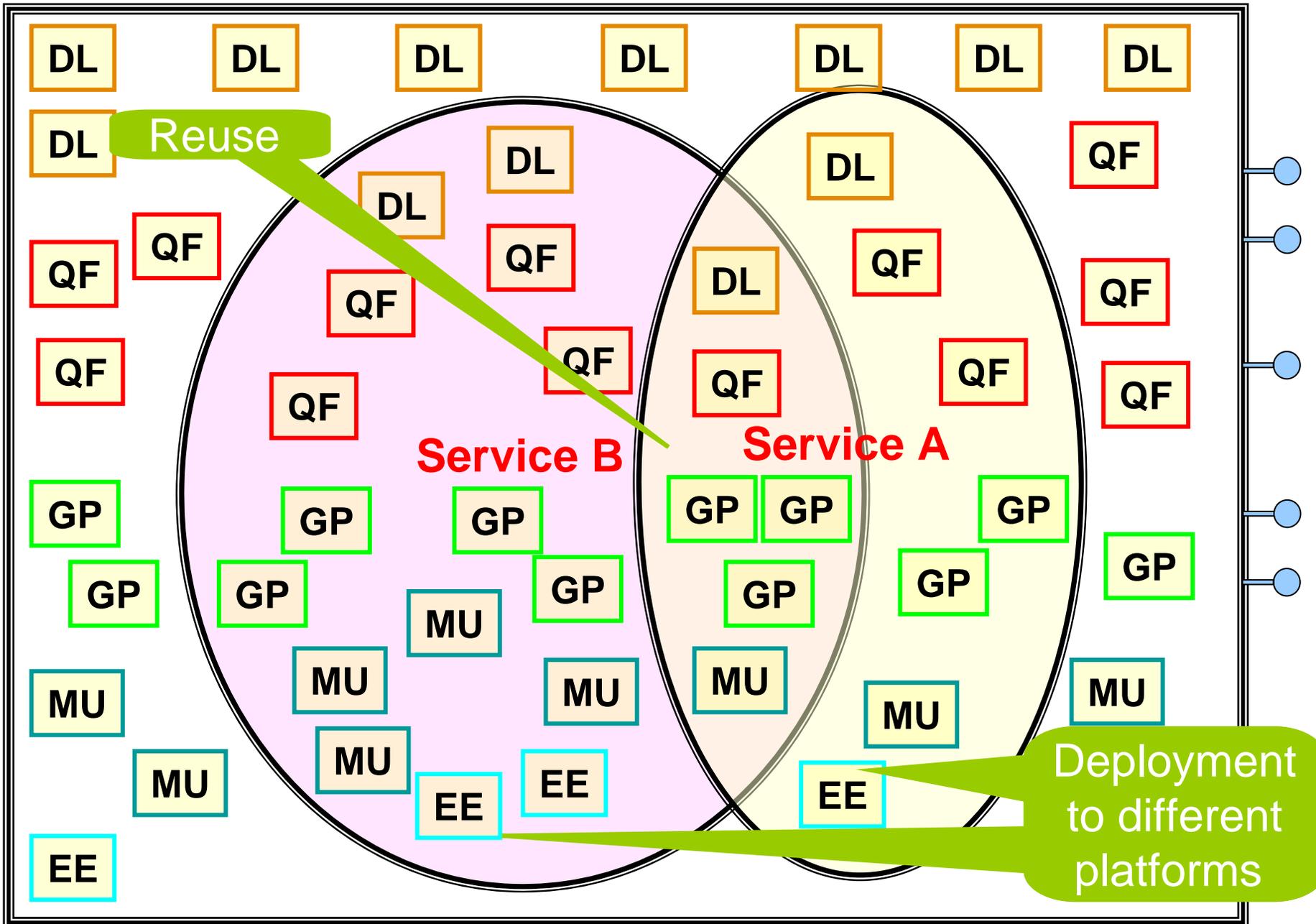
- Applies to governance and to education

- Examples of approach at Manchester
- Generic
- Can be applied directly to education and to governance

- Studies of
 - service oriented architecture
 - quality of service frameworks
 - process driven knowledge bases

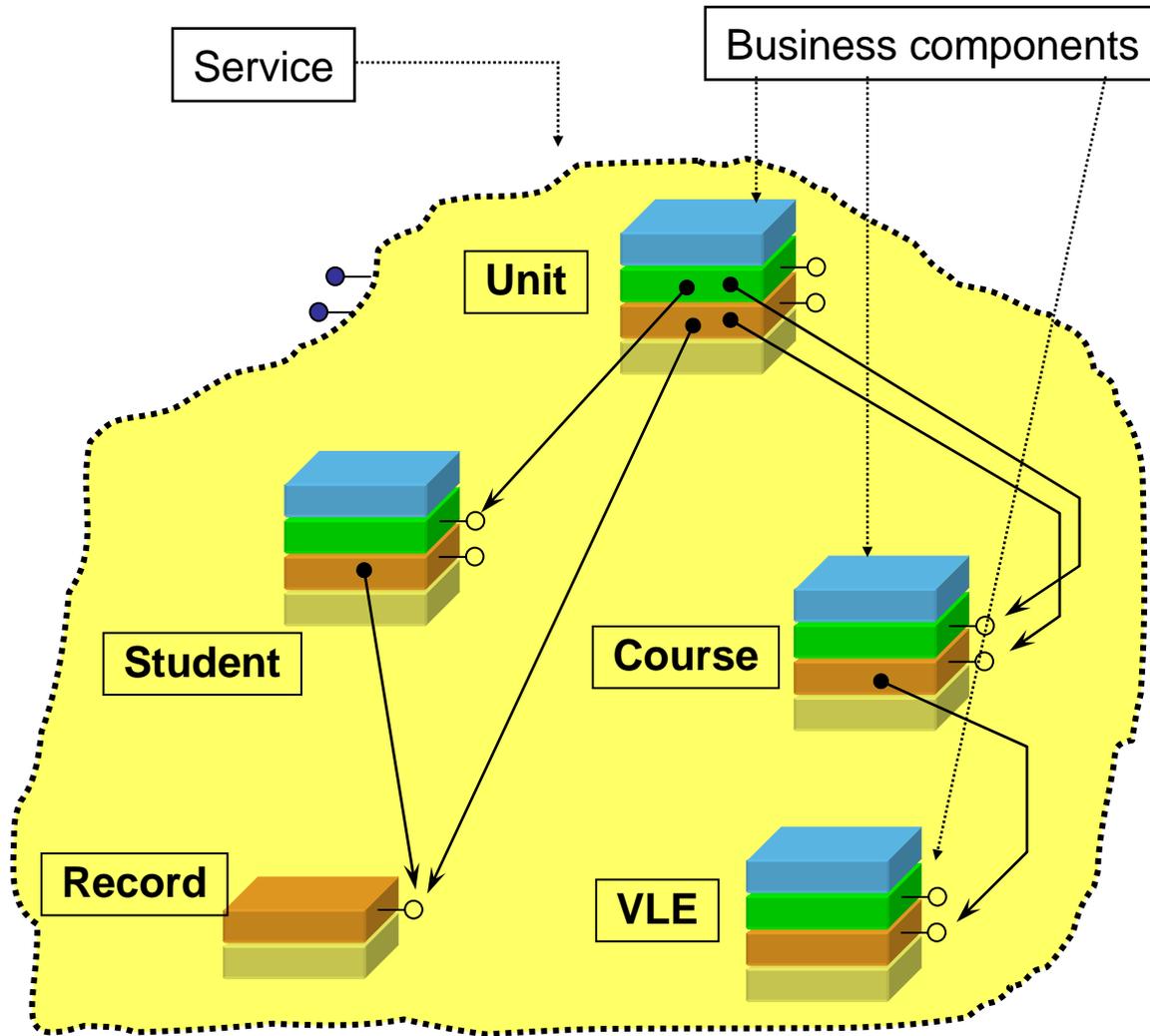


Layered, Service Oriented Architecture



Services composed of components from the framework

Autonomous Business Components and Services



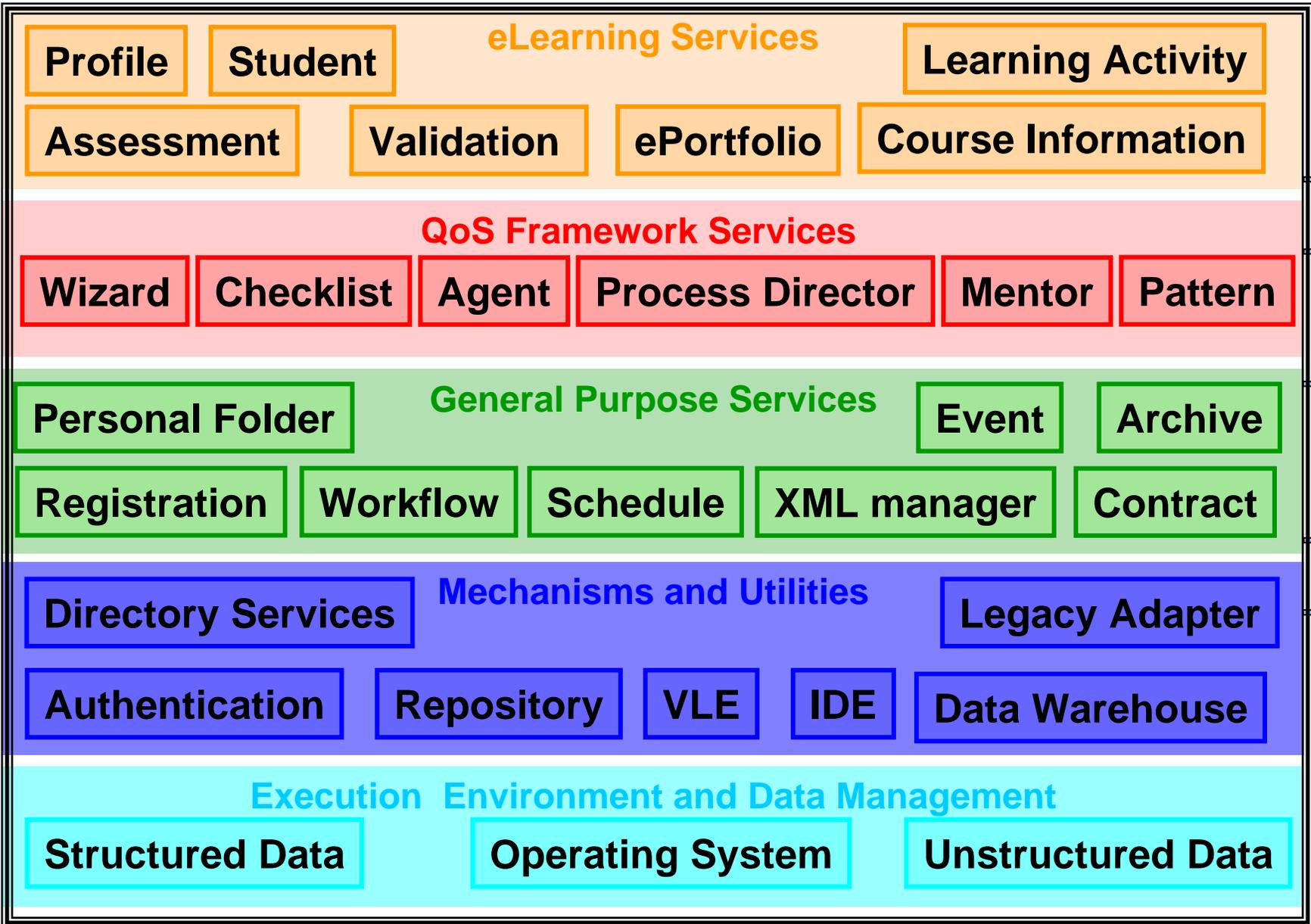
But how?

- The new roles, concepts and techniques may form a barrier to successful transition and **it is necessary to help people adopt and use the architecture by providing a framework of guidelines, best practices, templates and tools.**
- **These are actively integrated into the work processes rather than being merely reference documents.**
- **The Quality Framework is essentially a quality assurance tool that addresses the end-to-end business processes, their context, requirements and implementation.**

- **The Framework must provide a coherent set of mechanisms by which business requirements are modelled, their logic is turned into a flow of activities, which is then executed by a set of components, and their performance is monitored and evaluated.**

The QoS Framework Elements

- QA mechanisms
- Metadata builders
- Models and Patterns
- Standards
- Guidelines and Best Practice

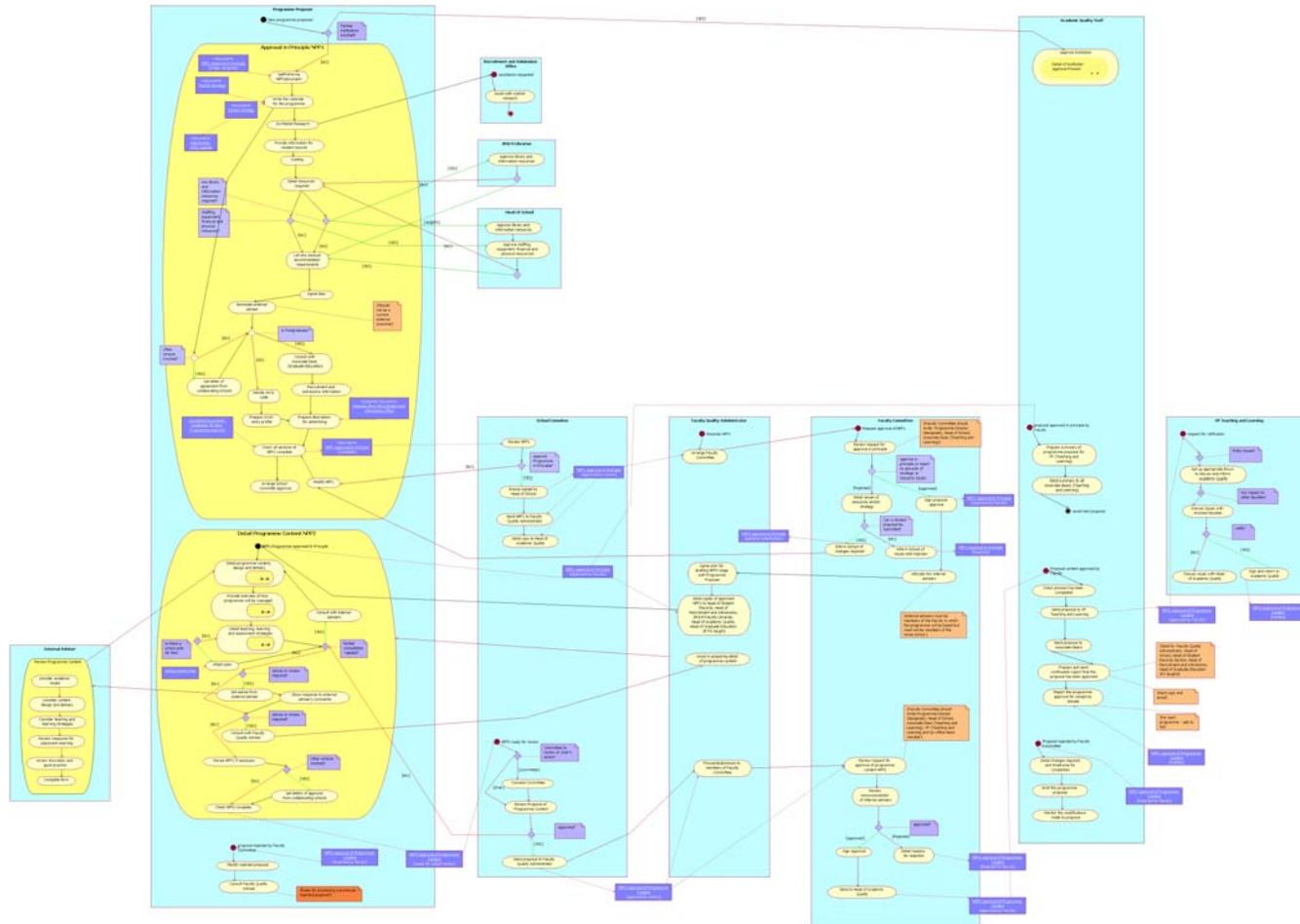


Layered, Service Oriented Architecture

Model Driven Approach (MDA)

- Underlies all such work

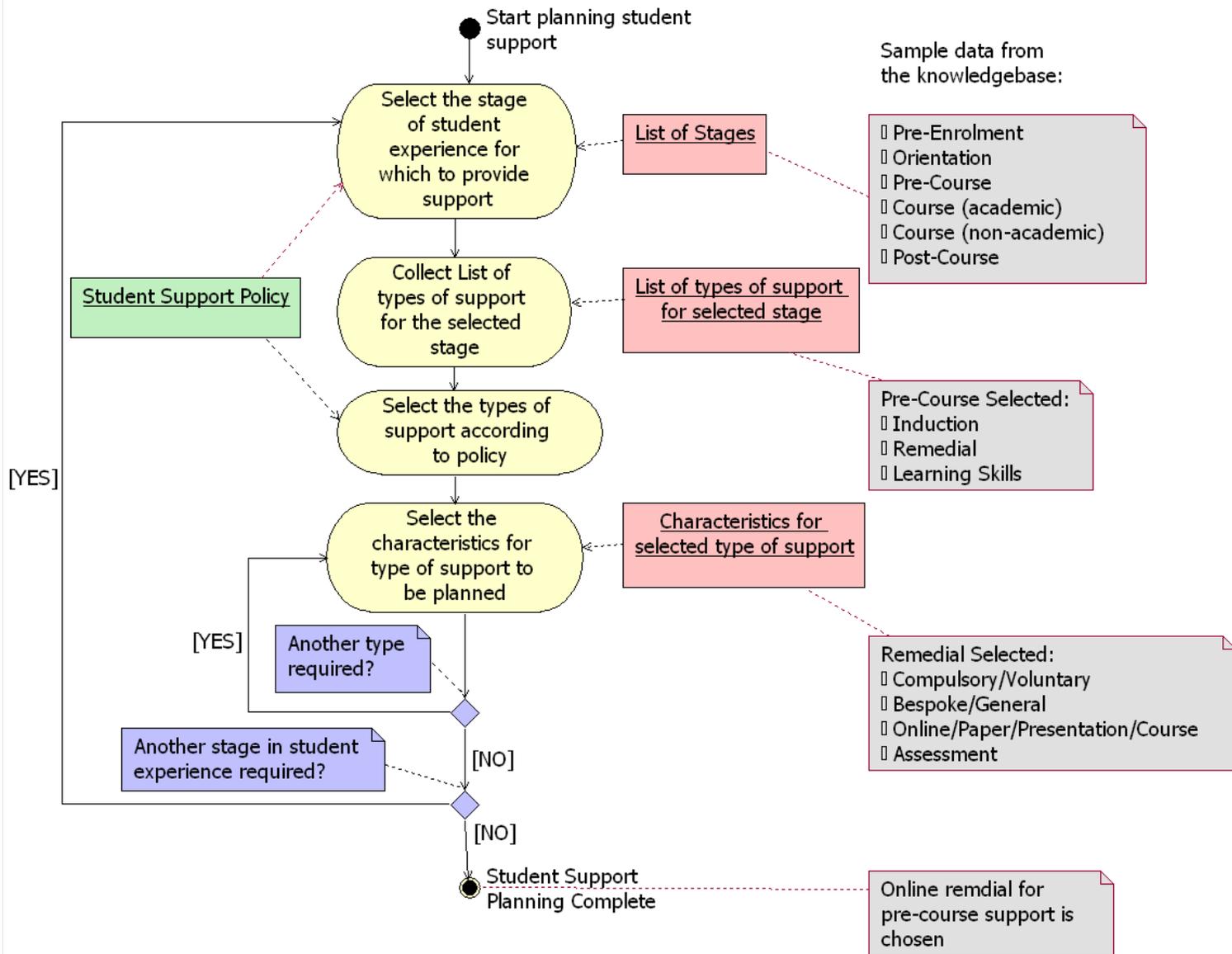
Course Validation



What this means

- Visible
 - Coherent, valid,
 - Shared
 - Adaptable
 - Personalise-able
 - Sharing power
-
- Translatable in to on-line and human systems that work

PDK: Planning Student Support



Undergraduate Medical Education

Undergraduate learners at Hope are faced with a semi-structured curriculum, where learning through problem-based tutorials is coupled with gaining experience across a wide variety of medical events.

The tools described in this talk are aimed at managing learning for the latter scenario, where Learners must

- Select and attend learning events,
- Record their learning experiences
- Reflect on their generated knowledge
- Manage their event attendance and learning

In addition, there are other key roles Teacher, Tutor, Manager who are also interested in this information for (self, group and course) quality assurance

Identified Problems and SUS

This educational environment is learner-centred:

- Choice about what to learn
- Choice about when to learn

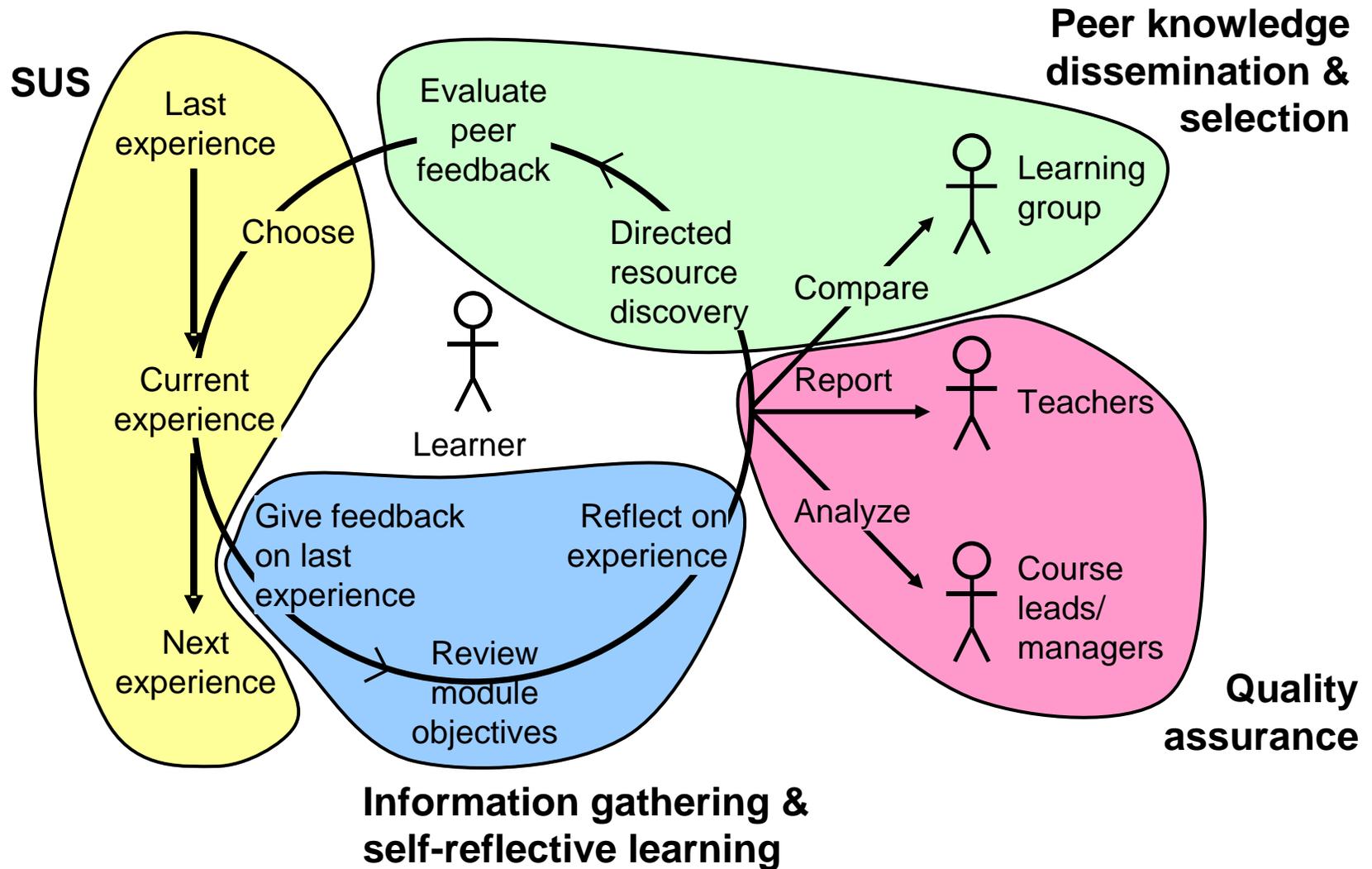
However it can cause problems:

- Learners managing their own education
- Curriculum design
- Quality assuring the learning process

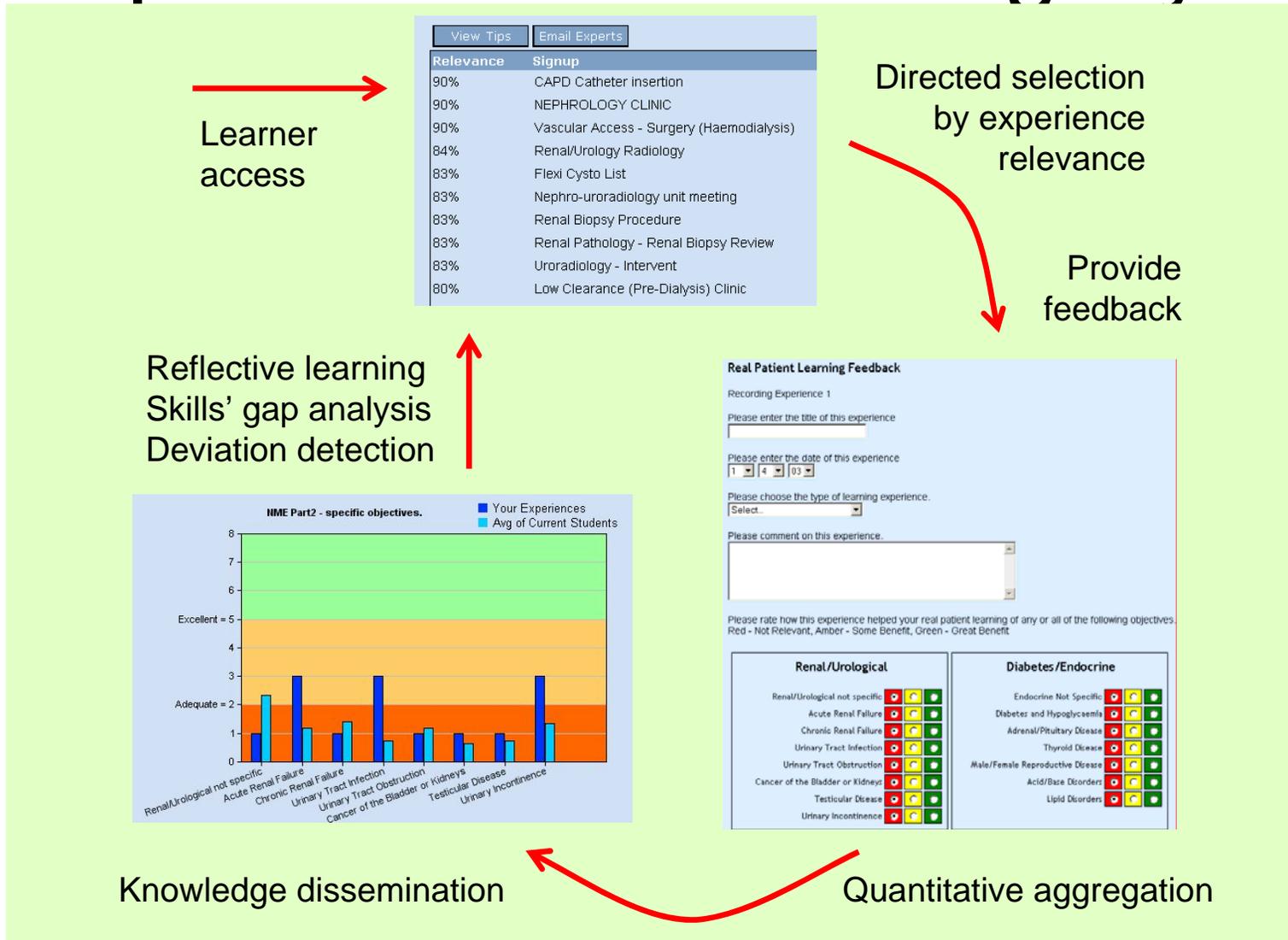
The screenshot shows the 'SignUp System' interface. At the top, the user is identified as 'Tim Dornan (Non-Student) NME Year 3, Group J'. The main content area is a table of signups with columns for Date, Day, Start, End, Title, Tutor, Location, and Contact. The table lists various medical-related activities such as 'Mohs surgery - Skin cancer', 'Dermatology Clinic', 'Renal Replacement therapy Clinic', 'T Scanning', 'Literature Searching Drop-In Sessions', 'Contact Dermatitis Investigation clinic', 'Dermatology Clinic', 'Salivary Gland Disease/Facial Trauma/Oral Cancer Clinic', 'Dermatology - General Clinic', 'Ultrasound List', and 'Gastro/Medicine - general clinic'. The interface also includes a sidebar with navigation options like 'SignUps', 'Timetable', 'Forms', and 'Information'.

Date	Day	Start	End	Title	Tutor	Location	Contact
23/09	Mon	09:30	16:00	Mohs surgery - Skin cancer	Telfer	Dermatology Department	Angela Shu Unit
23/09	Mon	09:30	16:00	Dermatology Clinic	Telfer	Dermatology Department	Mrs Susan Wilde (5671)
23/09	Mon	09:30	16:00	Renal Replacement therapy Clinic	Renal Dept	Outpatients Area 5	Sec 4517
23/09	Mon	09:30	16:00	T Scanning	Chisholm	Radiology	
23/09	Mon	09:30	16:00	Dermatology clinic	Muston	Dermatology Department	Angela Shu Unit
23/09	Mon	13:00	16:00	Literature Searching Drop-In Sessions	Haigh	Open Learning Centre (CSB)	Val Haigh (5753)
23/09	Mon	14:00	16:00	Contact Dermatitis Investigation clinic	Beck	Dermatology Department	Mrs Parkins 1014
23/09	Mon	14:00	17:00	Dermatology Clinic	Ead	Dermatology Department	Angela Shu Unit
23/09	Mon	14:00	17:00	Contact Dermatitis Investigation Clinic	Beck	Dermatology Department	Mrs Parkins 1014
24/09	Tue	09:15	12:00	Dermatology Clinic	Roberts	Dermatology Department	Angela Shu Unit
24/09	Tue	13:30	16:30	Salivary Gland Disease/Facial Trauma/Oral Cancer Clinic	Lloyd	Oral Surg	Jackie or Lynne 4733. Phone before attending.
24/09	Tue	14:00	17:00	Dermatology - General Clinic	Griffiths	Dermatology Department	Angela Shu Unit
24/09	Tue	14:00	17:00	Ultrasound List	Chisholm	Radiology T/US Dept	
24/09	Tue	14:00	17:00	Gastro/Medicine - general clinic	Aziz	Gastro	

Intelligent Sign-Up System (iSUS)



Simplified iSUS Learning Cycle



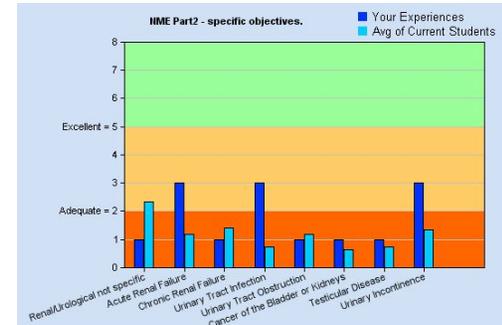
Supporting the iSUS Learner ...

Reflective learning and peer comparison:

Quantitative ratings of medical learning objectives achieved on placements

- Record, peer compare & track progress

Qualitative freeform record about the actual experience



Directed resource discovery:

Review feedback from other learners about an event/placement

For each new event, calculate its relevance for reducing a learner's learning objective gap.

Quality Assurance in iSUS

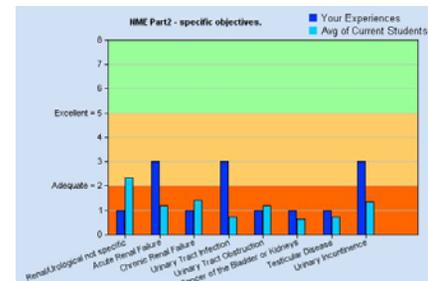
Data is collected about the intersection of Learner, Competency, Event, Teacher, Date, ...

Information **aggregation, monitoring and analysis** is done by

- **Learner:** reflective learning profile and peer gaps
- **Event:** learning potential
- **Teacher:** real-time feedback Q&Q & yearly reviews
- **Date:** overall performance can be compared

Deviation detection in e-learning databases

- It is possible to predict the expected entry of a learner
- If this is unexpected (good/bad), real-time feedback can be demanded from the learner to document their experiences
- Agents can retrospectively detect abnormal behaviours



What this means

- Personalised learning
- Quality assured by learner and tutor
- Visible
- Supported learning
- Community building
- Sharing power/ownership

Conclusions

- We already have most of what we need to start to meet the challenges of the changes in governance and education arising from CIT
- The problem is to get organised and focus on what we can do

