

Evaluating the State of Web Monetization Adoption

An Analysis of the 2024 WM Landscape

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MIT PRIMES CS/Bio Research Track

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 - Web Scraping
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W3C's Web Monetization API

Web Monetization (WM) API

A method for compensating online content creators; an alternative to ad-based or subscription models to pay for viewership.



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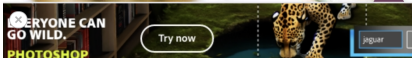
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Sophia Lichterfeld

nytimes.com



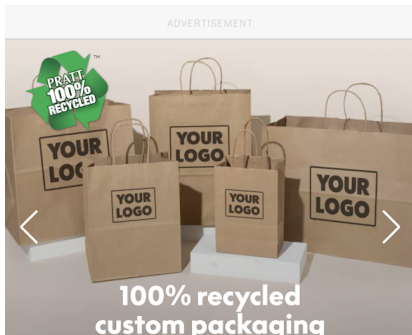
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329

companies can make smart investments and continue to deliver reliable electricity for all Americans.”

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Evaluating the State of Web Monetization Adoption

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Web Monetization (WM) API

Purpose

Establishing a decentralized, standardized, and accessible model to pay for online content direct micropayment streaming.

User-Side

- no ads distracting from the content or collecting user data (privacy)
- no paywalls
- no need to manage subscriptions

Owner-Side

- practical for small websites/businesses
- earn the same amount of revenue as with ads
- can incentivize higher rates with extra features

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Barriers to Adoption

- unfamiliarity with cryptocurrencies or online wallets; difficulty setting up and adding payment pointer
- cycle of adoption hesitance

Leveraging the Escrow-Holding Abilities of Ethereum Smart Contracts to Incentivize Account Creation for the Widespread Adoption of Web Monetization Schemes

Sophia Lichterfeld¹, Garima Rastogi², and Kyle Hogan³

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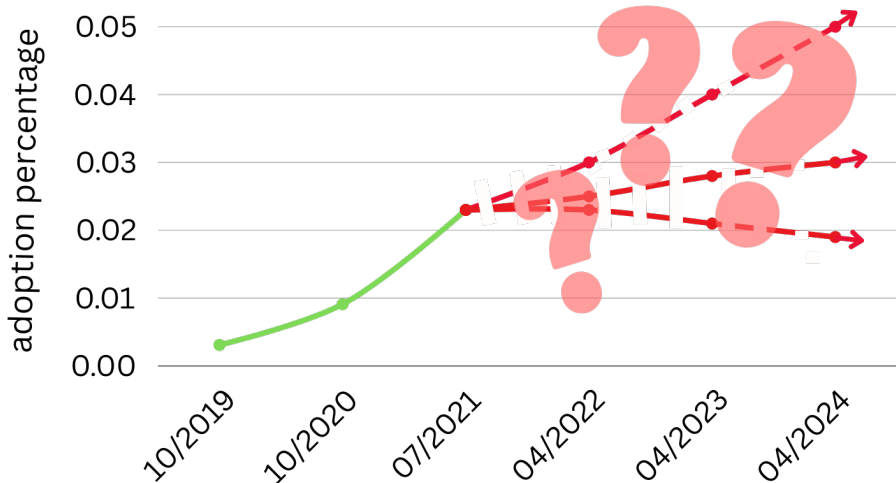
Requirements

- 1 WM Agent, WM Provider, and WM Receiver
- 2 Correctly formatted payment pointer in website HTML head; indicator of adoption

```
<link rel="monetization" href="https://wallet.example/alice" />
```

Past Analyses

source: The HTTP Archive



Web Scraping

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The automated extraction of data or information from websites.

Link to GitHub: <https://github.com/s-lichterfeld/PRIMES-2024>

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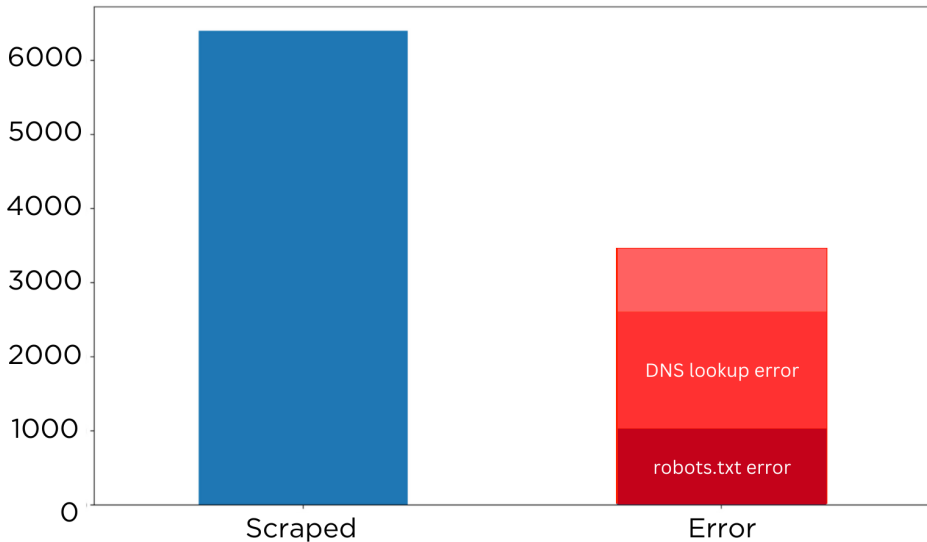
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- 1 began with a list of start URLs to go through one by one,
- 2 searched for and selected the payment pointer from each website's HTML based on the request for the meta tag,
- 3 saved the data by URL, date and time of scraping, exit status, whether it was monetized, the payment pointer, and the wallet provider.

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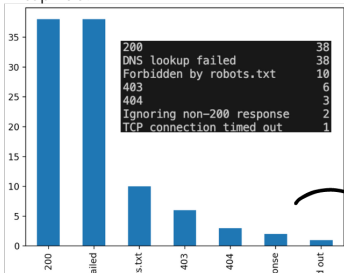
Challenges

Scraper Results

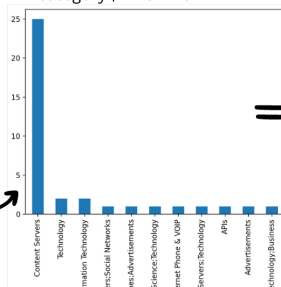


Error Analysis

top 100:



category | DNS Error:



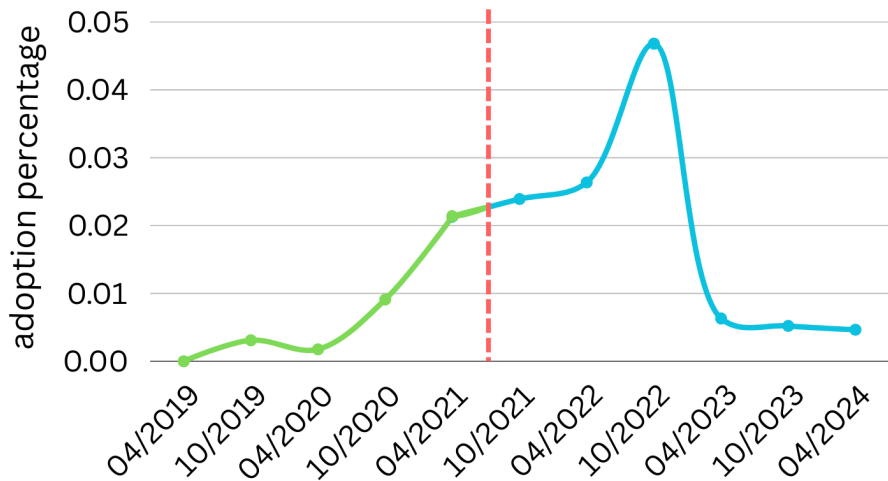
⇒ sites with DNS
Lookup Error were
not user-facing

Observations

- of Cloudflare's 100 most popular sites, only 38 were successful
- DNS and robots.txt forbidden errors most common
- sites with DNS lookup error were not user-facing
- sites with DNS error could also not be accessed when checked manually in browser

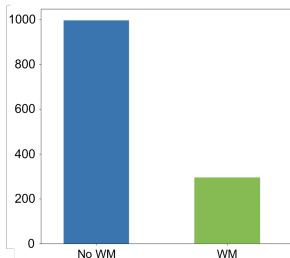
HTTP Archive

WM Adoption Trends

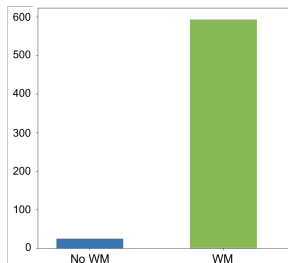


Scraper Check

Current Monetization Status of HTTP Archive URLs



Scraper on HTTP Archive 2021

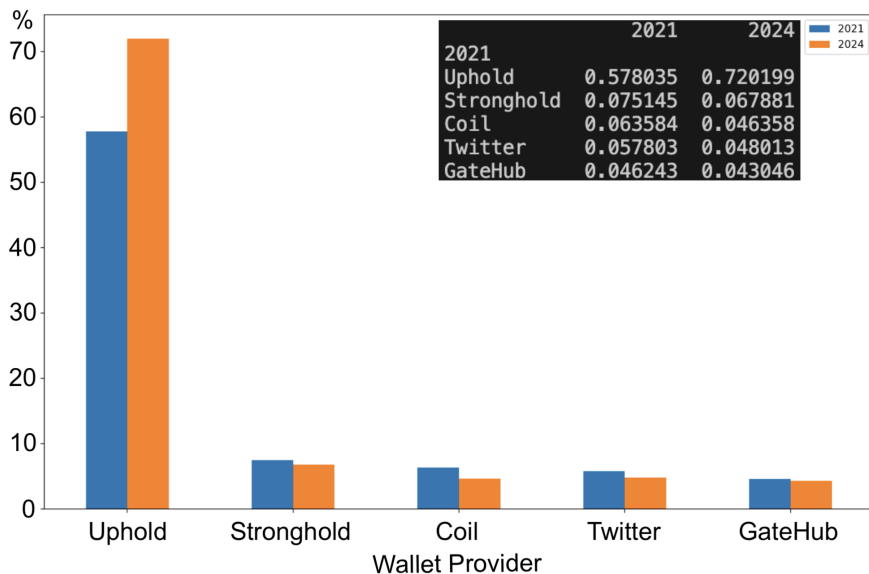


Scraper on HTTP Archive 2024

Observations

- checked whether our scraper agrees with HTTP Archive on the monetization status of sites
- many sites that had WM in 2021 have removed it from their sites
- recognized "good bots" access more sites than standard web scrapers

Wallet Providers



Future Work

Remaining Questions

Adoption Trend

Why was there a stark decrease in WM adoption from 2022 to 2023?

- How can we counteract that trend?
- <https://github.com/s-lichterfeld/PRIMES-2023>

Site Category

What types of sites implement WM most frequently?

- Cloudflare URL Scanner or Whois Query

Following Payment Pointers

- Monetization meta tags can only act as a proxy for WM adoption
- Do the provided payment pointers work, especially in sites with WM retention from 2021? Are the wallets still active?

Conclusions

Impact

Takeaways

- spot-checked results by running our scraper on the list of HTTP Archive monetized URLs
- importance of reputation of "good bots" for organizations such as HTTP Archive to increase efficacy and utility of scraping data
- unexpected WM adoption downturn is unexpected but not resolute
- what other alternatives could we employ to compensate content creators without ads



Link to GitHub: <https://github.com/s-lichterfeld/PRIMES-2024>

Acknowledgements

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