Information Architecture, Black Holes and Discipline: On Developing a Framework for a Practice of Information Architecture

by Nathaniel Davis

Information Architecture

Have you ever wondered how long it takes for a field of practitioners to produce the understanding that enables the flowing rivers of discipline – long enough for academic enlightenment? How does an industry actually achieve the longevity and relevancy seen in science and law; in dentistry and medicine; in masonry or carpentry? Even music and the theatrical and fine arts possess histories of understanding that have been taught and passed on throughout generations.

All of these examples are well known institutions of discipline that are centuries in the making – if not longer. But, for the field of information architecture for the web – one that was given a name only 10 years ago and has only been probing for less than 20 years – the expectation to render a discipline is upon it.

In a world of information technology – where one year is like 100 – academic institutions and the business community want instantaneous answers for thinking about the discipline. Academic institutions that seek to train the ways of information architecture request the substance of our work. The business community continues to demand justification and quantitative proof of the value of information architecture in order to make practical cases for it at the tables of business strategy.

Just as product-based technology markets are maturing faster, the field of information architecture is burdened with the same expectation. And the pressure – to communicate to the world that the field of information architecture is a necessary business commodity and has a perspective that can be understood and taught – is growing.

To supply the demand placed upon it, the field of information architecture must deny the more natural inertial forces of organic evolution over time; because the time we think we have is not the same as was enjoyed by earlier disciplines and other pioneering industries. And worse, time may be running out.

To meet the new kind of demand of the information age, the IA field at large must proceed with the clear intent to cultivate discipline rather than to happen upon it.

By adopting an actionable plan to obtain discipline in the practice of information architecture, the field will flourish. If not, while a functional interest within organizations might be all that remains – augmented through other established disciplines and abstract mathematical algorithms – the distinct professional field of information architecture may soon cease to exist.

Things Are Rarely What They Seem

Growing up as a child in the 70s and 80s, the propaganda about the world around me was that everything was pretty much figured out. Previous human enlightenment had raced away to produce industry upon industry teeming with established disciplines – offering springs of knowledge that would satisfy the occupational interests of future generations. Our forefathers had created and lived through the evolutions of social and technological enlightenment, the industrial age and the inventions of mechanization – we stood on the shoulders of giants. Well, that was the high-level view of reality, at least.

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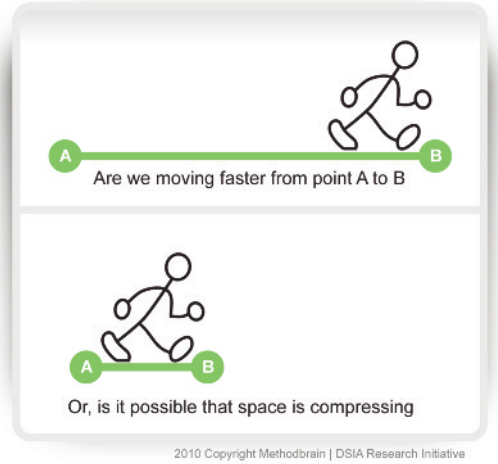
It just so happened that underneath the thick superficial crust of human accomplishment and occupational constancy was a dynamic sub-level of human ingenuity within the scientific community that was making new discoveries. Its most socially disruptive invention, the invention of the computer processing unit (CPU), could be compared to an "event horizon" in astrophysics – the CPU being a black hole-device that (for good or bad) increases the velocity and distorts time for anything that gets in its path.

Mankind's relationship with the CPU – through the use of software applications – is pushing ever closer to exponential increases in performance as the people that rely on it are continually finding new requirements for greater efficiency. Whole societies are getting sucked in.

FIGURE 1. Increasing velocity or shrinking space?



Now, millions of corporate networks are outnumbered by tens of millions of social networks. And both are pulsating with information. The "space" that this information occupies within the realm of information technology accommodates new networks that seem to spring out of nothingness in cosmic fashion. It appears that space is expanding. But technologists seem to find ways to traverse this space with greater efficiencies.

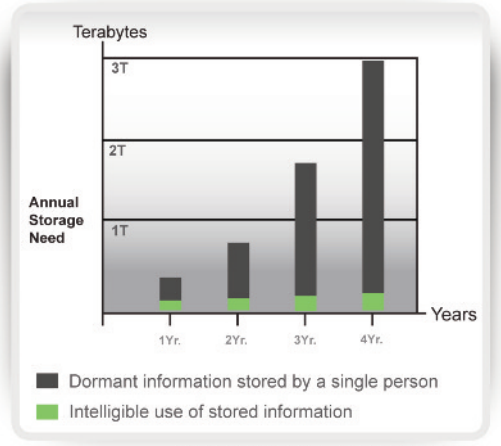
When this happens, I am skeptical of what seems to be the obvious, but I must question how it is that I can go from point A to point B in my application or any area in the domain of information technology faster than before? Am I, or rather, the things I control, moving faster? Or is the space of information technology shrinking? Has a mile become an inch? What dynamic change are we really experiencing?

Change and Time

What doesn't seem to change as quickly in the evolving domain of information technology are the people that enable its existence. The applications and components we use seem to flow with great efficiency, but our individual ability to process and take action against newer computed interactions has not changed.

As the information around people becomes more complex, it is becoming more complex for the people to use it. Instead of using more of the information we are creating, we are using less of the information we create. And instead of understanding more information we come across, we understand less of it. Consumption is outweighing utility.

FIGURE 2. Consumption is outweighing utility.



On a grand scale, as people continue to use information at exponentially increasing rates, information is slowly stagnating. If nothing is done to efficiently release information into some broader dynamic flow of efficiency, the information that now defines much of our IT-based experience will become unintelligible, inaccessible and completely unresponsive.

In the domain of information technology, time is dependent and defined by events happening. If there are no events, time cannot be measured. When time is measured, it's done so in context to the objects that make up the measured experience – such as a targeted objective and the time it takes for a person to execute the objective.

In our work to prepare and present information, co-dependence has emerged. This co-dependence is among four factors: the CPU, the applications

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that require them, the information that feeds the applications and the people that depend on all the others working without failure. Let's refer to this relationship as the QC – short for Quartet Compression.

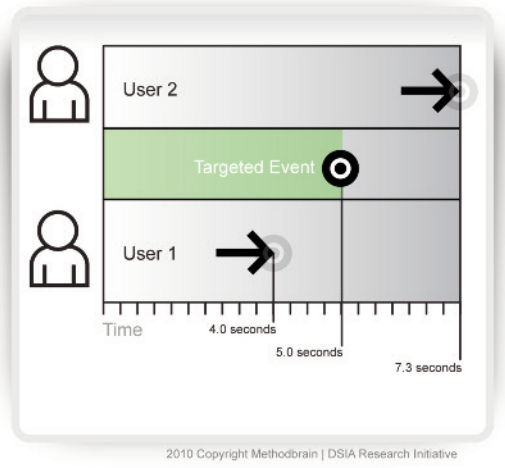
Because of the QC, time is not something perceived directly; it's the intangible gap between interactions through which people individually perceive. Time exists because of these spatially defined interactions – and vice versa. Hence, space and time in the domain of IT are co-dependent – so much so that they are one in the same.

More specifically, under the Quartet Compression of Technology, a domain driven by information technology reveals a co-dependence that defines a unique contextual space-time relationship as shown in the equation below, where, *spIT* represents the space-time of information technology:

$$spIT = (CPU \leftrightarrow Application \leftrightarrow Information \leftrightarrow People)$$

Because everyone holds their own digital position in the space of IT, they also hold their own unique position in time, and this is where things get tricky!

FIGURE 3. Because of the relativity of space and time in the domain of information technology and the unique cognitive traits of individuals, everyone operates in context to their own QC.



As Einstein observed, "change is constant." Unfortunately, this constant flux in the space-time of information technology creates a concern, because things do not appear to be gravitating towards a sustainable equilibrium of beneficial activity for all; and it appears that space-time is literally running out for some.

As the end looms over an unsuspecting civilization of technology pacifists, data junkies, information hoarders and early adopters, people can be observed having advancing or receding experiences of time. Some can be seen interacting with ease and rapidity while others demonstrate frustration over menial tasks that move them to completely disengage from active conversation.

Hope

As the years have passed, individuals from various backgrounds – who are forming communities with labels such as information architecture, interaction design, content strategy, user experience design and usability engineering – have managed to understand enough of the complexity of the co-dependence (QC) to slow the pace at which civilization is approaching the point of no return. But their efforts are drowned out by the swooshing winds of occupational confusion.

Fortunately, civilization is still far enough from the event horizon of an information black hole that it is generally unaware of this dire circumstance. Nor do we typically know that without the intentional probing into the architecture of the QC, our descent into the abyss may have happened a decade or more sooner. This previous success leaves room for hope as a loose network of communication and community has encouraged the idea of interrupting the continuum of the QC by targeting the information component and controlling it through a "managed architecture."

The main approach – inspired, in part, by the discipline of library science and commonly referred to as information architecture – has been partially successful and has displayed areas of reliability. However, the broad communities of interests that surround information architecture inefficiently communicate. We see no clear or widely understood paths explaining how to strategically tackle information with greater precision and in more complex situations. This challenge alone could be the undoing of the fragile emergence of the IA profession.

A Call to Action: Engage in a Discipline of Practice

As time paradoxically and rapidly progresses to the point where it may slow everything to a screeching halt for some, those dependent on information technology don't have centuries to wait for a discipline that tames the threat

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of information. Exercising a proactive perspective around the practice of information architecture in the domain of information technology and building consensus are critical for reversing the hand of time that is in the grips of the QC.

If broader consensus on the nature of information that partially constitutes the QC can be reached and effectively communicated, then more people can be systematically trained to architect it, and curators and business owners of CPU-driven technologies and interfaces can be educated on the inherent risks and responsibility they have to manage information in a sustainable manner.

To accomplish this effort, the future of a discrete discipline of information architecture rests on those practitioners who choose not to sit on the proverbial fence of occupational identity. UX designers, interaction designers, content strategists, user researcher and testers are all necessary and fine. But, the world needs information architects.

A call to be an information architect will not mean that one is an expert, but that one is in the pursuit of expertise in cracking the challenges presented by information as it is presented in context to a computing interface and other media. An information architect may as well mean researcher, because there is much to do and discover to truly prepare the field with the artifacts necessary for higher learning.

Hence, to reveal what will be the discipline of information architecture, we must first exercise a discipline of practice with the rigor of research.

At the ASIS&T 2010 IA Summit, I gave a presentation titled, "The Practice of Information Architecture: It Takes a Village of Practitioners to Raise a Discipline." The presentation introduced a formal definition of practice and additionally argued that the practice of information architecture must include an understanding of how businesses are modeled for efficiency.

Since the presentation, I've expounded on the practice definition to create what I now refer to as the DSIA Practice Framework. The framework, which originated from theoretical and practical insights from my own brand of practice-led research (PLR), described on my website www.methodbrain.com, is meant to serve as a guide for practitioners of information architecture. The framework is rooted in the following definition of practice from my ASIS&T presentation:

> Practice is the collective behavior of *intentional* empirical probing around an *area of interest*, whereby the *contribution* of *documentation* of discovery enables *consensus* that builds and reinforces *discipline* around such behaviors.

The italicized words in this definition highlight the key behaviors of practice that inform a basic framework by which the pursuit of one's IA practice and discipline may be groomed and assessed:

DSIA Practice Framework

Primary Behaviors of Practice	Organizational Assessment	Individual Practitioner Assessment
Intention	Is your IA organization able to articulate its functional objective within its parent organizational business model?	Do you understand the work product of your IA organization? Does your intention align with the IA organization?
Areas of Interest	Does your organization explore subject matter that fills gaps in its processes and offer value to your IA organizational model?	Are you pursuing core area/s of interest? Do your interests complement others in your immediate group? Do you understand your role?
Contribution	Is your organization fostering a forum for building knowledge that is in line with the strategy of the IA organization?	Have you set a goal to contribute your insights to further a collective knowledge and shared awareness within your IA organization?
Documentation	Is your organization archiving and providing supportive communications around its collective discoveries?	Are you allotting time to record your experiences – good or bad – in order the apply learning in the future?
Consensus	Is your organization refining its insights and identifying a path whereby knowledge can become accepted as "best practice"?	Are you growing in understanding? Are you testing/validating your assumptions and/or those of your peers?
Discipline	Does your group focus on understanding the system and efficiency of its functional responsibility, to the business organization, in order to repeat it.	Are you building upon and referring to formal systems (discipline,theory) to help guide what you do?

Closing Thoughts

In many cases it takes a lifetime to mature a discipline. In the domain of information technology, a lifetime is measured in market cycles that are driven by consumers with an insatiable appetite for information. Further, a disturbing amount of dormant information may be collecting in the corners of the IT universe – fueling an apocalyptic-size hole of inefficiency.

In the midst of this threat, information architects have an opportunity to begin an era of methodical practice that enables a discipline as well as the transference of acquired knowledge to address the real qualitative effects of information. The DSIA Practice Framework offers an approach that should be explored and vetted for its usefulness in the pursuit of maturing one's information architecture practice.

When information architecture is widely practiced with rigor, the field may soon demonstrate the theories and practical methods to handily reduce the gravity of the growing black hole of information that quietly disrupts the experience of time and effort by users of computing interfaces.

By documenting our successes and failures through a practice framework, the information architecture discipline will become more tangible with a legacy worth noting in the history of information technology. I look forward to the story that will be told. ■

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