

Information Architecture Front and Center

In Conversation with Keith Instone

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Keith Instone is a user experience consultant with roots in human computer interaction. Instone's career spans practice and research, and includes stints at Argus Associates and IBM. He has taught computer science at Bowling Green State University and helped develop Michigan State University's experience architecture program. He currently sits on the Board of Michigan UXPA and was an organizer of the Academic / Practitioners Roundtable from 2014 to 2018.



Q: You are a long-standing and dedicated member of the IA community, but many people may not know you began your career as a computer scientist. What brought you to information architecture? How did you get started?

It started during the early days of the Web, when I became interested and focused on web usability. There was this cool thing called the internet and most folks were happy enough to just make things flash. I thought it would be a good idea to apply the human computer interaction principles that I had learned on personal computer software. I met Peter Morville and Lou Rosenfeld when they started writing their Web Architect column for O'Reilly's Web Review Magazine. By chance, they lived nearby in Michigan, so we spent time together and I started to understand who these librarians were and why they cared about the same things that I cared about as a computer scientist. At the time I didn't know librarians and computer scientists had anything in common. As we talked more and I understood their background and their point of view, I realized I was talking about the user interface and they were talking more about the things that were behind the interface; asking how to organize all that information that then becomes part of the user interface.

I started working with them at Argus Associates where we figured out how those two areas related. It was like chocolate and peanut butter, usability and information architecture. We worked with clients on consulting projects and we invented stuff together. For example, I was doing some card sorting that they had never done before. So we would sell card sorting to clients and convince them that they need it, and invest three weeks into doing it as part of our discovery process. And then we would take it to the next level, figuring out how to do card sorting not just with text but with pictures. We would learn about users' models in their heads by giving them different pictures and having them sort them in different ways, and that gave us insights that would then guide the rest of what we were trying to build. My work at Argus got me deeply embedded in information architecture and I committed myself to the

discipline. It seemed like something very important.

Q: After Argus, you took a job at IBM. Tell us about those years: what was information architecture like inside such a large enterprise?

I worked at IBM for 10 years. At least one third of my job was representing information architecture throughout IBM to different people as we were working on different projects. I was constantly holding up the mantle and talking about information architecture—when we were talking strategy, when we were talking design, when we were talking operations. I kept it in focus, while others would only be concerned with it for a little while.

I was championing information architecture every single day. I was working on navigation for the IBM website, and became the navigation guy. The key was to advocate for information architecture all the time so not just when it was time to worry about the navigation, but also when we were having strategic discussions around which projects to undertake. I would point out that a certain project would make business sense but was going to be really hard to do because I understood how our information systems were organized. For example, someone might want to build a new marketing website just for small and medium businesses. I knew we did not have much content specifically for small and medium business and if they did that project, when it was time to figure out what content would go on this website, there would be little. IBM only had large collections of content for large enterprises. I could see the gaps we had in our information and could advise that we wait for the marketing department to create content to fill the gap. We could then come back to it later and propose that project.

Over the course of my career, I continued to focus on information architecture, but I noticed that everything changed again. The world was focused on applications, interaction rich web applications came

onto the scene. I found myself tapping into my roots of HCI and focusing more on interaction. I was applying concepts from desktop application design to web apps. The information architecture was still important, but our user interfaces became richer, so it wasn't just about clicking on links and organizing content into buckets. Now we were worrying about dragging and dropping and the other things that users could do. I knew that the information architecture was still important, but other people were less focused on it. They were interested in how to build drag drop interfaces and it seemed less important to focus on what they're dragging and dropping.

Q: Were these shifts in focus an issue for the enterprise?

There have been periods of time where the way we organize or manage information was a really important concern to the business, and people would focus on it. But then they'd lose interest after the taxonomy, the content management system, or the navigation is implemented. The focus on drag and drop was an example of the pendulum swinging farther in the other direction.

At IBM there was some magical thinking going on, that information systems would be maintained with no real effort on anyone's part. After a couple of years when things started to fall apart, they would focus on it again with a project, and focus on the 'Thing that would solve it'. They would believe that it would naturally maintain itself but it would fall apart again over time. I was called in to clean up the mess over and over. I tried to explain to people what was happening and how to avoid the messes in the first place.

Q: You have been involved in the development of information architecture via your own research and teaching interests, and more recently in the Roundtable. From your point of view, how has the field changed?

Today, I introduce myself to others as a user experience consultant, but information architecture has been at the core to my career. Part of my answer has to do with terminology. User experience is the term that everybody else is using. I've been reading up on startups, and many books say that you need to worry about your users, you need to do design thinking, and all of the other usual recommendations. That's the modern view of product management. All of these books tend to use the term "user experience". They're not explicitly mentioning information architecture that often, but I see it embedded in all the things that they do. They talk about drawing a conceptual map of competitors, or they mention enterprise architecture systems.

In the early days, information architecture became the term for the person who was the generalist that sort of did everything. Similar to how "webmaster" was the generic term that applied to the one who did magical things, incomprehensible things that got done in connection with the internet or the web site; nobody understood it, but whoever was in that role was the magician that could do everything. The information architect took on that role for a while.

Nowadays, that generalist is the user experience designer, for better or for worse. That doesn't mean that information architecture isn't just as important, it means that we're starting to take all those skills and techniques and folding them into one thing. It seems that only a few organizations and projects that are information heavy enough where they can devote the people to doing information architecture full time.

I stay connected to information architecture by working with people on the Roundtable, or going to information architecture conferences. This lets me stay close to it, even if I'm not doing it every day. For a couple of months out of the year, I feel like I'm really immersed in the theory and the science of it, and for the other ten months, I take what I learned and go out and practice it.

Q: So, the role of information architecture has changed: do you view that as a good or bad thing?

Like most things, it is good and bad. Abby Covert's book¹ is an awesome thing, because it introduces the concepts of information architecture to a broad audience so that they can apply it widely. But in a professional context, some organizations would be better off if they didn't spread information architecture out among multiple generalists who apply a little bit at the strategy phase and a little bit at the design phase and then a little bit at the operations phase when things tend to break. Instead, the organization would benefit from recognizing and declaring that information architecture and the value it brings is important. As a result, they will have somebody focus on it all the time. When organizations are more focused, they can be strategic, instead of reactionary. Being reactionary means that everything becomes a buzzword, and people will gravitate to the latest buzzword, instead of an established practice or discipline. We've seen this with "digital transformation" or "design thinking" as it moves into becoming part of management consulting speak to get people's attention. Once that happens, the other types of information architecture thinking are forgotten, as well as the doing.

How we as a community deal with it is most concerning to me. Some of us will need to stand up for information architecture as a field of study, promote ourselves a little bit more, make the business case a little bit more, and sometimes be a little bit more critical of organizations that need it but don't use it. For example, if a company releases some artificial intelligence (AI) that's a disaster, it's extremely biased and bad things happen – instead of just saying it was the stupid technologists or it was a bad business decision, we could point out that it's in part because you were treating information architecture as this side thing. You weren't doing it early on when you were designing your algorithms. Maybe that's happening inside some organizations now. What we really need is to

¹ Covert, A. (2014) *How to Make Sense of Any Mess*.
<http://www.howtomakesenseofanymess.com/>.

participate with all the groups who are creating a consortium of artificial intelligence technologists in order to talk about ethics. We're not at that table.

Information architects have been so busy heads down doing the work, which is important, that we haven't had enough energy or momentum in order to talk about how to do the work at scale. We're not acting as a profession.

Q: How have we failed to act as a profession?

I see evidence of this in three different ways. First, we haven't codified our ethics in some way, and that's not acting as professionals. Second, we haven't formed an industry consortium where we have businesses put money in a pool behind an information architecture purpose. This is how a lot of work gets done in technology. Businesses like Google, Facebook, and financial institutions get together and they share money, that's how we make movement at a higher level. Third, let's look at academia. We've got some fields of study at different universities, but it's scattered. There could be more information architecture classes as well as information architecture majors and disciplines. One metric we've used is how many PhDs in information architecture are there in practice. It is a proxy for how much we are a profession, how much we are a field of study, how important we are in academic disciplines – likewise, in industry. As information architects we're good at practicing information architecture. We're good at doing it ourselves, helping our colleagues on our team also do it when we need to distribute the work. But we have a long way to go as a profession.

Q: When you look at other disciplines, for example interaction design, user experience or service design, both the practice and the academy have developed robust programs. Information architecture programs seem fewer and far between. Why?

There is a combination of factors at play. When I was in academia, before I joined Argus, I was doing research in human computer interaction. We called it human computer interaction in part because there were a whole bunch of grants from governments to fund human computer interaction. Then, up popped digital libraries, and there were digital library projects. The reaction in academia with the faculty where I worked was to figure out how to get grants. We looked at our human computer interaction work and found topics that related to digital libraries. For example, when we worked with hypertext, we could quickly rewrite a grant proposal to mention digital libraries. And so, suddenly we were in the digital library research business.

Another factor is the competition amongst different disciplines. Human computer interaction was already established from the computer science perspective. Library science had started, and continues to develop, iSchools². Academic research that we would call information architecture, they might call information-something-else. Maybe they call it information management, information science, or informatics. It became difficult to get everyone in the same room at the same time. There were politics, different academic paths, and conflicting schedules. Our Roundtable was often scheduled at the same time as the iSchool conference, and both events focus on “information”.

In many ways, we have hitched our wagon to the user experience wagon, so when we approach a company, or when an academic teaches user experience they're also going to teach information architecture, and that can be ok. It hasn't been as easy to hitch on to a design thinking or a service design wagon, and they have also gained steam. Right now, we don't seem to have our own wagon to push, at least, not one that's had much momentum.

² iSchools or Information Schools, university programs committed to the study of people, information, technology and science.

It's hard to say why that happened. Maybe all the government grant agencies got together at some point when they were figuring out what to fund, and we didn't have a compelling enough pitch. Again, since a lot of what we do as information architects touches so many things and it is sort of a hidden layer. At some point they would have said, well, we're funding "information management", that's close enough. And we're funding user experience, and human computer interaction, those are close enough too. We will just make a sub-category underneath all these other things for information architecture. This is not what we're doing right now, for this interview and this book: we're putting information architecture front and center and making a category underneath for human computer interaction, service design and design thinking and see what happens.

There are times I work for a startup when I don't need to spend time thinking about information rich environments and I will fold information architecture activities into other phases of the work. But when I'm working with a large Fortune 10 company, and the focus is on an overall employee experience that is information rich, then, I will make the case for differentiating information architecture and not hiding it underneath these other labels. It will be a line item that the project manager cares about, or I might advocate for a group of five or six people within the company to be dedicated to information architecture and work as a community of practice.

Q: You mentioned we have been heads down doing the work, do you think this may have been short-sighted? The nature of information has changed dramatically since the 1990s, when the prevailing opinion was that Library and Information Science was sufficient to provide the basis for information architecture. Digital information is now embedded everywhere—remediated constantly, 24/7—and we live a connected, always-on life. Did we anticipate back then that we would need to look outside of Library and Information Science?

You are right. When I was working in the pre internet days, we thought about information as something we'd put on a physical

device, like a CD, to be mailed to people through the postal service, in different cities and buildings. Everything was separated and standalone. Then came the Web, starting with websites. The approach we adopted was that the CD just got a whole lot bigger and, bonus point, we didn't have to mail it out. But it was still a web site. It was still self-contained. When mobile devices came out, the web site shrank in some ways. The screen got small, which introduced limitations, but everything else expanded in so many other ways. People could be on the move and access the site. They could connect services to one another to make them more relevant. Our information environments all became connected. Such pervasive information architectures³ address the whole ecosystem. Organizations had to think of their content. It wasn't sitting on a CD, it wasn't really sitting on a website. It was all over the place, it was connected, and people were experiencing it in different ways. The next move was to personalize it, and write algorithms to help make 10,000 paragraphs of text more meaningful. It changed the game.

The question becomes then how do you define the role that takes care of that level of information? Information is so involved in everything. We don't just belong in marketing. We don't just belong in sales. We don't just belong in operations because information is in our blood. What is the name of a role for somebody who deals with the blood that goes through the whole system? When, before, we were just thinking we were an arm, or a leg, or a story system, or a kiosk.

As a practitioner, I've been able to swivel, and move and adapt. From one day to the next I could tweak my business card and no harm is done, but for an academic program, it's hard. I was involved early on at Kent State, which offered an information architecture degree. Currently, it is labeled a user experience degree, which makes perfect sense from a teaching marketing perspective and from what the practitioners need. It also means that information

³ Resmini, A. & Rosati, L. (2011) Pervasive information architecture—designing cross-channel user experiences. Morgan Kaufmann

architecture is not as strong in the academy, which a discipline needs to be.

Q: You were an adjunct professor at Bowling Green State University. Were you teaching information architecture?

I've never taught information architecture specifically, but I've been teaching around it as well as interacting with a lot of people who are teaching information architecture. I spent a couple of years working with the folks at Michigan State to develop their undergraduate program in experience architecture. They carefully chose "experience architecture" as a new term because they were inventing something new from a branding perspective. It's also important to know that the program was coming out of the Writing and Rhetoric department. They have a strong professional writing program, and they were finding that good professional writers go into technical communication. Here is a new career path into user experience jobs—it is interesting when you start with rhetoric and writing versus starting with library science, computer science, or marketing.

They developed a curriculum that was built upon their professional writing, and content strategy was core to it. They partnered with the design program to teach some interaction design and visual design. They had to teach their own technical classes because they couldn't work out a deal with the computer science department to teach just enough database concepts to be useful. I was helping their PhDs in English teach computer science because I have a computer science background. After a couple years they had a curriculum that was very project based. We took a step back, noticed a gap in their program – information architecture. Even though they had a strong content foundation, they had visual design, they had jumped over information architecture. It was a big hole in the middle. They also had a gap in their curriculum around theory. We ended up creating a class with two parts: information architecture methods and information architecture theory. It was a good combination, because we could talk about modeling as well as the theory of information.

It was interesting to see that, left to their own devices, information architecture was not in their first iteration. The students were learning it because they were doing projects with the parking department to develop a new parking application, they were doing card sorting and they were doing all the little things, but they weren't getting at the core of the larger information architecture theory.

Curriculum development is the closest that I've been recently to teaching information architecture. I've been working on how I as a practitioner can help professors teach better. It's an underlying theme of the Roundtable. How do we get these two worlds to collaborate together because that's part of how we advance the field of information architecture. I don't think I have any concrete answers except that it's hard.

Q: Why is that hard?

Because often in industry we're on the hamster wheel, we're going really fast, we have these tight deadlines and when we do user research in industry it's very quick and dirty. Our goal is just to make this awesome product better. If we actually learn anything about human behavior, then that's just by accident. We focus on the business or marketing goal, such as what do we need to do to get people to buy more cars. On the research side, we want to understand why people buy things at all, why fifteen products are better than five products. Should we price it high, price it low. In academia, we want more. We seek to generate core knowledge that's reusable for lots of things. In industry, even if we discover that core knowledge we can't share it because it's proprietary. Academics focus on teaching, and how to best introduce the subject to people and keep them engaged. The only time a practitioner is likely to talk to an academic is when they are teaching a senior class and their students are graduating, because we want to hire people. I've also found some practitioners believe that academics may not be teaching

the right stuff, or students don't know what is useful out in practice, but they have no interest in working with academics to improve the situation.

Q: You mentioned that bridging practice and academia as one of the underlying themes of the Roundtable. As someone who has been involved with the Roundtable since its inception, would you reflect a bit on its history and its evolution?

It was important to both myself and Andrea (Resmini) to see if we had enough practitioners interested in the more academic topics. We had done some things informally, and we had also held a joint session at the Information Architecture Summit. People were consistently showing interest. There was a need, and the biggest challenge was to figure out a way to engage people that would be successful. We decided the best way was to pick a day at a conference where a lot of smart people were showing up anyway. We would ask them to show up early, dig in deeper into a topic, and spend more time discussing it.

We did that, then some of the things we worked on would bleed into the rest of the conference program. For a couple of years, we had a great time, but not everyone knew about it, so we started approaching the conference's program committee and asking for a panel slot on the schedule so we could share our results with others.

The Roundtable helped me professionally to get into the details, to think about things. I remember going home after the Roundtable and thinking about the conversations there for the following thirty days. Then, on the 30th day, I would wake up and say "Ah, now I understand what Jason Hobbs was saying." Or, "now I understand

⁴ At the 11 ASIS&T Information Architecture Summit. See Instone, K. and Resmini, A. (2010) Research and practice in IA. Bulletin of the American Society for Information Science and Technology. Vol. 36. No. 6.

why Dan Klyn will not quit talking about ducks and buildings”⁵. It took about thirty days for my brain to process it, but then I got it. I’m not clear on how I’ll use it the other eleven months, but I know that I will.

We focused on theoretical topics for the first roundtable and it has stayed the same over the years. There’s been a core of us who work on these big picture ideas. We will commit to having at least one day of the year where we think deeper thoughts and spend time with others who don’t complain that we’re just navel gazing because we’re talking about ethics or theory. People have accused us of “defining the damn thing” all over again. We are going much deeper than just a dictionary definition of the work we do and what we think is important. This is what gets me coming back every year, because I know that I will learn a lot in that one day that I’m going to be able to leverage.

Q: Do you think the Roundtable has been successful?

I’ve seen the community going deeper into the topics that we discuss. For example, in 2015 we talked about a language of critique and, a couple of months later, Christina Wodtke wrote an awesome article about critique. I know that the Roundtable helped her to do it and as a result, there are more people talking about critique. There were conference keynotes and books that went deeper into topics that had been Roundtable discussions a couple of years before.

Where we seem to have failed is in reaching people to let them know that the field is so much deeper now. We have not reached decision makers, or CIOs. We most definitely haven’t reached back into academia. We keep inviting them to the roundtable, but since we’re at a practitioner conference, most of us haven’t been able to attend

⁵ Klyn, D. (2013) Dutch Uncles, Ducks and Decorated Sheds.
<https://www.slideshare.net/danfnord/dutch-uncles-ducks-and-decorated-sheds-reframing-ia>.

academic conferences where they are talking about information architecture.

I have conversations with people who want to understand the information architecture boom and they only talk about wireframes; I tell them that we've reframed the conversation. I can point to that body of knowledge that we have accumulated. That makes it easier for people to admit that they had not been paying attention. They talk about buying the “polar bear book”⁶ and “doing information architecture on the side”. But they are not aware of “Pervasive Information Architecture”⁷, or “Understanding Context”⁸. “Reframing Information Architecture”⁹ was definitely a great accomplishment. It adds to the list of things that we can reference when talking about all the advances in discipline that have happened over the last ten years.

Q: Do you think the work of Reframing Information Architecture is finished?

About a year ago, the IBM CEO said artificial intelligence cannot succeed without information architecture, and that got some of the people in our community excited. I knew that the IBM definition of information architecture is not the same as ours, so I considered it half a victory. At least they were using our label, but it wasn't quite exactly what we mean by information architecture. They use terminology like data architecture, enterprise architecture or network architecture. Again, when information is in our blood, we're going

⁶ Rosenfeld, L., Morville. P., & Jorge Arango, (2015) Information Architecture for the World Wide Web and Beyond (4th ed). Referred since its first edition as “the polar bear book” based on the polar bear illustration that appears on its cover.

⁷ Resmini, A. & Rosati, L. (2011) Pervasive information architecture—designing cross-channel user experiences. Morgan Kaufmann

⁸ Hinton, A. (2014) Understanding Context. O'Reilly.

⁹ Resmini, A. (2014) Reframing Information Architecture. Springer

to have lots of different uses for it. Also, “architecture” itself can be a vague term.

Sometimes when I talk to folks “architecture” is that umbrella term that includes design. Other times it’s the architecture that happens before design. I noticed that in my evolution as an information architect at IBM working with information at a large scale, I realized that I was acting like an urban planner. The whole ecosystem of websites was like a huge city, with slums on one side and high rises on the other, with highways cutting through the middle of things. Having the term “architecture” in what we do, helped me see that bigger picture. If I was just going to be an information designer I wouldn’t have even been thinking that way. There’s power in the term “information” and extreme power in “architecture.” Put them together and we’ve got a double loaded term that we have to wrestle people over.

Q: You mentioned urban planning and its relationship to architecture. Some in the information architecture community point to them as a model for information architecture. Urban planning’s focus on the system, the relationship between the buildings, streets or green areas; how people will flow through paths ...

... or how the policies that determined it can impact what’s built. If the policies are screwed up then individual buildings are gonna suck. I remember hearing these ideas from Andrea (Resmini), using urban planning as a way to better understand and tackle complex information, similar to the more systemic, European way of doing architecture—this fascinated me.

I grew up in the software development world of computer science—which is all build, build, build. Code, code, code. Slowly, I was learning that there was more to do either before, or in addition, or as part of a bigger picture—I was learning from others to look at things more holistically, focus on things at the system’s level. Some

building or coding will happen as a result of that focus, but don't start with building, and not for the sole purpose of building. That's different from a startup, for instance, that has already figured out that they're going to develop an app. They start there and work their way backwards to figure out how to make that app a reality. I would enter the conversation and help figure out what they needed to be doing in the first place. They had already made a bunch of assumptions on a business model. I would help them focus on the information architecture while thinking about the business model, waiting until it's time to do the navigation and other things. It was enlightening for me.

Q: We touched upon the profession earlier and you mentioned that we need to step up our game. Would you be in favor of some sort of certification, given that you are a professional? A certification that states you possess a certain expertise, provides a title and what that entails?

I think it's worth trying, even if we try and fail. The benefit is that we will have learned something, we will have taken the time to figure something out. If we even had certification that provided a small amount of benefit, it would be better than what we have now, which is nothing. We could learn from our mistakes and do better. I notice that built environment architects have similar discussions around how to certify someone to be "good." If you take all the tests that will only certify that you were a good built environment architect from twenty years ago, it wouldn't mean that you're a good built environment architect today. These architects are struggling with how to tell if other professions are actually prepared to do a good job and not have people die as a result of their work.

In our experimentation on certification, figuring out how we certified this fast moving, hard to get your hand around thing called information architecture, we could learn something—that others built environment architects and the library scientists and others might take notice of and want to emulate. That's my hope at least. The

biggest problem is finding people who want to take the risk, invest the time, knowing that you are creating a startup that will most likely fail, but could get acquired later on.

Q: What is the one most important thing you think we need to be saying in a book titled “Advances in Information Architecture” that summarizes what took place between 2014 and 2019 at the Academics and Practitioners Roundtable?

I'd like to see a book that serves multiple audiences. For the more advanced practitioner, who has never been able to participate in the Roundtables, they can read the book to catch up and practice information architecture in the best way possible known today.

The second goal for the book would be for it to serve as a reference. I've got plenty of books on my shelf that I read once and I put them down and I never check into them again. The most useful ones are the ones that I keep opening up all the time. Sometimes you need the handbook, other times, you need to simply read and get caught up. I would also want a mix of familiar voices and new voices and to pull from different academic areas. It needs to answer the question: what do I need to know for information architecture?

In the past I would have said, “Why even bother with a stupid book, it's better to do it in these other ways”. I've come to realize, however, that things change fast. There are so many Medium articles out there, and they have all become somewhat disposable. It feels like fast food knowledge. We want something that will last longer, and a book is a good way to encapsulate information architecture's body of knowledge. That way, we can say, here are the ten books that you have to have on your shelf if you want to understand what information architecture is. When I go to a talk, and hear the speaker only references two of those ten books, I want to be able to raise my hand and say, great talk, you're 20% of the way there. And then list out the other eight books that they need to reference. This book should be one of those “must reads.”.

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