

# Andrea Resmini

## Digital is the Problem

### Editorial

In the beginning, we digitized. We turned analog artifacts into digital artifacts. Letters for example, or ledgers. And music, of course. Then, our current reading goes, we started “digit-al-izing”, a different thing altogether: we applied digitization to the larger processes. In the 1980s, digitalization was already underway in a number of industries but, as usual, the future was not evenly distributed.

For the music industry, this transformative moment came with the iTunes Store, part of the push towards a digital marketplace for music that Apple started with iTunes, the “World’s Best and Easiest To Use Jukebox Software”, and the release of the original iPod in 2001. Gone, at least conceptually, was the physical record store and the need to organize physical artifacts, the records, in a physical space. Books such as David Weinberger’s “Small Pieces Loosely Joined” (2002) and Bruce Sterling’s “Shaping Things” (2005) perfectly capture this moment in time [1]. A fraction of control went away with it, not only because of the factual dematerialization of the media on which music had been living (kept captive?) for a hundred years, with all its far-fetching socio-technical corollaries, but also because the link between individual songs, and between song and album, was shattered. The same piece of music could not only simultaneously belong to multiple categories, but it could, in time, be endlessly and swiftly moved and re-categorized in accordance with one's preferences.

Ripple after ripple, digitalization produced a systemic transformation process we have come to call digital transformation [2]. While Spotify and streaming services are a very visible result of this process, music is far from being the only sector thoroughly transformed into something different. Digitally transformed sectors act as reinforcing loops that create the business conditions and the social and cultural space for introducing more digital transformation in even more processes.

We are now at a point where these three steps, digitization, digit-al-ization, and digital transformation co-exist and sometimes overlap, as culture, infrastructure, governance, and fashion change at different speeds.

Consider grocery stores. Self-checkout lanes are a commonplace digitization of the analogic step concluding a shopping experience. A few years ago

Tesco introduced an on-the-go, scan-and-shop system in the subway and at other public transport locations in Seoul, South Korea (Petit de Meurville et al 2015). These “virtual stores” had no actual products: buyers downloaded the app, and while waiting for the train or bus scanned what they needed from life-size images of the products arranged to resemble a traditional Tesco aisle and placed on walls or vertical surfaces. They then would choose a suitable home delivery time for their veggies or sodas, and happily conclude their digit-aliz-ed shopping experience.

An entirely different approach was devised by Robert Ilijason, a Swedish engineer, and then sold to micro-café startup Wheelys [2]. Instead of digitizing the products and digit-aliz-ing the purchase process, Ilijason digitally transformed the store experience, creating and implementing a prototype 24/7 100% unmanned store in the small village of Viken, in southern Sweden. Buyers still needed to download an app, but then used it to access the physical premises of the store, where they would pick up the products they needed and pay for whatever they purchased via the app upon leaving.

As of 2021, the idea of a completely automated convenience store, a blended space of sorts [3], has proven to be both financially challenging and more controversial than expected [4]. It introduces systemic implications, socio-technical ripples, that we do not have in the digitization offered by card payments or self-checkouts. These systemic implications impact consolidated logistic flows and supply chains, the day-to-day behavior and livelihood of millions of people, and thoroughly alter the very idea of what a store should be [5].

The ripples that such vast, paradigmatic change creates have a way larger impact than anything happening inside the small pond of “digital” design. That pond is part of the problem: language is important, words carry weight, and “digital” is the problematic bit there. It fragments. It focuses attention. It hinders truly cross- and trans-disciplinary advancements [6].

I am not arguing for a ban on the word itself here: what I am saying is that new media design practices should be wary of peddling the idea that anything is better if we just write “digital” in front of it. It is not. If anything, it makes products, services, experiences more insular. Unquestioningly believing in our own stone soup-making is not a healthy habit, and we should know better. After all, we have been there before, many times: the mechanical 1700s, with their clockwork ducks and automatons, and everything, including the human body, being a machine; the electrical late 1800s, when everything could be fixed with a friendly jolt from an electrode; the atomic early 1900s, with their “nuclear” family, nuclear toys [7], and

commonplace faith in an orderly universe illuminated by science and expertise.

I have argued elsewhere that the 21st century expresses a post-digital, not a digital culture (Resmini 2021). It “implies” digital just like we “imply” electricity. If an artifact needs powering, it will be powered. If an artifact needs digital, it will have it. Digital is here, it is not going away, but it is time we actually heed Negroponte’s 1998 advice that digital is only meant to be, like electricity, plastic, and all other technologies, “commercial and cultural compost for new ideas”.

Digital spaces, the internet itself, the IoT, these are not a “virtual” worlds existing in some alternate reality, completely separated from the physical world: they are “real” and are already seamlessly and transformatively dissolving into the fabric of reality. We live our lives in blended space. If you are fifteen in 2021, digital is probably already “invisible”. That’s what digital transformation is all about.



Figure 1. The Hipporoller

Wearables, body augmentations, sensors, actuators, VR and XR, voice interfaces and gestural interfaces, and artificial intelligence require solid information architectures. But so does the **hipporoller**, a safer, more sanitary, less demanding water collector, a wonderful example of Negropontian digital banality and something that is both completely non-digital and impossible to conceive and produce successfully without digital.

That space straddling digital and physical is what the two first papers of this Fall issue continue exploring, from very different perspectives. Glushko and

Freeman expand on Badaloni’s “Design Notes” from the Spring issue in their “Music as an Organizing System”, and argue that it is possible and necessary to discuss the information architecture of an “analog” phenomenon such as music. In her “An Ecological Framework for Information Architecture”, Haverty argues that we have factually moved the discourse on information architecture “beyond digital” more than a decade ago [8], stresses the relevance of embodiment and concludes that information architecture is entering a new, ecological phase.

## Endnote: Conversations We Should Have and Dan Brown’s “A Lens A Day”



Figure 2. Dan Brown (right) and James Melzer (left) in the very first episode of “A Lens a Day”

Dan Brown is the host of an ongoing and immensely interesting series of one-on-one conversations with information architects and experience designers. Freely available on [YouTube](#) and on the major music and podcast streaming platforms, every episode of “A Lens a Day” sees Brown and a guest discuss the ins and outs of designing experiences and tackle one of Brown’s famous [lenses](#) at length. As of Dec 2021, “A Lens a Day” has published more than fifty 20–30 minutes episodes.

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## Footnotes

- [1]. Levine, Locke, Searls & Weinberger’s 1999 “**Cluetrain Manifesto**” should not be omitted. More specifically centering on aspects of the conversation on information architecture in the early 2000s, Weinberger’s follow-up “Everything is Miscellaneous” (2007), Peter Morville’s “Ambient Findability” (2007), and Clay Shirky’s “Here Comes Everybody” (2008) also discuss different aspects of the digital transformation process as it affected the field of practice and the social milieu.
- [2]. Wheelys closed down all of its cafés and business operations during the 2019–2021 pandemic.
- [3]. In the sense that not enough attention has been paid to the actual blending of

the digital and physical layers. For more on blended spaces, see Benyon (2014) and Resmini & Lindenfalk (2021).

[4]. It is especially the idea of the general applicability of the concept to all types of built environments that appears to be problematic. Swedish company Livfs (livfs.com), for example, currently manages a consistent number of unmanned stores mostly located in rural or semi-rural areas of southern and central Sweden, where access to convenience stores has traditionally involved driving to the next town.

[5]. Digital transformation has even more significant consequences. Research tells us that, in the United States, online dating is having an impact on interracial relationships (Hergovich & Ortega 2018; Ranzini & Rosenbaum 2020) and it is changing our understanding of what marriage means. If Tinder can influence the way we get to bring forth the next generation, I would be inclined to say that we are way past the “paperless office” model.

[6]. A good example of this fragmentation is the emergence in urban and media studies of the concept of “digital placemaking”, defined as the “use of digital media to create a sense of place” (Halegoua & Polsonn 2021; Foth 2017).

[7]. In the 1950s, parents loved the atom so much they bought their kids the **Gilbert U-238 Atomic Energy Laboratory** kit, which came with a warning that one should “not take ore samples out of their jars, for they tend to flake and crumble and (one) would run the risk of having radioactive ore spread out in (one’s) laboratory”.

[8]. We could probably go even further back if we consider the attention paid during the classical information architecture period to wayfinding and navigation (Rosenfeld & Morville 1998; Fuller 2002; Wodtke 2003).

## Cite as

Resmini, A. (2021) Digital is the Problem – Editorial. *Journal of Information Architecture*. Vol. 06. Iss. 02. Pp. 1–8. <http://journalofia.org/volume6/issue2/01-resmini/>. doi: 10.55135/1015060901/212.010/1.041.

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A two-times past president of the Information Architecture Institute, Andrea co-founded the Journal of Information Architecture; *Architectura*, the Italian Society for Information Architecture; the *Academic / Practitioner Roundtable*; and *World IA Day*. Andrea is a compulsive reader of WWII submarine warfare trivia, Tolkien drafts, and Jack the Ripper case studies. He is the current Editor-in-Chief of the journal.

