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Coding Languages

ops

3yr ● ● ● ● [Nushell](#) .nu
3yr ● ● ● ● [Nix](#) .nix
15yr ● ● ● ● [Bash](#) .sh

apps

3yr ● ● ● ● [Elixir](#) .ex
1yr ● ● ● ● [Rust](#) .rs
10yr ● ● ● ● [Ruby](#) .rb
12yr ● ● ● ● [JavaScript](#) .js
8yr ● ● ● ● [React](#) .jsx
3mo ● ● ● ● [Gleam](#) .gleam
1mo ● ● ● ● [Go](#) .go
4yr ● ● ● ● [Python](#) .py
4yr ● ● ● ● [Java](#) .java
3yr ● ● ● ● [C / C++](#) .cpp

records

12yr ● ● ● ● [Git](#) .git
12yr ● ● ● ● [Postgres](#) .sql
3mo ● ● ● ● [Neo4j](#) .cypher
10yr ● ● ● ● Markup *
10yr ● ● ● ● USLM .xml

graphics

3mo ● ● ● ● [D3](#) .js
6mo ● ● ● ● [D2](#) .d2
3mo ● ● ● ● [Friction](#)
6hr ● ● ● ● [Typst](#) .typ
6hr ● ● ● ● [Design](#) .svg

3D

2yr ● ● ● ● [FreeCAD](#)
1yr ● ● ● ● Shaders .glsl
2yr ● ● ● ● [Blender](#)

Since 2023: Cyber Nomad.

Ongoing

Cyber Research, communication resilience

[Operand Company](#)

- Near-daily code releases focused on daily operations and deployment.
- Demo streams on YouTube displaying the daily-use experience.
- Scheduled demo at HOPE 26 conference, [launching a search engine & forum](#).
- No closed-source dependencies; replace Google, Microsoft, Amazon, Meta.
- Deploy on-road using [Nebula](#) as a secure mesh network.
- Manage secure app silos, using [Incus](#) and nixos networking.

2024-04-24

2024-06

Online Lab Manager

[Assemble Company](#)

- Deploy many open-source, on-premise, online apps using [Proxmox](#).

2023-01

[Mailu](#): email [Passbolt](#): passcodes [Gitea](#): code forge [Zulip](#) & [Wiki.js](#)

2023-06

Hackathon Co-Producer

[Hyperdemocracy](#)

- Explain & explore modern machine learning ideas using public records.
- Sourced public legislation records by scraping [api.congress.gov](#).
- Helped 15 coders build an LLM app using retrieval-augmented generation.
- Deployed app on Assemble's Lab, before publishing on HuggingFace spaces.

2024-02

Secretary

[HacDC](#)

- Radically reshaped our shared space after pandemic's years of disuse:
 - demolished an unusable and hazardous bathroom.
 - repurposed space as a server-rack room.
 - and add an overhead cable bridge.
- Led migration of group wiki from legacy WikiMedia to modern [wiki.js](#).
- Launched group's social media presence on LinkedIn and YouTube.
- Co-produced a speaker series, and live-streamed recordings.

2022-10

2020 - 2023: A Brush, with the Law.

2023-02

Coding & Deployment Engineer

Clerk, US House of Representatives

- Managed issues & upgrades in [XMetaL](#), the legislation composition engine.
 - Examined thousands of keyboard-bound user macros.
- Coded modules in LIMS - the legislative information management system.
- Coded in eHopper - the legislation submission engine.
- Deployed many open-source, on-premise apps in the clerk's office.
- Managed & deployed on Red Hat Enterprise Linux machines, years outdated.
- Proposed an employee address book to the Clerk and the House Digital Service.

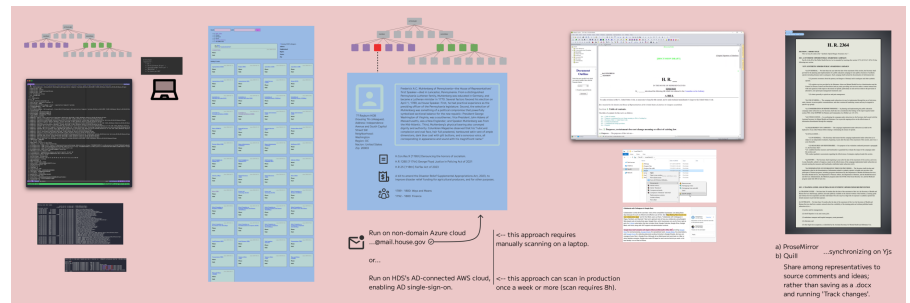


Figure 1: A diagram made to propose numerous programs to the House Digital Service. One of these, a house address book based on an ActiveDirectory scan, inspired the house-wide launch of "LegiDex" by the same office, two years later.

2021-10

2022

Collaborative Composition

[Assemble Company](#)

- Use numerous document engines to render & edit US legislative markup.
- Build a case for upgrading from the cumbersome legacy drafting program.
- Build peer-to-peer collaboration using the [Automerge](#) engine.

2016: Badging in.

- 2016-12 **Prison Occupancy Dashboard** [Code for America](#)
- combined municipal prison records to design a compelling dashboard of cell-and-bed occupancy across buildings.
 - in response to density, examined occupants with minor offenses, who may be recommended for early release.
 - plainly displayed some challenges of overpopulation based on the pace of ingress & egress.
- 2016-11 **Seattle Police Department** [Code for America](#)
- Collaborated alongside SPD's Crisis Response Unit, to inform officers through a mobile and in-car app.
 - Replaced "All Points Bulletin" emails, bringing them in-app alongside "Response Plans".
 - Help officers connect one-on-one to citizens, by supplying case information.
 - Engaged hospitals, fire departments, community resource organizations, and health programs to explore solutions.
 - Prepared a basis for the founding of [RideAlong Labs](#) through research and collaboration alongside police.
 - Led adoption of Docker to deploy in a highly secure, SPD-managed offline, isolated network.
 - Led a skills-building curriculum, based on Ruby on Rails and modern command-line programs.
 - Conformed to [FBI CJIS: Criminal Justice Information Standards](#).
 - Conformed to [HIPAA: Healthcare Information Privacy and Accountability Act](#) requirements.
 - Produced rich documentation for a hand-off to SPD IT managers and RideAlong Labs engineers.
 - Information architecture diagrams
 - Port security appraisals
 - In-app page-access and page-edit auditing procedures
- 2016-01
- Collaborated in the 2016 Data-Driven Justice Symposium, in the presidential compound's Eisenhower Executive Office Building.
- 2015-12 **Open Source: [Administrate](#)** [Thoughtbot](#)
- produced a dynamic, all-purpose admin dashboards in Ruby on Rails.
 - dedicated each Friday ("investment day") to leading design and production.
 - coordinated user interviews and focus groups to decide on scope and reach.
 - managed a global release, including blog post, podcast appearance, hacker news announcement.
- 2015-04
- channeled many eager responses through forum and issue management on GitHub.
- 2015-12 **Commissions** [Thoughtbot](#)
- [Hound](#) - Co-produced a commenting bot to nudge coding habits, inside GitHub code reviews.
 - Glassbreakers - led a skills-building curriculum, focused on pre-1.0 React.
 - [Automattic](#) - Prepared individualized displays of consumer's OBD car sensor readings. Applied personas based on driving norms.
 - [Lending Tree](#) - a simple onboarding experience helping consumers acquire home loans by describing their financial scenario.
 - [Autodesk](#) - scheduling & project management
 - Produced a Gantt chart to help Autodesk manage product scheduling across company.
 - Based application on backbone.js, a minimal library, to ensure ease of upgrade in a chaotic pre-React landscape.
- 2014-11
- [Donors Choose](#) - Designed changes to help crowd-funding teachers reach a broader audience through focused campaigns.

Humble Beginnings.

- 2014-05 **B.S. in Computer Science** [Michigan State University](#)
- Minor degree in Mandarin Chinese, including a semester abroad at [Zhejiang University, Hangzhou, China](#).
 - A focus on cybersecurity & algorithms, and a mathematics progression in combined calculus and linear algebras.
- 2010-09
- Accessory courses in electrical engineering, behavioral psychology.
- 2014-05 **Chapter VP, Association of Computing Machinery** [ACM @ MSU](#)
- produced and led hackathons and coding challenges.
 - organized a semimonthly schedule of speakers from local industry and academia.
 - managed a student mailing list on college machines, using the early linux postman programme.
- 2011-01
- enrolled in hackathons and videogame jams led by similar student groups in nearby colleges, including [Spartasoft](#) and [Mhacks](#).
- 2014-05 **Lab Research** [Michigan State University](#)
- 2010-09
- Focuses included genetic algorithms & digital evolution; crowdfunding dynamics, agent-based modeling.