

Encyclopedia of Portal Technologies and Applications

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Personal Portals

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INTRODUCTION

A portal, generally viewed as a gateway to resources, can be more pragmatically defined by its context of use. Portal development follows a continuum of use, beginning first with organizational portals, followed by more niche-driven user portals, and finally, a new category, personal portals. Personal portals have evolved out of individual and small group needs to advocate, educate, and collaborate. A foundational perspective, predominant influences, and examples describe each category.

A CONTINUUM OF PORTAL DEVELOPMENT

Three categories of portal development reveal different perspectives, influences, and types (see Figure 1). The continuum visual provides a conceptual representation of portal development in order to see the differences in portal use and reciprocal influences. The visual's nested nature signals the continued influence of organizations on user and personal portals, as well as the influence of user portals to provide resources and tools for personal portals.

Organizational Portals

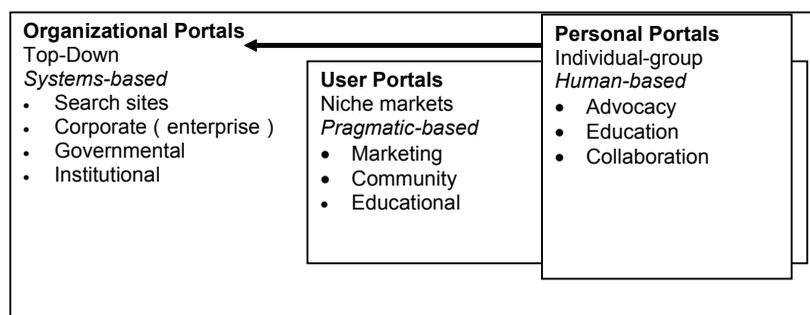
Organizational portals inherently adopt a systems view in which the portal site is triggered from top-down organizational needs, and is systematically developed using a proprietary process, implemented, and revised based on explicit rules for "success." Most technologies, particularly

information technologies, are systems based and inherently closed systems. An irony to this perspective is the conflict between the holistic nature of systems theory, valuing the "sum of the parts" notion, with the reductionist "deconstructing" of a system into a subsystem (Coyne, 1995). Organizational needs are specified in nonhuman numerical terms. Human systems, which are open-systems, challenge the organization to design a response to human needs, which cannot be predicted and totally equated by numbers, and are emergent and messy.

Organizational portals evolved out of search engine sites (e.g., Yahoo, Excite, Alta Vista) that catalogued Web sites and featured different strategies of personalization. Corporate institutions quickly understood the economic potential of portals to access new customers, keep existing customers, and reduce costs through public relations, informational, or legislation-compliant needs. The goals for organizational portals include cost reduction, revenue, and user experience (e.g., Dell, Auto-trader, eBay). Development of these portals resided within the institutions, although specialized e-commerce firms were contracted to develop Web sites, including graphic design, Web maintenance, and auxiliary services such as printing and shipping. Business units slowly moved some F2F training online to provide more real-time benefits as opposed to scheduled training sessions, a function that came to be known as e-learning.

Corporate uses of portals can be roughly categorized by those used by clients and customers, and internal enterprise portals, which manage structured data (i.e., databases and digital files). The development of metadata definitions enabled everyone in a firm to use the same "language" to describe information, staff, resources, and customers. The technology of eXtensible Markup Language (XML)

Figure 1. Continuum of portal development



converted to browser-supported HTML provides a means to communicate this common language (Finklestein & Aiken, 1999). Metadata defines the structure of the XML document. The enterprise portal supports decision-making (e.g., e-commerce) that examines not only the content of the information, but the context in which the information was used (Shilakes & Tylman, 1998).

Consumer-visible portals provide gateways, as content providers or search engines, to Internet-based content. Some portals openly solicit customers for information. Database and data-mining technologies and processes develop customer profiles of purchases and preferences (i.e., Amazon, CDNow). Online versions of newspapers have iterated their designs many times in the search for increased revenue and readership. Their status as a portal may be resistant due to the power of “paper” (Brown & Duguid, 2002), although consumers may ultimately gravitate toward these sites owing to newspapers’ experience with archiving and indexing. Another example of the user-category includes search and evaluation sites for consumer products and services, such as entertainment, electronics, and travel options.

Educational uses of portals lagged behind corporate use, reinforcing a view that educational institutions were less responsive to their constituents and more resistant to change than either corporate or governmental institutions. The 1990s saw colleges and universities adopting e-learning models to attract students in light of shrinking enrollments and state support. Portals provided a means to garner niches of specialty students, as opposed to mass replacement of F2F education. Traditional colleges and universities directly experienced competition for student enrollment and tuition dollars from for-profit educational organizations, as well as from colleges that obtained university status and began to offer a broader range of degree programs.

Despite the lack of evidence for cost savings for instruction, higher education portals have found some cost savings in their use within an e-business strategy incorporating administrative and instructional functions (Jafari & Sheehan, 2003). These portals allow individuals in higher education institutions to communicate with a broad range of constituents, including new students, parents, alumni, donors, and sports enthusiasts. Internally, educational Web portals embrace many areas, such as training, staff and student services, transactions, grant and development activity, learning communities, and risk and compliance needs (Burrell, 2000). Thus, Web portals for educational institutions may become a destination for human activity, rather than as a reference site of information (e.g., <http://myuw.washington.edu>).

User Portals

A second category of portals were developed by individuals from corporate institutions, specialists who had developed sufficient experience to adapt corporate models of portals for

specific purposes not addressed by traditional business units. Some organizations reconfigured themselves or developed new units to take more advantage of the online environment, rather than replicating traditional business models. Rather than adopting a rationalist systems view, portal development adopted a pragmatic view concerned with use and the human experience. A pragmatic perspective embraces the context of use and human experience (Coyne, 1995).

User portals provided firms with target or position marketing, and succeeded or failed based on how they met human needs rather than corporate needs. Niche markets were identified, such as personal life styles, family and education, entertainment, travel, and consumer products. User portals concentrated on the specific needs of consumers or users, and featured unique interfaces and user experiences. Some sites existed for a short period of time because their strategy and design failed to garner a sufficient customer base, while others increased their scope of services (e.g., eBay).

Local governments developed community portals for citizens to access news on jobs, health promotion, services, and voluntary organizations (e.g., <http://www.hillingdoncommunity.com>). These sites provided citizens with convenient contact options using email and Web pages or newsletters to communicate availability of services and current events. Service providers for these sites could be a local governmental agency or a health-care or financial services provider. National governmental units, such as the Federal Emergency Management Agency (FEMA) and the U.S. Department of Health and Human Services, are legislatively authorized to assist citizens. The Agency for Healthcare Research and Quality, for example, is the lead agency in the Department of Health and Human Services charged with “supporting research designed to improve the quality of healthcare, reduce its cost, improve patient safety, decrease medical errors, and broaden access to essential services” (<http://ancpr.gov>).

Educational examples of user portals typically included corporate sponsorship of resources for consumer and public schools (e.g., <http://www.teachnet.com/lesson/>). Many educational user portals provided free resources with advertising (e.g., <http://www.lessonplans.com>) or for specific educational foundations, such as edutopia.org, a site developed by the George Lucas Educational Foundation, which was established to invigorate public school teaching with instructional technology. Numerous organizations developed portals for specific groups. One example is dec-sped.org, sponsored by the Division for Early Childhood of the Council for Exceptional Children, providing resources for young children with disabilities.

Organizational and User Portals to Personal Portals

Organizational and user portals both featured a product/service orientation, while personal portals focus on personal

needs and problem-solving: They are human-based. Rather than business-centric, they were human-centered. Personal portals have emerged from a specific need. Software and skill sets exist sufficiently to develop these portal sites, as they are needed. Corporate involvement is minimal, although site management relies on firms that provide these services. Personal portal applications can be organized along three overlapping areas that include advocacy, education, and collaboration.

PERSONAL PORTALS

Advocacy

Advocacy use of personal portals may include nonprofit organizations that address specific health conditions, such as Graves Disease (<http://ngdf.org>) or migraines (<http://migraines.org>). These sites have grown sophisticated and complex. Examples are those who advocate for the elderly and retired persons, particularly on healthcare information (e.g., diabetes information; the 2005 Medicare prescription plan). New entry-level health condition-indexed portals could be created as gateways to more specialized sites. Personal portal use may be short-term, addressing missing children, disaster relief, fund-raising, annual event promotion, and immediate health needs. Personal portals may be corporate or government sponsored, but the key difference is that they are driven by immediate human needs for assistance.

Education

Personal educational portals bypass traditional educational structures, with uses ranging from individual self-improvement to neighborhood home schooling (<http://www.homeschool.com>). An example of what individual learning can be like was described by Gross (1991) through the use of a personal learning profile; development of learning, reading, and memory skills; the use of technologies; and designing one's learning environment. A portal presence for these ideas can be found at the National Coalition of Independent Scholars (NCIS) Web site (<http://ncis.org>). Personal portals provide individuals with a gateway to develop independent expertise without the need for degrees. Their use can be short-term, such as a group of teachers who get together to seek national teaching certification (see the National Board Professional Teaching Standards at <http://www.nbpts.org>). Concerned individuals may develop their own resources, such as "Kids! Children's Portal" (<http://dvorak.org/kidshome.htm>). Other examples include health, financial, consumer, and retirement information and strategies.

Collaboration

Collaborative uses of portals may overlap with advocacy and education, but a key feature is that they directly involve people who self-organize for specific purposes. Involving individuals who may be scattered across the world, the purpose of the collaborative portal is to structure work and review work-in-progress. Business applications of collaboration exist for this same purpose, but personal uses focus on the work itself and not on the organization. Collaborative portals could implement John-Steiner's (2000) notion of a "thought community" who collaborate on serious work over a sustained period of time and "who collaborate with an intensity that can lead to a change in their domain's dominant paradigm" (p. 196). The function of the portal is to archive work products and provide a means to move the work forward (see the XMCA Discussion Forum on the Mind, Culture, and Activity homepage at <http://lhc.ucsd.edu/MCA/>).

FUTURE TRENDS

Organizational Portals

Corporate organizations will remain a major influence on portal development due to their resources and experience. Crucial to organizations are capabilities to change quickly and embrace the notion of change itself. Business units will continue to "eye" entrepreneurial activity and absorb successful user-level portals, while at the same time many user-driven portals will emerge from corporate organizations who identify and deliver customer needs. Offshore firms will increasingly provide options to business units in terms of cost savings, although offshore firms might become less attractive over time due to their own rising costs. Offshore firms may find that distant corporate investment funds an ability to create their own markets (Friedman, 2005), as their knowledge base and expertise develop to serve more intellectual activities than help-desk functions. Offshore firms could conceivably purchase their corporate sponsors.

Corporate institutions may also contribute to the steady development of knowledge management techniques that tie databases and Internet technology together. Electronic decision support originated in terms of managing data for business problem solving. Portal technology will use these technologies to build knowledge from contextual-based data and make this knowledge directly usable by the firm. In addition to managed information, portal technologies will need to include techniques to manage informal knowledge, such as that from blogs and Wiki servers (Lenski, 2004). Archiving and retrieval of context-based data will provide

Personal Portals

firms with a new view on their data and increased emphasis on data-mining activities.

While the notion of “community” will vary as much as the definition of a portal, portal development will see reciprocal contributions from the corporate-technical side, as well as from the personal-human side. In addition, portal innovations may include new tools for collaboration and help to redefine what “community and collaboration” can be (Eichler, 2003), perhaps contributing to new business models.

User Portals

The user portal may become implicit in the business plans of start-up firms, if they value their customers and clients by systematically delivering on their mission statements. User-developed portals will continue to serve consumer-driven niche markets, as well as periodic creation of never-before-seen products and services, and new categories of customers and clients, based on customer feedback or requests. Portals will provide not only informational, product/service capabilities, but could discover or “mine” new customers if their technological design can be adapted for this purpose. A question worth asking is “How do design processes evolve to become more focused on customers and clients?”

Personal Portals

Individuals and groups will continue to become more informed and apply increased pressure on lawyers, doctors, accountants, and politicians to be more responsive to the citizenry. Individuals and small groups will bypass any institutional impediments or obstacles if the need is sufficiently critical, such as matters of health or disaster, or if the professions remain nonresponsive to personal needs. With personal portals, technology enables people to directly tackle a problem, given their motivation and awareness of context that may go unseen or viewed as unimportant by larger organizations (Gladwell, 2000). Individuals armed with a knowledge of context and tools can potentially address “impossible” problems.

Sophisticated support systems exist for many physical, health, and psychological issues. Portal technology provides a technical support system to organize interventions. One example where such a system would have been helpful is the story of Stephen Heywood, diagnosed with Lou Gehrig’s disease at the age of 29. Documented by Jonathan Weiner (2004), Stephen’s brother Jamie set out to find a cure within a year’s time. Much of his effort was spent in securing support from researchers and government agencies in supporting fast-track interventions and circumventing cumbersome and lengthy intervention trials. Portals will provide motivated people with a generic gateway and support system to speed up problem solving and team building. Personal portal

demand may provide user portal firms with opportunities to design personal-support technologies and services (e.g., <http://buildacomcommunity.com>). A specific example would be portals that support home-based businesses or home-sourcing, as well as independent journalists or specialized problem-solvers (Friedman, 2005). Personal portals will remain dependent on other firms to provide investment in networks and online resources.

A dark side of portals, but one which highlights their capabilities, are terrorist organizations that use portals to advocate, educate, and collaborate. Fortunately, groups of concerned citizens may react just as proactively and establish their own networks for potential natural disasters, terrorism, or disease. An early example of a pandemic issue was the proactive response of the corporate world and individuals to the Y2K impact on software. This rather benign example pales in comparison to the threats of tornadoes, tsunamis, chemical attack, and outbreaks of disease.

The design of personal portals will depend on the immediate needs of users, some of which will be emotional. How might personal portals address these types of needs that augment economic, informational, and educational needs? Norman (2004) provides some insight, as the design of personal portals is all about “use,” and the end result is some form of results or performance. Saving a friend’s life, finding a missing daughter, or locating misplaced relatives from a storm are realistic examples. These complex problems can be mediated partially through the appropriate design of a personal portal. The systems perspective, which underlies organizational portals, cannot wholly account for human actions within a closed system. How then can a portal technology be configured to address these pressing problems? Norman (2004) suggests that some standardization can ease user experience. For example, portals for disaster relief should be standardized across states and governmental units. If help is needed, a “help button” or link needs to greet the user. Frustration cannot be the outcome of a first time user. In time of crisis, governmental officials may point to logic and promises, but the relative who cannot find loved ones after a major disaster needs reassurance, options, and prompt responses. Norman suggests that the iterative design process used in product design may be inappropriate when the purpose is emotional.

A new genre of human designer, the personal designer, may be needed. The personal designer, a “futures designer,” will be capable of tapping tools to design immediate access to solutions, as well as more long-term but personalized approaches across the human lifespan. Our systems and processes cannot address all contingencies of human agency or natural disaster. Thus, development of personal portals will be unique and emergent. Because this ad hoc development is driven by focused need, organizations will need to attend to the education of designers who know how to address emergent human needs.

CONCLUSION

Reciprocal benefits exist across the three categories of portal development. Organizational, user, and personal portals provide a “big picture” continuum of different ways that portals have been developed and used. Despite these differences, each can inform the other, rather than being viewed in the short-term as isolated or as threats. The use of personal portals by terrorists provides a stark example of their capacity to advocate, educate, and collaborate. On a brighter note, personal portals signal the potential to improve the life of a single human being. The greatest potential of human-developed personal portals is to provide a gateway into collective and developing intelligences, rather than fixed views on knowledge and vision. Personal portals can be designed that provide these thinking people with the tools to adapt quickly and responsively to human needs.

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KEY TERMS

Advocacy: One application of personal portals in which a gateway is used to support a belief, mission, or need.

Collaborative: One application of personal portals in which a gateway is used to support specific work activity.

Educational: One application of personal portals in which a gateway points to individual learning goals, rather than institutionally-structured programs.

Enterprise Portals: Corporate portals, sometimes known as enterprise information portals, that manage structured and unstructured data using metadata and eXtensible Markup Language (XML). Also synonymous with enterprise information portals (EIP) and corporate portals.

Organizational Portal: Broad classification of portals, incorporating governmental, institutional, and corporate portals.

Personal Designer: A genre of designer who addresses quickly changing human needs, as well as developing long-term plans, using technological tools and processes.

Personal Portal: A technology-based gateway that serves specific individual or group needs.

Pragmatic View: A perspective that informs a user category of portals; specifically driven by specific organization needs to reach niche groups of consumers or citizens.

Systems View: A perspective in which our environment can be characterized by units of activity, and understood by deconstructing these units into subunits, and understanding the relationships between entities in the overall system.

Thought Communities: Collaborative thinking focused on specific ideas and work.

User Portal: A category of portals that emerged from organizational portals in which the focus is on reaching specific individuals and markets.