

Name: mcp-416-cswg-workshop-ipfs-and-promisegrid

Title: IPFS and PromiseGrid


Status: Draft -- anyone can edit.

See the [MCP index](#) to create or find documents, or [mcp-0-readme](#) for an overview.

The headers above are machine-readable; please preserve format.

Text checkins

- Steve
 - Cranking on IPFS code for grid-poc
 - Nearing re-solo
 - Steve mentioned some books in the check-in discussion
 - After Hegemony (full title: After Hegemony: Cooperation and Discord in the World Political Economy), by Robert Keohane first published in 1984
https://en.wikipedia.org/wiki/After_Hegemony
 - Makers, the New Industrial Revolution by Chris Anderson
<https://www.barnesandnoble.com/w/makers-chris-anderson/1110929761>
 - Pgp: Source Code and Internals by Philip R. Zimmermann
 - Authors preface to this out of print book:
<https://philzimmermann.com/EN/essays/BookPreface.html>
 - Gizmocooper project <https://www.linuxjournal.com/article/4549>
 - Not actually mentioned by name, but on double entry bookkeeping
https://en.wikipedia.org/wiki/Della_mercatura_e_del_mercante_perfetto,
"Cotrugli wrote in his bookkeeping and merchandising trade manual that not only must a merchant be a bookkeeper-accountant, but that he must also be a good writer, a rhetorician and a man of letters being diplomatic all the while"
 - Another book, probably the more famous first published book on double entry bookkeeping
https://en.wikipedia.org/wiki/Summa_de_arithmetica
 - https://en.wikipedia.org/wiki/In_the_Beginning..._Was_the_Command_Line
 - Available on Github
<https://github.com/danielmkarlsson/library/blob/master/Neal%20Stephenson%20-%20In%20the%20Beginning%20was%20the%20Command%20Line.pdf>
- JJ
 - Went to a networking event for AI in banking this morning.
 - Got an AWS EC2 server in London
 - Doing lots of scraping using GoLang.

- Data analytics to help archive profiles and boost group enrollment before final stats are locked.
- Making plans for the final days of <https://urbandead.com/> after over 20 years. The game is shutting down because of the EUs requirements of the [Online Safety Act](#)
- Donaldo
 - Got a Seeed ESP Cam board, making a mini-bot
 - possibly make it a kit? Deciding whether it should be solderless kit or not
 - Looking at a [motor controller](#) design from a creator
 -  Make using N20 DC gear motors EASY with this add-on! (it'...
 - My first attempt ordering on PCBWay, seems only economical if I order +20 of them, though I could sell them at Robotics Group / Amazon? (I might message the designer on his Discord)
 - Caught cold Friday, pretty unproductive since, almost back
- Rebecca
 - Dust storm in Albuquerque last week, radio/phone emergency alert level of intensity, was really not feeling well
 - Was feeling like I was recovering over the weekend
 - Monday had an asthma-like thing and ended up going to urgent care
 - I have been resting a lot today, feel like I'm up for being on the call but if I have to tap out that is what is going on
 - Working on a test equipment build for in-town job, rebuild to fit in new office
 - Makerspace is feeling like it is going well, more put together, more of a feeling of excitement and possibility.

Plan lineup for following weeks

- 18 Mar: JJ: Design Patterns (and gdocstools?)
 - Concepts
 - slides
 - Use cases
 - Architecture
 - Code
 - demo
- 25 Mar: Donaldo: Blockchain Basics
- 21 Mar – 12 Apr: Steve running business solo
 - Best if we have everyone else take those Tuesdays (21 Mar, 01, 08 Apr)
- TBD: hands-on workshop with IPFS and PG
 - Three alternatives:
 - Codespaces
 - Vesta
 - Native machines
 - If this, then we'd want to set up each on prior thursday

- TBD: Steve: USAF CDC and training records walkthrough
- TBD: Donaldo: PromiseGrid Use Cases
- TBD: IoT and PromiseGrid
- TBD: Roadmap, outreach, videos (see Donaldo's WB from 06 Mar)
- Note: we also want to keep an eye on the MIT roundtable events, nothing more scheduled for events but this page has all their past events
<https://www.media.mit.edu/projects/decentralized-ai/events/>
- Other User Stories
 - Virtual Desktops for collaboration
 - Education Platform for spaces
 - IoT for Makerspace management
 - Incentives to keep space/machines clean
 - Accounting software for a small business
 - This is essentially a GAAP, reporting, shipping, inventory, time tracking and scheduling, etc. layer on top of the low-level accounting bits.
(including payroll is probably harder since it involves tax codes)
 - Lean implementation
 - An e-commerce website
 - Product pages are promises
 - Dynamic pricing matrix; qty, 10% for expedited shipping, etc.
 - Managing server load across 'good' and 'bad' client requests
 - The kv store, IPC, accounting, exchange rates, promise fulfillment chain of how the entire stack works as mentioned on 16 Jan in
https://docs.google.com/document/d/1IQHU_rXrMLsclxIF_n77Lvym3k9C_c-mOS5ZLB7XtM/edit?tab=t.0
 - 3D print shop (see Donaldo's WB doc)
- What features do our primary users (makerspaces/SMB owners) need?
 - E.g. cdint
 - Related to Makerspace Business Models from IoP

IPFS and PromiseGrid

- IPFS/IPLD ecosystem
 - like minds, healthy community
 - may be an even better fit than e.g. MIT decentralized AI roundtable folks
 - or DevOps
 - hash-based decentralized content-addressable storage
 - just like PromiseGrid
 - hashes are expressed as Content IDs (CIDs)
 - was already thinking to use CIDs for PromiseGrid
 - CIDs are also used by bluesky
 - <https://atproto.com/specs/data-model>
 - IPFS data structure is a decentralized directed acyclic graph (DAG)

- was considering a DAG for PromiseGrid's basic structure
- [DHT Hash visual](#)
- DAG links are expressed as Interplanetary Linked Data (IPLD) items
 - Linking together multiple CIDs by creating a Base CID that records the relationship of the CIDs with each other
 - I was already thinking to use IPLD for PromiseGrid DAG links
 - IPLD is also used by bluesky
 - <https://atproto.com/specs/data-model>
- rich ecosystem
 - including IPFS-based WASM decentralized computation platforms, including AI bits:
 - <https://github.com/bacalhau-project/bacalhau>
 - <https://github.com/IceFireLabs/WASM-IPFS-SentientNet>
 - lots of overlap between IPFS and bluesky dev communities
 - hundreds of github code search hits for Go code that mentions both bsky and ipfs:
 - <https://github.com/search?q=language%3AGo+ipfs+bsky&type=Code>
 - hundreds of other related projects using IPFS libraries as of 2023:
 - [https://github.com/ipfs/boxo/wiki/Dependents-\(consumers\)-of-Boxo](https://github.com/ipfs/boxo/wiki/Dependents-(consumers)-of-Boxo)
- most IPFS ecosystem code is in Go
- bluesky borrowed from IPFS:
 - CBOR
 - DAG-CBOR
 - [multicodecs](#)
 - [multihashes](#)
 - CIDs
 - ...all of which I was already trending towards for PromiseGrid
 - Other developers likely to be learning and using these things already, because of the popularity of bluesky

IPFS in the wild

- Steve notes that there is a lot of discussion online where people are confusing IPFS and freenet
- Rebecca mentions <https://ipfs.tech/> as having interesting examples of how people and organizations are using IPFS
-