

University Portals as Gateway or Wall, Narrative, or Database

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INTRODUCTION

Most definitions of a portal involve the term “gate” or “gateway” and a Web portal can thus be seen as a gateway to information and services on the Web. In the context of corporate intranets, and universities in particular, the allusion is to the entrance to a walled city. The parallel is worthy of some consideration. As technologies develop and intranets expand to provide information tailored to specific user requirements, and access to personal information, authentication becomes a central issue.

The discussion here looks at current thinking on database and narrative as it relates to systems for collaborative working on the Web, in the context of perspectives often apparent in portal development. The opportunities suggested by a “gateway” are matched by the restrictions explicit in a “wall.” Essentially it is argued that the centralist perspective needed by portal development teams, if left unfettered, can restrict the scope for collaborative working and, in the end, the vibrancy of the “city” itself. The broad characteristics of database and narrative, as presented by Manovich (2001), lie at the heart of the issue, and their relevance to organisational systems thinking is explored by Sobol (2005).

BACKGROUND

In the broad context of the Web, where millions of Web sites provide content open to all, the control mechanisms that have traditionally existed in publishing have broken down, or perhaps had their parameters drastically changed. Certainly the time involved in getting something out has come down. Fewer people need to be involved in the publishing process, and the costs of worldwide distribution are virtually nil. Much has been unleashed; not all of it good. To order our path through this space, we have learnt how to deploy increasingly sophisticated search algorithms and how to scan. Knowing what to look for is often the key to the index and thus, the content.

The portal, by contrast, represents, in essence, the electronic equivalent of the printed contents page, promoting order, development, structure and, however misplaced, a sense of completeness. The substance, as in a book, lies between the contents page and the index.

A table of contents for the Web, as we know it today, would, of course, be an absurdity. The 1995 book *The Whole Internet User's Guide and Catalogue* (Krol, 1995) can now be purchased second hand for 50 cents. That was the last edition and contained, according to one reviewer, “a catalog of over 300 resources, on topics ranging from Aeronautics to Zymurgy” (Chandler, 2000).

The university portal concept offers a vision of a return to a “golden age,” where every story has a beginning, a middle, and an end; where there will be links to take you from cradle to grave whether you are a prospective student, junior undergraduate, alumnus, donor, staff member, or internationally renowned professor. Each will have their own narrative. If they log in to the portal, they will see a reflection of that narrative.

There is a tension between the ways of planning and the ways of markets. The portal represents a vision of easy simplicity, of a clean and uncluttered communications relationship between the organisation and its neatly defined publics. The portal concept here has less in common with a gateway and more in common with a wall. A portal concept, which can detect and adapt to change in the manner of a market, may be needed for the portal to represent a gateway.

Glor (2001), looking at factors influencing innovation in government, recognises the significance of organisational culture and top-down vs. bottom-up change models. The suggestion here is that the trust, shared goals, and impact found to be important in the development of Web-based collaborative systems (Sobol & Roux, 2004; Stack, 1999) are more likely to be realised where “bottom-up” information or “local narrative,” is incorporated in systems.

UNIVERSITY INFORMATION FLOWS

In terms of Web data systems and interfaces, the technology exists to provide, more or less, whatever we want. To get it, however, we have to know what we want. For most academics working in universities, the subject is about as interesting as the detail of the sewage system. They just want it to work.

University information flows are more complex than effluent flows. They are hard to see, move in all directions, and tend to be shaped by a changing terrain. Even the most

gigantic, detailed, and beautiful act of public works (bridge, dam, motorway, airport—software, servers, training, temporary staff) will not provide ultimate solutions because the central issues are ones of *process*.

There are low-level processes that we can design (involving forms, Web screens, database queries, and so on), build, and implement to answer specific needs, and universities have them. Large systems to handle payroll, purchasing, and student records, for example, have established themselves as distinct parts of the information landscape in large organisations. As technologies advance and users cry for simplicity, we start to think of "portal" systems that will tie all these things together, and some plan a promised land of integrated systems that looks like a gigantic act of public works, and users should be amazed and grateful.

Higher-level processes relate less to the anatomy of systems and more to the approaches we use to adapt our systems in response to increasing demands and changing needs. Evolution might have more to commend it than revolution.

Evolution is slow, but can be sped up; revolution is painful, but the pain can be relieved. The point about evolution is that you do not notice "the invisible hand." Revolution, on the other hand, is very visible. It might be worth examining devolution.

Essentially, we need systems to connect databases to narratives. "30,201 students minus 1 student = 30,200 students" might be a database perspective on an issue, and "In the circumstances John I'm afraid you are going to have to leave us" might represent the related narrative. The databases are central and the narratives are local.

A room-booking operation is different from a time-tabling operation. University departments could, in principle, submit completely to a central time-tabling system. Often they do not. The reasons why have to do with the need for local narrative to be incorporated in the way we order our affairs.

- Dr. Piercemuller cannot get from Man-made Fibres to Orthodontics in 5 minutes.
- It is hard to persuade a part-time lecturer to work for one hour on three different days.
- These two modules are paired and work best if the lectures alternate in weeks 3,7 and 9.
- All the staff on this degree need to be present for all the presentation days in the first semester.
- The students won't get much out of the key lecture on this module if they've been in a sweaty workshop for three hours immediately prior.

For best results, these narratives need to be incorporated in our systems. It would be possible to build forever more elaborate and sophisticated systems to operate with more and more explicit constraints; they could be made to work, even if that would involve some cost to those who must describe

the constraints: the same people who do the teaching and research. Secretarial and technical staff exist in departments so as to be in a position to act, advise, and inform in ways sensitive to local circumstances.

If fast-acting evolution were the target, then agents at the narrative end would be more effective than central planners, systems analysts, coders, and instructors. In general, this is an argument for "Agile Methods." Beck et al. (2001) describe the fundamentals of this approach very clearly in their *Manifesto for Agile Software Development*:

We are uncovering better ways of developing software by doing it and helping others do it. Through this work we have come to value:

*Individuals and interactions over processes and tools
Working software over comprehensive documentation
Customer collaboration over contract negotiation
Responding to change over following a plan.*

That is, while there is value in the items on the right, we value the items on the left more. Beck et al. (2001)

Beck and Andres (2004) describe a related methodology (extreme programming) as having a reliance "on an evolutionary design process that lasts as long as the system lasts." The approach has its critics (Stephens & Rosenberg, 2003) and there may be circumstances in which its complete application would be inappropriate. The Wikipedia entry for extreme programming cites examples including "mission critical or safety critical systems, where formal methods must be employed for safety or insurance reasons" (Wikipedia, 2006).

University information systems need to be able to supply accurate summary information to a range of audiences: central planners, department heads, financial controllers, and more. The systems that gather and maintain that information tend to be in the hands of the few who can be trained to operate formal, and often complex, systems in a rigorous manner. The computer interfaces to these systems are often designed for "expert" users, and we can expect the resultant databases to have integrity and validity. These systems are designed, built, and financed in response to a central narrative. As technology develops to provide for the cheap, rapid, and flexible development of systems to meet highly localised requirements (students on a module might, for example, need to share graphic design work electronically with fellow students and a tutor for comment), we are seeing the rise of database systems devised in direct response to local narratives that may not have the authority of central databases, but that enable and encourage collaborative working by virtue of the relatively simple interfaces afforded by the highly localised (and "agile") nature of the provision.

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