Welcome to linker.bio

The internet is a powerful tool to exchange digital information. But content available through the internet changes constantly: websites are launched and taken down, webpages change, and content gets archived or lost.

We need a logical connection between the problem you’ve just introduced (the issue of info loss on the internet) and the definition you bring up next (the distinction between the content-verse and the internet.) It seems to me like you should go into defining the content-verse and explaining how it’s different from the internet before ever mentioning linker.bio. That way, you have oriented your reader and made them aware of the problem, which sets them up to accept your solution.

https://linker.bio builds a bridge from the exciting, dynamic internet to its reliable, boring, cousin—the content-verse. Need to define what the content verse is exactly. In this content-verse, digital fingerprints (this term definitely needs defining. Possibly a whole paragraph, because understanding this term is pretty crucial to understanding your solution) are used as links (you’re using this word literally to mean link/bridge, but I thing most people will assume you mean the colloquial term for a URL, so I’d reword to be a bit more precise) instead of resource locators (or URLs). Contrary to URLs, these digital fingerprints do not breakor expire.

Where the internet excels in spreading new information, the content-verse excels at referencing known information. (explain this a bit more, perhaps with an analogy to a library?)

On the internet, you’d say:

“I’d like to get the latest content from this web location.” (this example needs to be more specific. Most people don’t use the word “content” like we might… and “web location” is also not an obvious term)

and trust that the retrieved content is what you asked for.

In the content-verse, you’d say: (so is the content verse something that already exists? Is it parallel with the internet? Is it just a different way of using the internet?, just asking these questions to help you define it higher up)

“I’d like to get the content associated with this fingerprint.”

and you can verify that the retrieved content is exactly what you asked for by doing…

Through digital fingerprints, linker.bio provides a bridge to access billions of openly available biodiversity data records, millions of Open Science publications through Zenodo, more than eight hundred thousand datasets via DataOne, billions of open source files from Software Heritage Library, and more than ninety seven million freely usable media files from WikiMedia Commons.

The beauty of digital fingerprints is that in fifty years from now, you may use that same fingerprint to find that information, regardless where it may be located, or how it is stored or transmitted.

How to Request Content

https://linker.bio/ helps to request information, wherever it may be, using a notation like:

https://linker.bio/[fingerprint][.extension]

The extension is optional.

Examples

For instance, to get a copy of a scientific paper, you can ask for:

https://linker.bio/hash://sha256/f849c870565f608899f183ca261365dce9c9f1c5441b1c779e0db49df9c2a19d.pdf.

or, to get a copy of a scientific dataset, like a historical CO2 Record from the Vostok Ice Core, you can ask for:

https://linker.bio/hash://md5/e27c99a7f701dab97b7d09c467acf468

or, perhaps even better, you can also ask for a picture of a 🐇 (Oryctolagus cuniculus) by JM Ligero Loarte -

https://linker.bio/hash://sha1/86fa30f32d9c557ea5d2a768e9c3595d3abb17a2.jpg.

or, to review an initial draft of the Hash URI Specification by Ben Trask -

https://linker.bio/hash://sha256/3fee21854fb6d81573b166c833db2771b21f0c77daa3095aab542764d89c94c1

or, if you are ambitious, you can retrieve a digital corpus containing billions of biodiversity records via:

https://linker.bio/hash://sha256/a755a6ac881e977bc32f11536672bfb347cf1b7657446a8a699abb639de59419.

It’s cool you give clickable examples, but as a reader, I’m left wondering how in the world I or anyone else would know or find these long strings of numbers and letters that take you to the desired information. At the top of the example list you say “you can ask for:” and I just don’t know how I’d know to ask for that hash,

For more information and background, see:

Elliott, M.J., Poelen, J.H. & Fortes, J.A.B. Signing data citations enables data verification and citation persistence. Sci Data 10, 419 (2023). https://doi.org/10.1038/s41597-023-02230-y hash://sha256/f849c870565f608899f183ca261365dce9c9f1c5441b1c779e0db49df9c2a19d

linker.bio is not the only bridge to the content-verse. In fact, linker.bio re-uses existing bridges provided by Zenodo, DataOne, WikiMedia Commons, and Software Heritage Library to the massive amount of content they keep. Note also that Carl Boettiger maintains a bridge from R to the content-verse via the R package contentid.↩︎

Digital finger prints are cryptographic objects that are mathematically linked to the content they reference. They can be generated with most digital devices. And, by embedding fingerprints into other digital content, you can pretty much reference anything and everything digital using a digital fingerprint that fits on a T-shirt.↩︎ This definition should be up in the main copy… but we still need to know what cryptographic means, and what you mean by “fits on a T-shirt”.

Biodiversity records include snapshot versions of digital collections registered with iDigBio, GBIF, BioCase, Biodiversity Heritage Library, OBIS and CheckListbank↩︎

In other words, digital fingerprints are agnostic of location, technology, and … time.↩︎

To compile this corpus from their referenced parts, you may benefit from using a tool like Preston.↩︎