

Revision-Controlled Journalism

Version Control Systems (VCS) – Open Source Intelligence (OSINT) - Open Source Software (OSS)

VERSION 2 – February 1st 2018

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A form of online journalism which utilizes **version control systems** (VCS) for the purposes of contemporaneous time-stamping and tracking changes to a story. Ideally, this model would be implemented using **open-source intelligence** (OSINT), **open-source software** (OSS), and “copyleft” or Creative Commons (CC) licensing within an open participatory network.

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It is essential to avoid either government or private forms of censorship or 'Ministries of Truth'. [Redacted text]

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IMAGE: The redacted final page of “[Background Note on the subject of ‘fake news’](#)” (February 17th 2017) by the European Commission’s [Directorate-General for Communication Networks, Content and Technology](#), released on June 12th 2017 in response to a [Freedom of Information request](#) by [Arne Semsrott](#). “Ministries of Truth” is a literary reference to the propaganda department in Orwell’s ‘[1984](#).’

THE 'FAKE NEWS' PROBLEM

*“The concept of news will evolve and will be redefined in the twenty-first century by new and emerging players, with news being regarded not just as ‘current’ information but also as ‘currently available’ information.”*¹

More than a year has now passed since I published the **Version 1** proof-of-concept document on revision-controlled journalism.² In that time, the neologism “fake news” has gained popular attention across the world. Deficits in media literacy are certainly not new; at the same time, the emerging alternative media, often fostered by scepticism of mainstream narratives, still varies in its commitment to vigorous evidence-based reporting. With the rise of monetisation through advertising, the prevalence of [churnalism](#) – a game of “[pass the message](#)” that media across the political spectrum (both old and new) play on a daily basis – has become more flagrant. Yet the free flow of information also offers opportunities for citizen journalists to not only debunk popular falsehoods, but expose and confront their most influential purveyors.

When journalists are not transparent about the sources from which their narratives originate, trust is more easily abused and undermined. While my goal in outlining this new model for journalism is to support all the core principles, I primarily focused on the discipline of verification: *“The method is objective, not the journalist.”*³

Though this isn't about “objective journalism,” but transparency in narrative formation. This isn't about being free from bias, but rather making narrator biases as evident as possible. Trusting the narrator's interpretation becomes optional. The assumption that the discipline of verification is an exclusive and unquestioned responsibility of institutional authorities is discarded; to help prevent a “crisis of replicability,” everyone should be provided with the opportunity to verify analyses and act as final arbiters.

*“Some have been tempted to see the dispersion of interpretative power as a problem: this, too, is mistaken.”*⁴

ELEMENTS OF THE MODEL

Version Control Systems

Change-tracking software which saves all previous versions of a file or collection of files, allowing for review of & reversion to past iterations

While primitive forms of revision control are embedded in a variety of word processing applications, this pre- or post-publication revision process is rarely shared with readers. This element, where full or partial access to revision history is made available, would provide a kind of ‘proof-of-work’⁵ (if you like) for journalism. Even though someone could still replicate the content of a piece, they could not easily replicate the history of tracked changes or fabricate the chain of timestamps attributed to the original author(s) – especially if an external state transition anchor, like the Bitcoin blockchain, was incorporated.

Version control systems have been adopted to some extent for use cases (ex. Wikipedia) other than software development and management, though there is currently little to no adoption among online journalists. The use of revision control as a tool should help to illuminate the level of robustness a responsible journalist should already be expected to practice, and not necessitate additional burdens or effort but rather a reorganisation of their workflow.⁶

Open-Source Intelligence

Data collected from publicly-available sources

The concept of open-source intelligence is defined by the availability of data during collection, and not necessarily what is then done with that data once it’s been organised and analysed. In practice, the term has been used by journalists and researchers who not only base their analysis on publicly accessible information but make an effort to transparently present that source information to their readers. Online journalism has yet to even fully realise the potential of one of the intrinsic advantages in using web platforms over print-based media: hyperlinking.

Source verification and consideration is one of the primary mechanisms through which ‘fake news’ is identified.⁷ This element would not only include third-party sourcing but also primary sources and documents provided directly by the journalist, which may or may not have previously been public elsewhere.

Open-Source Software / Hardware

Software or hardware available under a license that specifies user rights to study, change, and distribute full or partial copies of the source code for commercial or non-commercial purposes

Just as it is important to build an ecosystem where readers and other journalists are able to inspect, verify, and distribute written works under this model, it is essential that the tools used allow for the same scrutiny and respect for user autonomy.⁸ It could be argued that revision-controlled journalism cannot be as effective as intended unless the software and hardware employed within that process can itself be inspected, verified, and widely distributed.

The use of permissive licensing is orthogonal to building such an ecosystem, as the terms under standard copyright law are normally too opaque and restrictive regarding adaptations and distribution.⁹ Journalists or journalistic outlets who publish their content under Creative Commons, or even a more protective “copyleft” scheme, will lower the cost of granting permission within a collaborative environment, just as free software licenses have within the open-source software community. Such licensing schemes are also more reciprocal in terms of contributing knowledge back into the commons.

Open Participatory Network

Open-access collaborative platform

The primary goal is to articulate and advocate for this new model so that it may be adopted by individual journalists and potentially even journalistic organisations. Because this model is comprised of multiple elements (as outlined in this document), each journalist can customise the model to their own preferences depending on their technical skills and level of commitment to the ideals it supports.

However, the long-term goal is to meld these elements together as an initiative of combinatorial innovation, by uniting the necessary tools into a decentralised platform and accompanying client software so that it is easier to incorporate the model.

AN OVERVIEW OF TOOLS



*Note: Other open-source, distributed version-control systems (ex. Mercurial) would also fit this model. **Git** was chosen due to its popularity, and hence interoperability, with other platforms.*

<https://git-scm.com/>



GnuPG is an OpenPGP-compliant symmetric and asymmetric cryptography software and key management system for encrypting or signing messages and files.

<https://gnupg.org/>



A free and open-source “trust minimised” timestamping service and standard using the Bitcoin blockchain, to establish a proof that some data existed prior to some point in time. It can be used in tandem with web archival services.

<https://opentimestamps.org/>



The “InterPlanetary File System” is a peer-to-peer hypermedia protocol for decentralised git-like historic versioning, content delivery and addressability via a human-readable naming system called IPNS.

<https://ipfs.io/>



Keybase is a cryptographic key directory and social media identity management service; it also offers encrypted chat, file sharing, and cloud storage.

<https://keybase.io/>



LOOKING GLASS

LookingGlass is an interface for full-text search and tag filtering of document archives, built by Transparency Toolkit.

<https://github.com/TransparencyToolkit/LookingGlass>

ACKNOWLEDGEMENTS

Thank you to those who reviewed drafts and contributed feedback prior to publication!

1. Hopeton, S. Dunn (2013) “Something Old, Something New...”: WikiLeaks and the Collaborating Newspapers – Exploring the Limits of Conjoint Approaches to Political Exposure.” *Beyond WikiLeaks: Implications for the Future of Communications, Journalism and Society*, pg 86.
2. Römer, Janine (22 July, 2016) “Revision-Controlled Journalism – Version 1.” <https://einzelgaengerinmotte.files.wordpress.com/2015/09/versionrevision-controlled-journalism1.pdf>
3. Pew Research Center (2013) “Principles of Journalism.” Archived on 9 March 2015: <https://web.archive.org/web/20150309230206/http://www.journalism.org/resources/principles-of-journalism/>
4. Colvin, Naomi (2017) “The Logic of Leaks, Reconsidered.” *LIMN Issue Number Eight: Hacks, Leaks, and Breaches*: <https://limn.it/the-logic-of-leaks-reconsidered>
5. I drew inspiration from proof-of-work (PoW) as a computational process for preventing network abuses, particularly considering its integral role in many blockchain systems like Bitcoin. There is even a running joke that Git is “[loosely speaking](#)” a blockchain due to its incorporation of Merkle hash trees. Several individuals are credited with the technical or conceptual inception of PoW – [Cynthia Dwork & Moni Naor](#) (1992), [Adam Back](#) (1997), [Markus Jakobsson and Ari Juels](#) (1999). However this line from Jakobsson and Juels’ abstract, which coined the term, is the most relevant in drawing a relationship to the value of version control in journalism: “*A prover demonstrates to a verifier that she has performed a certain amount of computational work in a specified interval of time.*”
6. I anticipate, similar to what is shown in this video, that the simplified workflow pattern will shift from an “*edit > edit > publish*” process to a “*publish > edit > edit*” process. However, either process could be compatible. Cunningham, Ward (19 May, 2015) “Keynote: The Federated Wiki.” *Write the Docs 2015*: <https://youtu.be/3nB8ml6UowE?t=41m2s>
7. International Federation of Library Associations and Institutions (2017) “How To Spot Fake News.” *IFLA Publications Series*: <https://www.ifla.org/publications/node/11174>
8. The Free Software Foundation - “*What is Free Software? The Free Software Definition.*” <https://www.gnu.org/philosophy/free-sw.html>
9. Hiltzik, Michael (27 July, 2015) “Georgia claims that publishing its state laws for free online is 'terrorism'.” *Los Angeles Times*: <http://www.latimes.com/business/hiltzik/la-fi-mh-state-of-georgia-copyright-wall-20150727-column.html>

This document is mirrored on GitHub:

<https://gist.github.com/Enegnei/a33e8c11e6bd23ac7b367a57b895d077>