Designing Webs: Information Architecture as a Creative Practice

Paul Rissen, Senior User Experience Architect, Future Media, BBC

@r4isstatic
Hello. I'm Paul. I've been working at the BBC for 5 years now, 7 if you count my time with Siemens beforehand, where, amongst other things, I worked on iPlayer for the year before it was launched.

My background is in English Literature and History, so I've not been, shall we say, classically trained in the ways of UX. And probably the reason why I wanted to work at the BBC in the first place, was less my passion for User Experience, but more my fascination with TV & Radio production, technology, and, crucially, storytelling.

I'm driven by the notion that when it comes to 'new media' (or indeed, 'Future Media', as our department at the BBC is called), we've still not yet really cracked the code here. We still haven't really begun exploring what storytelling in the medium of the Web (And I mean that in a very particular way) looks and feels like.

And so what I want to talk to you about today is the approach I've taken to IA – I'm going to show you how I design webs, and then why I think that's important.
"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)."

Why design webs?

Well, I believe it’s a crucial part of user centred design.
You’re probably aware of the technique of Domain driven design, which is similar to what others call content modelling.

It’s a form of user centred design where you concentrate on the mental model of the world of the user, rather than the tasks.

The reasons for doing so are two fold:
If you make the world first, then it's easier to make multiple paths.

We all know that your homepage isn't always the first place everyone goes.

You want to make as many things findable as possible.
Secondly, we're dealing with the WWW here, not a computer's file structure.

First the wires,
then the computers,
then the documents,
then the ideas.

The WWW was founded not to share documents, but to identify, share and connect ideas.

There's a reason it's called the Web – because the structure is a web.
Linked Data and the Semantic Web – often seem complex, but it’s as easy, to me, as ‘The Cat sat on The Mat’.
The cat sat on the mat.

Noun, verb, noun.

Subject, predicate, object.

URI, URI, URI.
So, my background meant I was well versed in content/domain modelling, and when I arrived at the BBC, I worked on the / programmes platform, which was one of the first projects at the Beeb to really take this approach and combine it with the ideas of the web.
"This site aims to ensure that every TV & Radio programme the BBC broadcasts has a permanent, findable web presence."

One URL per thing, things that your users are interested in, things they’re going to want to search for, things they’re going to want to build an experience on top of, things they want to point at and latch on to. Conversation pieces, social objects.

This was all well and good. But, after being introduced to these ideas, I thought – 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.

Colleagues in R&D had started thinking in a similar way, exploring how you could take a long running soap, like the Archers, and restructure the narrative based around plot threads or characters.
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 three ways in which events can occur:

- Chronological time
- Narrative time
- Experienced time

Think about that when you’re designing for user experiences...
As you can see, stories, even linear narratives, quickly become not just straight lines, but webs.
And I was fortunate enough to be able to work with a team to create a prototype around this, which let you 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.
"Don't flatter yourself into thinking you can divine my motives or my actions. You are a mouse in a maze."

As I said at the beginning, we bandy about this term 'storytelling' all the time, without ever really thinking what we mean by it. Because the other key point about the mythology engine, is that although we did it for DW and eastenders, we quickly realised that this same approach works for pretty much any narrative we could throw at it.
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.
Those stories don't just have to be fictional, either.

Newspapers are stories too.
This is the News Storyline ontology, which I contributed to.
The Stories Ontology (2010)

- Allows Events to be sequenced in a particular narrative order
- Allows different Interpretations to be assigned to Events
- Allows Sources to be associated to Interpretations, to back up Interpretations

http://contextus.net/stories

And before that, myself and others at the BBC and within academia, created the Stories Ontology – with my ‘history’ hat on, to describe not only the narrative sequencing of events, but also the different interpretations or importance that people place on those events, alongside sources to back them up. Something I think is really crucial to the future of journalism on the web.
This is not your mother's interactive narrative.

http://www.flickr.com/photos/nathanpenlington/8057367934

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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.
“Storytelling is the dramatisation of the process of knowledge assimilation.”

John Yorke, Former Controller of BBC Drama Production

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, 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.

I am a web designer. I design Webs.
“An Alchemist must have a medium for any form of alchemy to succeed.”

IA as a creative practice. Now, don’t get me wrong. I do strongly believe that functionality, simplicity and accessibility are hugely important things – giving the user want 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.

Can IA be a creative discipline?
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:
1. Content

2. Form

3. Idiom

4. Structure

5. Craft

6. Surface

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. 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

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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.

And yes, it is still user-centred, because what we are now doing isn’t recreating existing behaviours online, but instead, we're giving the users familiar worlds to explore in new ways.

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
THE CLAIMS OF BIG DATA ARE OUTLANDISH AND PROBABLY WRONG.

I sure hope so.

Adapted from http://www.flickr.com/photos/dougtone/4330934019

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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 quantative, 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..
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.
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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.
“Any sufficiently advanced technology is indistinguishable from magic.”
Now, over the past few years, has been to start playing around with physical, networked computing. 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.
But I’m a toaster. It is my raison d’être.
I toast, therefore I am.

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.
The writer, and part time practising wizard, Alan 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’.

Compare this to the rationale behind the Internet of Things..
“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
Magic is the process by which ideas leave Ideaspace, and manifest themselves in the physical world.

Sound familiar? The web of data is the mental world – what Moore refers to as Ideaspace, a territory not bound by physical laws, but by conceptual ones – one that is hyperlinked, and that we can navigate and point to shared ideas within. And when those ideas are powerful, they want to materialise into the real world.

The Internet of Things isn’t about internet fridges. It is, by Moore’s definition, literally magic.
Indeed, when considering Ideaspace itself, Moore believes that the role of the artist is:

"to wander furthest from their own patch of the imagination and return with truly rare and exotic ideas which they had to use and make something out of. In this way, the world we live in becomes increasingly changed by the mental world."

This is just perfect. The mental world, Ideaspace, that is the Web. That is why 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.

So 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.

I don’t just want the Internet of Things. I want the Internet of Fictional Things.
“What would technology be if it didn’t feel it needed to justify itself?”

Leila Johnston
Part Five: Alchemy is real

Into the final part.

I was showing this talk to one of my colleagues the other day, and he saw this title, and he said – how can it be real? Alchemy is a disproved science, a dead end.
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.
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 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...
The Laws of Alchemy

- The symbol of an object is equivalent to the object itself.

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.

In summary, then...
Tim BL wasn’t just a genius.

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:
THIS MAN IS AN ALCHEMIST

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This man is really a secret alchemist.
And magic is possible.
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.
“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
Thank you.

@r4isstatic

r4isstatic@outlook.com

http://www.r4isstatic.com