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Independently-hosted web publishing

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Abstract: The term independently-hosted is used here to describe online publishing practices that utilise the World Wide Web (hereafter the Web) as a decentralised socio-technical system, where individuals and communities operate as the owners or controllers of the online infrastructures they use in order to share content. Such practices may be adopted as an alternative of, or as a complement to, the use of centralised content-sharing systems that belong to and are entirely operated by third parties. The term “publishing” is used here in a rather inclusive way and refers to the act of making content available online, rather than being restricted to the editorial processes that characterise, for instance, academic publishing.

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DEFINITION

The term *independently-hosted* is used here to describe online publishing practices that utilise the World Wide Web (hereafter the Web) as a *decentralised* socio-technical system, where individuals and communities operate as the owners or controllers of the online infrastructures they use in order to share content. Such practices may be adopted as an alternative of, or as a complement to, the use of centralised content-sharing systems that belong to and are entirely operated by third parties. The term “publishing” is used here in a rather inclusive way and refers to the act of making content available online, rather than being restricted to the editorial processes that characterise, for instance, academic publishing.

It involves the use of server space, usually obtained from a web hosting provider, to create a static website or to install a content management system (CMS) such as WordPress.org in order to create a *self-hosted* site. On the contrary, a site that is not hosted independently could be exemplified by the use of a website builder entirely operated and controlled by a third party.

Origin and evolution

Independently-hosted web publishing is part and parcel of the Web as an information sharing infrastructure, with the first website and web server established in 1990 (CERN, n.d.). While the Web was originally pitched as a solution to the problem of information loss at CERN, it was more generally envisioned as a system to help scientists share and access information from distributed locations across the world (Berners-Lee et al., 1994; Berners-Lee, 1990). It was very soon adopted in other contexts, permeating other realms of life quicker than any other information and communication technology had ever done before, resulting in an exponential growth of internet users that went from less than 1% of the global population in 1990 to almost 50% in 2017 (International Telecommunication Union World Telecommunication, n.d.).

As revealed by Bory et al. (2016), throughout the decade of the 1990s, the discourse of the “founding fathers” of the web shifted from originally depicting their invention as: “a technological tool made by servers and based on existing data

which could be useful for specialised users”, to claiming that it was envisioned as “a new medium useful for all the people owning personal communication devices (computers) that would profit of a new living and global system of shared knowledge” (Bory et al., 2016, p. 1068-1069).

By the mid-1990s, the Web had already expanded well beyond academia. At that time, what the net artist and theorist Olia Lialina (2005) calls the “vernacular web” started to flourish when people, acting as amateur web designers, learnt to express themselves in the incipient online public sphere. In that context, long before *social media* was established as a concept, new forms of social networking emerged as websites connected to each other by means of hyperlinks, often listed as favourite links and sometimes forming circular clusters and virtual communities known as web-rings (Casey, 1998; Hess, 2007). While Geocities contributed to the rise of the vernacular web by enabling users, for the first time, to “create their own web pages without having to worry about the intimidating acronym soup of FTP, HTML, and the like” (Milligan, 2017, p. 137), much of that happened by means of independently-hosted websites and domain names purchased by their owners.

Issues currently associated with the term

Over the last three decades the Web has experienced significant socio-technical changes, and beyond those shifts, a mythology of radical transformation embodied in the “discourse of versions” (Allen, 2013), from 1.0 to 2.0 and so on, has become widely accepted. However, the basic architectural principles underpinning the Web have remained fundamentally unchanged. As Kenneth Goldsmith, the founder of UbuWeb, a veteran website amassing avant-garde materials since 1996, reminds us:

“There’s a commonly held idea that it is impossible to be independent on the web anymore ... What we tend to forget is that the bedrock architecture of the web is the same as it was decades ago. Everything I did twenty years ago on UbuWeb I still do today in an identical way, using the identical programmes, languages and tools. What was possible for UbuWeb in the beginning is still possible today” (Goldsmith, 2020, p. 22).

Openness and *decentralisation* are two core principles of that architecture. In April 1993 CERN put the key software components of the Web (the basic line-mode client, the basic server and the library of common code) in the Public Domain and a new version of the server software was released as Open Source in November

1994: “CERN would retain the copyright to protect the software from appropriation as well as to secure attribution, but would grant to anyone the perpetual and irrevocable right to use and modify it, freely and at no cost” (Smith & Flückiger, n.d.).

Beyond software licensing, openness is a broad concept often used to characterise other aspects of the Web. In this regard, the term ‘Open Web’ highlights both the practices and technical dimensions of the Web that make it operate as a global public resource “by and for *all* its users, not select gatekeepers or governments” (Surman, 2017). As a set of normative principles or values, it advocates for a Web that is accessible to as many people as possible and ensures interoperability, as opposed to practices and platforms that delimit access by establishing siloed systems (Behrenshausen, 2017).

High levels of decentralisation, aspiring to yield a distributed network topology (Bodò et al. 2021), were key to ensuring that anyone with access to the Web could start using it (e.g. to publish content online) without having to seek permission from a gatekeeper (Berners-Lee, 1999). However, centralisation dynamics have been increasingly defining both the Web and the internet for a while now, materialising as a handful of disproportionately large actors and sites that attract most of the attention and have the power to influence online visibility (Benkler, 2006; World Wide Web Foundation, 2018). At the same time, many of those big players operate much like walled gardens, rather than following the principles of the Open Web.

Even though anyone with access to a networked computer – firewalls permitting – can still access information, share content and collaborate across boundaries beyond those walled gardens, in the current online landscape we often do these things through centralised, private, closed platforms built on top of the Web (e.g. most social media platforms), rather than working with open online infrastructures owned or controlled by ourselves (e.g. independently-hosted web publishing).

Several concepts, practices, technologies and communities have emerged to challenge the increasingly centralised topology of the modern Web. This has happened through imagining, materialising and promoting alternative – or at least complementary – ways of inhabiting the Web that do not rely primarily on private online infrastructures.

For web publishing in particular, centralisation trends mean that users tend to rely on platforms that are heavily controlled by others. Companies offering web publishing platforms usually work with proprietary systems with limited interoperabil-

ity by design, meaning that it is not easy for users, or at all possible, to migrate a site to another system.

We propose ‘independently-hosted web publishing’ as a term that can appropriately describe “affirmative disruption” (Hall, 2016) in relation to practices enabling a diverse range of individuals, collectives and initiatives to adopt alternatives to centralised modes of sharing content online. As it is not an established term within neither the academic literature nor common parlance, in the next section we discuss some related concepts and systems that may involve independently-hosted web publishing.

Related concepts

Media practices involving information and communication infrastructures established or controlled by users and grassroots communities, instead of third parties (whether the state or commercial entities), are far from new. Indeed, they predate both the Web and the internet. In this regard, by mobilising such alternative infrastructures, *emancipatory communication* seeks “to circumvent the politics of enclosure and control enacted by states, regulators, and corporations” (Milan, 2019 , p. 1). Classic examples span across analogue and digital media, from print media and pirate radio stations to activist web-based initiatives, such as the Independent Media Center (Indymedia) network of grassroots journalism made of local groups around the globe (Pickard, 2016).

Autonomy, as in autonomous media (Langlois & Dubois, 2005), is another relevant term to describe practices based on the creation and use of information and communication technologies that are independent from dominant institutions. Likewise, Temporary Autonomous Zones (TAZ) was a highly influential concept within the cyberculture and net art scenes of the 1990s (Sastre, 2020; Sellars, 2010).

The increasingly centralised topology of the Web has been met with calls for alternatives that enable some level of autonomy from hegemonic online infrastructures. The idea of *Public Service Internet* platforms is one of those alternatives, where “users manage their data, download and re-use their self-curated data for reuse on other platforms [... which] minimise and decentralise data storage and have no need to monetise and monitor Internet use” (Fuchs & Unterberger, 2021, p. 13).

Likewise, free and open source communities have developed a number of federated and decentralised social networking and content-sharing systems, such as Dias-

pora, Hubzilla, Peertube or Pixelfed. One of the most prominent examples is Mastodon, positioned as an alternative to Twitter that allows communities to host an instance of the software in servers they control while still allowing interaction across instances thanks to its federated nature (Raman et al., 2019; Zulli et al., 2020). The fact of not being driven by profit-generation, while being sustained by voluntary contributions from their communities – instead of selling targeted advertisement or relying on venture capital investments – takes personal data collection out of the equation. At the same time, the decentralised and open source nature of these systems, where anyone can host an instance, may protect their communities from the kinds of losses experienced by users of the many commercial platforms that have gone out of business over the last decades (e.g. Geocities, Wikispaces or Google + to name just a few).

In this context, establishing an independently-hosted web domain can be understood as another way for individuals, and collectives, to gain more agency and control over their online presence and to enhance their autonomy from centralising forces. That is the premise of the *IndieWeb* movement (Finley, 2013; Gillmor, 2014), initiated in 2011 as a “people-focused alternative to the *corporate web*” and “based on the principles of owning your domain, using it as your primary identity, to publish (sic) on your own site (optionally syndicate elsewhere), and own your data” (IndieWeb, 2021).

The IndieWeb effectively advocates for independently-hosted web publishing as opposed to relying on web building platforms such as Google Sites, SquareSpace, Tumblr, Wix or even WordPress.com – just to mention a few services that are active these days, but the same logic would apply to platforms that were popular in the past and are not longer operating, such as Geocities or Posterous.

Beyond proposing a new label for what can be regarded as relatively old practices, the IndieWeb community supports the integration of independently-hosted websites with the siloed platforms that make up the social media ecosystem, developing technologies that enable “the practice of posting content on your own site first, then publishing copies or sharing links to third parties (like social media silos) with original post links to provide viewers a path to directly interacting with your content” (IndieWeb, 2021).

In the realm of education, other terms have been proposed to advocate for the adoption of similar practices with the aim of enhancing digital competence and autonomy. For example, Campbell talks about *personal cyberinfrastructures* when he suggests providing students with hosting space and their own domain as soon

as they start their studies:

Suppose that when students matriculate, they are assigned their own web servers [...] As part of the first-year orientation, each student would pick a domain name [...] students would build out their digital presences in an environment made of the medium of the web itself. [...] In short, students would build a personal cyberinfrastructure— one they would continue to modify and extend throughout their college career—and beyond. (Campbell, 2013, p. 101–102)

These are also the ideas underpinning the concept of a *Domain of One's Own* (Udell, 2012; Watters, 2016a). Inspired by Virginia Woolf's claim that the independence enabled by a private room is one of the essential material conditions required for being an author (Woolf, 1931), similar thinking was applied to life in the digital age when coining this phrase to refer to "the practice of giving students, faculty, and staff the opportunity to obtain a domain with hosted web space of their own" (Groom et al., 2019). Therefore, the word *domain* in that phrase does not refer to just domain names, as independently-hosted web publishing is also inherent to the concept. The premise is that it may "empower teachers and students to engage in digital literacies while maintaining ownership over their digital identities" (O'Byrne & Pytash, 2017, p. 499).

Also within academia, it is worth noting a number of open source software development initiatives that enable scholars and institutions to adopt independently-hosted (academic) web publishing practices. Projects like the Open Journal System, Manifold or Scalar are based on a distributed model that allow anyone to download and deploy the software (Maxwell et al., 2019), offering an alternative to the commercial entities that dominate the scholarly communication ecosystem.

Conceptual limitations

Ownership and decentralisation are key aspects to the notion of independently-hosted web publishing and the related terms discussed above. However, the accuracy of both properties might be questioned due to the fact that in most cases such websites actually live in facilities that are still operated by third parties, usually not even in the infrastructures of the hosting providers contracted by the websites' owners but in data centres that belong to other companies, which might well be one of those big players responsible for the centralising trends that define the Web these days (e.g. Amazon). Likewise, domain names are not actually bought in

perpetuity, but leased over a period of time, so at best they can be conceived as temporary (whether more or less durable), rather than permanent, autonomous zones.

Addressing some of these points, Watters (2016b) argued that the idea of *owning* a domain and hosting space should be understood in the context of a post-ownership and subscription economy. Instead of the legal implications of ownership associated with the notion of *property*, she argues that in this context the verb *to own* should be interpreted as “to have authority and control”. After all, even if it is the kind of control that comes with *lease* instead of property, it offers a higher degree of ownership and autonomy than online infrastructures completely governed by third parties.

Conclusion

Independently-hosted web publishing practices entail the use of websites made available online through infrastructures that – despite being usually outsourced to a hosting provider – are largely controlled by the website’s owners, allowing them to make substantial architectural decisions. Most importantly, they can seamlessly transfer their activity to alternative infrastructures at any time. This usually involves owning a domain name too and its independence from fixed infrastructures enables decentralised forms of communication, by not requiring them to rely on the platforms that dominate content sharing in the modern Web. The term *independent* is considered more appropriate than *self*, as in self-hosted, considering the latter can give the wrong impression that it only refers to situations where the owners of a website decided to physically host it on hardware that is physically controlled and managed by them.

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