Designing Webs: Information Architecture as a Creative Practice

Paul Rissen, Data Architect, BBC News Online

@r4isstatic
The BBC /programmes platform is one page per thing.
For instance, you can find all of the episodes of Doctor Who – from the latest Christmas special...
..all the way back to the beginning, in 1963. It gives you all the production metadata, and where you might be able to see it next, or buy it.

It's a great example of the values of the Semantic Web – one URL per thing, not page focused.

But, today, I'd like to argue that just recreating traditional taxonomical information architectures on the web-as-a-platform, isn't enough.

I'd like us to start using the Web as a medium for creative expression itself. And here's how.
Part One: Designing Webs

“In order for true alchemy to operate, an Alchemist must fully understand the structure of matter.”
“This site aims to ensure that every TV & Radio programme the BBC broadcasts has a permanent, findable web presence.”

First of all – designing webs – what do I mean by that?

Well, a single episode of a TV show is only the beginning. Once you start watching or listening to a programme, you don’t care about the broadcast information – you don’t really care which channel it’s on, what date/time. No, what you care about, what you’re going to talk about afterwards – it’s the characters, the plot events and so on.
So, being a Doctor Who fan since 1991, I put two and two together, and started mapping out the content model of some episodes of DW.

Like /programmes, I started with the episodes – then broke that down into a particular series, and then a particular episode.

Then, inside the episode, I took the main events, and characters.

And then I started to wonder, what could you do with this information?

The first thing that occurred to me was the trace the movement of characters in and out of the action – this episode being particularly noticable for the absence of the traditional main characters.
Then of course, I started playing around with time – being a show all about time travel, and this episode in particular, plays around with the idea of things occurring out of sequence.

But you don’t have to have a show about time travel to mess around with time. There’s different ways in which events can occur:
Lieutenant Columbo: Chronological Order

FABULA - “The raw material of a story.”

Chronological time
Narrative time

What we have is both the linear way of storytelling, and..
As you can see, stories, even linear narratives, quickly become not just straight lines, but webs.
Unsurprisingly, it turns out, we weren’t the first to discover this, not by a long shot.

This is Aristotle, who basically wrote the book on drama – particularly tragedies, but it’s a book which has pretty much informed all our approaches to narrative in the modern era.
“Plot is a web of events that make each other likely or necessary.”

Aristotle describes a plot as a web of events that make each other likely or necessary. Much of reading a work of fiction is working out that web – trying to figure out what the future implications of something are, or trying to work out why something happened based on what happened previously.

So, from the beginnings of narrative, we've always acknowledged that stories are webs.
Indeed, the former BBC head of Drama, John Yorke, says that storytelling:

"...is the dramatisation of the process of knowledge assimilation...Consciously or unconsciously, all drama is an argument with reality in which a conclusion is drawn and reality tamed. We are all detectives, seeking our case to be closed."

Which makes me think that storytelling, and scriptwriting, is information architecture in its' purest form.
This is not your mother’s interactive narrative.

When the Internet, and then the Web, first appeared, it was all about branching narratives, choose your own adventure, that kind of thing. Indeed, almost every time I try to get a Web storytelling project off the ground, the discussion quickly turns to branching narrative, and how that doesn’t work, how we’re trying to ruin the role of the author and so on.

The hyperlink is a curious thing – it’s the point, and it’s not the point. I’m not asking people to force themselves into writing branching narratives – the combinatorial explosion inherent in doing so makes it very, very tricky to come up with a satisfying and coherent story.

I’ll make a bold claim – every creative work is actually a Web.

We’ve just become used to the idea of it being purely linear, because we’ve confused the experience of storytelling with the content itself.

Just because the process of telling, or consuming a story, is linear, doesn’t mean that the narrative world below is linear and fixed. No. It’s a web. It’s always been a web.

So, by concentrating “just” on creating linear, or even branching, user journeys, and hierarchical site maps, we’re falling into the trap of recreating the linear experience online, rather than true user centred design – recreating the world online.
“Don't flatter yourself into thinking you can divine my motives or my actions. You are a mouse in a maze.”

Malcolm Tucker

As I said at the beginning, we bandy about this term 'storytelling' all the time, without ever really thinking what we mean by it.
This is the Mythology Engine. It allows you to navigate the archive of DW and Eastenders, not by broadcast information, but by the plot.
For instance, Sarah Jane & Davros..
into the archive, back to the 60s and then back to the present.

The crucial thing with both the Mythology Engine and the /programmes platform is, that it’s not about the interface. It’s not about the website, it’s about the web of information. Creating and structuring that information unlocks it from the silos of traditional media.
At the BBC's Birmingham offices, we discovered an entire cabinet filled with index cards, with acres of information about characters and events from the popular agricultural soap, The Archers.

Longest running radio soap opera – 64 years, over 17,600 episodes.
We're in the process of digitising these now, with the hope that one day we can release it as something for audiences to explore, even possibly as an open dataset...

But these cards reminded me of something else I'd seen recently.

At a country house in Caversham, near Reading, BBC Monitoring keeps an eyes on the rest of the world's media. And they keep an especially close eye on those in power…
...which leads us to this – the biography of Nelson Mandela.
...and this. Carefully typed, on-going histories of significant people. Narratives both fictional and factual, with almost exactly the same data structure.

Because that's what news is made up of – events, people's lives, and the ways in which they are interpreted, and strung together into narratives that help us make sense of our world.

This same approach works for pretty much any narrative we could throw at it.
...and this is an example of how we've started to use it in BBC News – Election timelines.

It’s not just us at the BBC – how many of you listened to the 'Serial' podcast?

Well the folks behind vox.com did, too.
With only the traditional, audio-based, linear narrative to grab hold of, they were starting to lose track of what was going on.
So they made this.
To re-iterate – this is happening. More and more, we’re going to see narrative data as important to how we consume and navigate through media. This is Amazon’s X-Ray feature, currently available on books, now applied to films.

This, then, is the truth, revealed to us through the advent of the Web – that we make sense of the world through narrative, and that those narratives themselves are in and of themselves, Webs.
This begs two questions – Can IA be a creative discipline?

Now, don’t get me wrong. I do strongly believe that functionality, simplicity and accessibility are hugely important things – giving the user what they want, getting them to their intended content or transaction as quickly, easily and efficiently as possible. And yet – that’s surely true of any business which takes UX seriously. What I want is a way to use information architecture to be imaginative, be silly, be creative.

A conversation with another colleague recently, unearthed this gem:

“Information Architects aren’t creative. They don’t seem to want to imagine the future, they’re too pragmatic and obsessed with the details of what’s possible, or not possible, right now.”

As if IA and creativity were fundamentally incompatible.

and…what is our medium?
Scott McCloud, who you may recognise from this photo, wrote 'Understanding Comics' – the seminal book on why comics should be taken seriously as an art form, says that:

"the creation of any work in any medium will always follow a certain path".

He describes six steps:
The idea & purpose, by which he means the conceptual content of the work.

The form it will take – in his examples, a book, a chair, a song, a comic book.

The idiom – the school of art, the genre, that kind of thing.

The structure – what to leave out, what to include, how to arrange and compose the work.

The craft – the actual process of construction – problem solving, getting the job done.

And finally, the surface – production values, finishing, the immediate aesthetics.

Now, in the world of UX, we talk a lot about the latter block of three – the structure, the craft and the surface.
But it's the first three that I believe we need to investigate a whole lot more. At the moment, you say 'website' to someone, and that means a certain thing, the thing we've grown up with in the last twenty years. A hierarchical site map, a desktop visual design, a contact us form.

And yet, we know instinctively, that this is changing. That as an industry, and as a medium, we are very much in the early days.

We love to point out how things are changing – more devices, more screen sizes, more inputs, and yet we don't seem to take the time to investigate the fundamental properties of this medium called the Web. If we did, I suspect we'd rethink a lot of our approaches to our work and practice, and we'd end up in a far more creative future.
This is a piece of work called 'Spirits Melted Into Air', by Tom Armitage. He was commissioned by the Royal Shakespeare Company and Caper to explore how one might creatively visualise various Shakespearean soliloquies. Tom took video footage of actors performing each soliloquy, traced the path of their movement across the stage as they performed, and then printed out these paths as paper visualisations, but also as laser-cut, crafted wooden pieces.

When describing an element of his working practice, Tom talks about the process of material exploration, a common technique for product designers and artists. He explains that:

"Invention comes from design, and until the data’s been exposed to designers in a way that they can explore it, and manipulate it, and come to an understanding of what design is made possible by the data, there essentially is no product...."
“To invent a product, we need to design, and to design, we need to explore the material. It’s as simple as that.”

Tom Armitage

Too often, I’d argue, we get this balance the wrong way around.

We start by examining existing user behaviours, coming up with journeys that recreate, and slightly improve, the old forms in a new medium. Almost like skeuomorphism for UX as a whole.

Then we take pixels and interactions as our sole material, and the data and information architecture only comes after the real creative work is done, and is used to bring something to life.

But as Tom explains, there is an equally, if not more valid, way of thinking about this.

Forgive me for using the well-worn analogy of lego bricks, but would you really “only” use them to construct a toy from a pre-defined plan?

No, the real pleasure of playing with lego is in tipping the box of bricks all over the floor, and building new, unexpected, silly things out of them.

This is what we need to learn to do much, much more, if we are to treat IA as a creative discipline. The role of the architect isn't just to guide and build something to a pre-defined plan. It's to know and understand the warp and weft of the materials to hand, as well as the vision, and to sculpt something incredible.
Which is different from Big Data – it’s not about taking a mass of data and trying to tell a story from it. As mentioned yesterday, stories are so much more than “just” the objects within them. But, equally, data isn’t just quantitative, it isn’t just numbers – data can be ideas, concepts. And, as we’ve seen, stories are webs.
This is James Bridle. He’s written a lot about **coming to terms with the nature of the network**, in his work on the 'New Aesthetic', which of course has many facets, but one of the key ones is about how..
"...every web page and every essay, and every line of text written or quoted therein, is a link to other words, thoughts and ideas."

James Bridle

The hyperlink isn't necessarily something new – it's revealing to us that even our most traditional forms of literature and art have always been hyperlinked. We've just never had the medium to truly express this possibility.

In case I haven't made myself clear, I believe that data is the natural form for the medium we all work in. And that when we're considering a creative approach to information architecture, the screens, the journeys, the personas are not the point. Designing, sculpting the data into the right, useful and/or delightful shapes – that is the key.
What I mean by acknowledging the network is that we should consider everything we create – every service, every product, every cultural artefact – to be a network in and of itself. Not only is it connected to others, but the work within itself is its own micro-network of ideas & concepts. Every creative work we design, we should think of as a Web, and we should enable it to be experienced as one.
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I am a Web Designer – I design webs.
So we have a medium – URIs, and hyperlinks.
And we have a form – the network, an actual web, not just the Web as a platform.
But what can we do with this? How can we be creative?
The Internet of Things. Physical objects that have a connection to the network, and can therefore use the capabilities of the network to augment their functionality. Arduinos and all that. Probably not something where IAs or UX folk traditionally get involved.
Without IAs and designers involved, we get something like this – the annoying talkie toaster from Red Dwarf.
My friend Michael summed this up in a great way recently:

"Information architect for things without screens. That'd be a good job."

Which is exactly the point. As the number of devices, and inputs, and possible ways of outputting information increase beyond, frankly, our ability to keep up with them, we have two choices – either pick a few of the varieties, just design for them, and have both a limited impact and a nagging sense of dissatisfaction, or concentrate first on designing the thing that won't change, regardless of all of the above – the raw information. Then, even if you choose a few devices or inputs, you have the freedom to easily change your mind – react to the future, without having to completely start again.
“What's happening now is that the web of data wants to escape the screen, it wants to materialise into the real world, it wants to get physical, become objects.”

Russell Davies

Russell Davies describes the IoT as this...

...which brings me to The writer, and part time practising wizard, Alan Moore.
Moore was once asked – where do you get your ideas from?

He didn’t know. And this troubled him. Because, ultimately, it was the source of his income.

What he came to realise, is that the world we live in, despite all appearances, is not a physical one. To make sense of the physical space we find ourselves in, we create ideas and concepts in our minds, and that is how we mediate our lives.

He called this conceptual world ‘Ideaspace’.

And the act of creating things, bringing them out of the conceptual ideaspace and into the real world?
Magic is the process by which ideas leave Ideaspace, and manifest themselves in the physical world.

Well, that’s magic.

The web – that is Ideaspace, and the IoT – that’s magical creation happening right there.

The Internet of Things isn’t about internet fridges. It is, by Moore’s definition, literally magic.
This is why I believe we shouldn't limit ourselves to putting stuff on the Web which is mundane and physical (though that's not a bad thing in itself) – so much of what we talk about when we create Web things is just recreating things which are object based already.

Instead, we should be creating more cultural, interesting data – because that is the sum of the ideas that are open to us – and by breathing life into these ideas within the Web, we open them up to the possibility of changing the real world.

I don't just want the Internet of Things. I want the Internet of Fictional Things.
As Leila Johnston says 'what would technology be if it didn't feel that it had to justify itself'. What if we start making silly, playful networked things? Wouldn't that be a way to learn about this medium?

There is massively important work to be done.

But one way of coming to terms with the networked world, isn't just to examine it seriously, but to engage with it playfully.
Part Five: Practical Alchemy for Beginners

But it’s not just magic. It’s something even more powerful.
And indeed, my understanding of alchemy, until very recently, was that it was just about base metal into gold. But let’s take a look at the laws of alchemy, which you may have noticed sprinkled throughout this talk.
The Laws of Alchemy

- An Alchemist must have a medium for any form of alchemy to succeed.
...and we have a medium – the medium of the Web, of URIs hyperlinks.
The cat sat on the mat.

Noun, verb, noun.

Subject, predicate, object.

URI, URI, URI.

...and we have a medium – the medium of the Web, of URIs hyperlinks.
The Laws of Alchemy

- In order for true alchemy to operate, an Alchemist must fully understand the structure of matter. He/she must possess the "sight" (the ability to not see an object as a whole, but as a structure constructed of trillions upon trillions of atoms).
...and I’ve shown you how that’s true. Every story is a Web.

and finally...
Weeping angels, an example of alchemy.

Alchemy is a mode of human inquiry in which symbols and objects are treated interchangeably so that action on one affects the other – “An image of an Angel is an Angel itself”
“What if our thoughts could think for themselves?

What if our dreams no longer needed us?

When these things occur and are held to be true, the time will be upon us.

The time of Angels.”

In other words, the Angels arose because they were thought of. They stepped out of our dreams and into the world. They are not science, but magic through and through. They are symbols with power.
The basic alchemic principle is that a physical object can be affected by the manipulation of a symbol of that object. And this is what we have URIs for. This is the internet of things. This is APIs.
Designing Webs:
IA as a Creative Practice

- Think Webs, not just Websites.
- The WWW is a medium which is ideally suited to expressing creativity
- Engage with the networked world by creating culture, both high & low
- APIs and the Internet of Things show that magic & alchemy are possible
These men weren’t just geniuses.
The internet isn’t just a platform for existing media.
It’s a medium in and of itself, and we need to start making creative works attuned to that medium.
But not just that:
WARNING:

These men are alchemists.

This man is really a secret alchemist.

And magic is possible.
"The mastery of one's medium is the degree to which the artist's ideas survive the journey.

...There's only one power that can break through the wall which separates all artists from their audience, the power of understanding."

Scott McCloud

I’ll leave you with this Scott McCloud – all creative expression is about trying to transfer understanding, to match and explore ideaspace.

I believe the Web is the nearest we can get to matching ideaspace.
Thank you.

@r4isstatic
r4isstatic@outlook.com
http://www.r4isstatic.com
http://speakerrate.com/talks/53971