UKSG

Apps: a new medium for non-fiction innovation

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Apps are now a dominant content medium: in the US people spend more time on apps than they do watching TV. Non-fiction content is being avidly consumed on mobile devices, but in a completely different way to the book model. This article explores three strands of potential that the app medium holds for non-fiction content, putting forward the case that apps have the power to further weave non-fiction into the fabric of society and life.

Background

Many people will be familiar with the 2008 Apple advertising campaign, 'There's an App for That', which was used to launch the iPhone 3G. With thousands of apps in Apple's App Store at the time, the slogan denoted that whatever you want to do, learn or play, there will be an app to fulfil that purpose. This was the first time a phone had been positioned more as a platform: a powerful shell that allowed the user's choice of external apps to give it meaning. 'There's an App for That' may have been an ambitious statement for Apple to make at the time, as the majority of apps available were casual games or utilities.[1] However, seven years and over 1.3 million apps later[2], it is starting to feel like there really is an app for everything. Offerings range from on-demand babysitting to learning a new language and even meditation guidance. Apps now have significant and increasing efficacy in people's personal lives[3].

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However, in the world of academic non-fiction content, there are still not many 'apps for that'. Proportionately, the world of apps has very little scholarly content. Out of the top 50 revenue-generating app publishers of 2014, not one specialized in non-fiction[4]. This is not to say that there is no potential for scholarly content in app form. Apps are fast becoming a dominant content delivery system and, as Paul D Miller says in *The Imaginary App*, evolving into a 'metamedium' to supersede all other media[5]. Miller puts forward the idea that in the future *all media* will be delivered via an app. As of summer 2014, more than 75 billion apps were downloaded from the App Store[6], and in the US, people spend more time on apps than they do watching TV[7]. Though these figures are surprising, humans are *still* in the very early stages of discovering the potential of the app. A recent major Cisco study revealed that 'global mobile data traffic will increase nearly tenfold between 2014 and 2019'[8]. It would be bizarre to assume that this overwhelming growth will not affect academic content.

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The rest of this article will unpack the positive potential that apps, this new 'metamedium', can bring. The primary focus will be on content, rather than commercial models, which is a subject significant enough to be an article in its own right.

Apps are inherently a mixed-media product

Probably one of the most enticing facets of an app, initially, is the mixture of different types of media it can house. Akin to theatre, installations, exhibitions or 1990s CD-ROMS,

apps are a true mixed-media product and can contain audio, video, long-form text, live chat, photography, animation, rotational photography, parallax, 3D-augmented reality and more. App producers are able to pick the most appropriate type of media to communicate a point. They are no longer bound by the constraints of a set form. If you have ever experienced the frustration of feeling that text just cannot communicate your point, then the fluidity in media type that apps offer can be incredibly attractive.

I am an app producer at the London-based app production company, Touchpress. When Touchpress created the Shakespeare's Sonnets app[9], we made the decision to include the sonnet text alongside video of an acclaimed actor performing the poem. The text moves by gracefully as the actor performs. Many respected Shakespeare scholars believe that Shakespeare wrote his words to be performed, rather than read[10] – even the sonnets, which are of course not plays. Combining the performance and text creates a completely different Shakespearean experience. The audience is able to get a sense of how the words both look and sound together; we simultaneously see, hear and read the work. This fluidity in media that apps allow lets the audience *feel* Shakespeare's so carefully constructed rhythms, tones and rhymes on several levels.

In this case study, not only does a mixed-media approach make each sonnet easier to understand, it enables the audience to engage with the work on a deeper level. This is only one example of how the ability to cherry-pick from different media forms can deepen the impact of non-fiction content.

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Apps can evolve over time

Imagine your bookshelf, and on it a reference book that updated itself every time a new edition came out. Think of another theory book on that shelf that provides case studies of that specific theory being applied in real time. It is part and parcel of the app form to do this and more: to grow. The most successful apps are always in flux, evolving with their audience and context[11].

Deciding that a book is ready for print is a significant decision for a publisher to make, as once it has been distributed, there is no going back. It remains static. It is quite literally 'bound', akin to a time capsule. There *are* benefits to this, especially for archive purposes; however, the type of use value changes for the reader as time goes by.

In technical terms, there are two ways an app can develop. The most major app evolutions are the structural ones where the app's framework actually changes. An example of this is a new feature, like the ability to add your own notes. These updates require a change in the app's core code. The other type of app change is dynamic content change. Like a social media or news app, this type of content can be updated at any point, usually using a content management system that requires little technical skill.

Collins' Atlas app[12] is a reference app that is in many ways much more useful and relevant than the book equivalent. The globe presented in the app has options showing overlays of live statistics. These include current states and territories, mobile phone coverage, internet usage, telephone lines and energy resources. A decade from now, people may well look back at the atlas books of the 20th century and be horrified that we were ever relying on such inert views of, and information about, our planet.

No subject matter is ever static. Humanity is always changing, and hence so does the knowledge we have and the context surrounding it. One could argue that a more fluid system of conveying information is not only more convenient, but will allow for a more efficient transfer of ideas as a whole. With this new fluid medium, institutions and individuals can eventually benefit from each other's research and theory in near real time.

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Apps are accessible anywhere, any time, as long as you have your device with you and the internet

Ubiquitous computing is a concept in computer science where information is made to appear everywhere and anywhere. The term was coined in 1988 by Mark Weiser[13] who had just been promoted to head of the computer science laboratory at Xerox PARC in California. In a 1988 presentation, Weiser advocated the idea that our computers should extend our unconscious. As the internet makes incredibly huge quantities of information available to us, computers should play the role of delivering it to us where and when we need or want it most.

Weiser died aged 46 in 1999, two or three years after the internet was first made available on the mobile device[14]. Since his death, mobile devices have permeated our everyday lives, and the idea of ubiquitous computing has increased in prominence, inspiring governments, start-ups and computer engineers across the world.

So, what happens when non-fiction content meets ubiquitous computing? As our devices become an extension of our consciousness, we are already experiencing the phenomenon in action. Here are a few examples of how, right now, one might apply the non-fiction/ubiquitous computing combination:

> our devices become an extension of our consciousness'

- a researcher visiting an art gallery and searching online, using a phone, for the biography of the artist behind a certain piece of work in order to research its cultural context

- in the field, a PhD student observing young people's behaviour for a sociology project, searching with a tablet device on UrbanDictionary.com for the meaning of some slang the teenagers are regularly using in conversation

- a veterinary student using a DVM calculator app[15] on an iPhone to work out ketamine quantities for a constant rate infusion as it is being prepared.

These instances illustrate just the beginning of a ubiquitous information economy. Arguably one of the best examples of the future of this type of media is the iOS app Star Walk 2[16]. When a user points their device at the sky, the app annotates the sky in real time with the stars, planets and constellations above them. Additional assets are available when a star or planet is tapped, including a 3D rotation, mythology, statistics, history and archive imagery. Connecting information to direct experience allows for a far more immediate and visceral user experience.

After Weiser developed his initial ubiquitous computing theory, he created another evolution of it with John Seely Brown, called Calm Technology[17]. The main tenet of calm technology is that instead of overwhelming us with information, computing should become smart enough to give us the information as and when we need it most. They conclude their 1995 Designing Calm Technology paper by saying: 'It seems contradictory to say, in the face of frequent complaints about information overload, that more information could be encalming. It seems almost nonsensical to say that the way to become attuned to more information is to attend to it less …But such designs are crucial.'

The ability of apps to attach information to time and place not only makes for a more visceral learning experience, but also attends to the issue of 'information overload', ultimately creating a calmer and smarter research environment.

> 'a calmer and smarter research environment'

The non-fiction future

Let us now take a step back. Imagine that you are sitting a decade in the future, considering the best format to enable your new project to reach its audience. You ponder, and weigh up the pros and cons of a book, or a journal article, or a video, or even an app. You might think, what will get across the sheer beauty of this topic to people who are new to it? Or what might make this quantitative research more useful in the field?

If computing continues to pervade life at its current rate, this choice and freedom will become the norm for a researcher. Perhaps this is the elephant in the room, but static text peppered with a few images and graphs just does not do justice to many types of knowledge.

Society is living. Would it not be fantastic if the scholarly knowledge we produce could reflect the same fluidity?

As we experience this shift to mobile, it is important to remember that just because something is in app form does not necessarily make it better. A new medium needs attention and thought. What I am proposing is that the app medium should be adopted and nurtured by the academic community. Apps have the potential to further weave non-fiction into the fabric of society and life. Let us make it so.

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