

Minimal file-based note system for messy scientists

Static site generator for hyperlinked notes

Project for [Hack Day: Tools for Science 2024](#)

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**1 There are many ways to
take notes in this modern
world**

Existing solutions

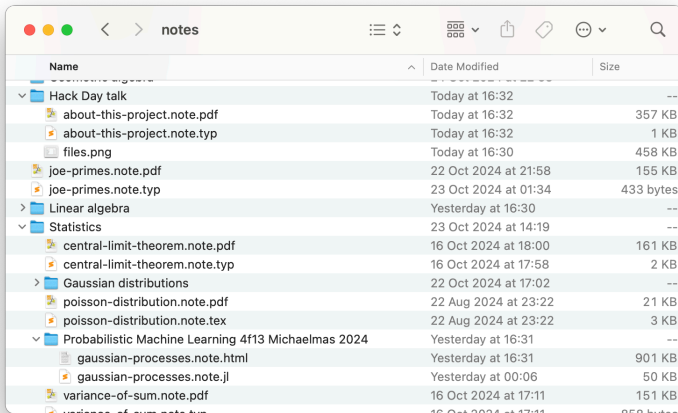
- Obsidian, <http://obsidian.md/>
 - Markdown-based
 - Extensible
- Notion, <http://notion.so>
 - All-in-one organisational tool
- “Zettelkasten” gardens, <https://notes.andymatuschak.org>
 - Highly hyperlinked webs of small markdown files
 - Beautiful web frontend
- Evernote, <https://evernote.com/>

What I want

- Format agnostic
 - Markdown files for quick notes
 - Jupyter notebooks with code and data
 - Word documents
 - LaTeX or Typst PDFs
 - Screenshots or image files with explanations
- Easy hyperlinking and cross-referencing
 - To other notes
 - Cite published material
- Free hosting, easy sharing
- Don't tell me how I should take and organise my notes!

2 The simplest useful solution

Just store notes as files



A screenshot of a macOS file browser window titled "notes". The window shows a list of files and folders with columns for Name, Date Modified, and Size. The files are organized into several folders, including "Hack Day talk", "Linear algebra", "Statistics", "Gaussian distributions", and "Probabilistic Machine Learning 4f13 Michaelmas 2024".

Name	Date Modified	Size
▼ Hack Day talk	Today at 16:32	--
about-this-project.note.pdf	Today at 16:32	357 KB
about-this-project.note.typ	Today at 16:32	1 KB
files.png	Today at 16:30	458 KB
joe-primes.note.pdf	22 Oct 2024 at 21:58	155 KB
joe-primes.note.typ	23 Oct 2024 at 01:34	433 bytes
> Linear algebra	Yesterday at 16:30	--
▼ Statistics	23 Oct 2024 at 14:19	--
central-limit-theorem.note.pdf	16 Oct 2024 at 18:00	161 KB
central-limit-theorem.note.typ	16 Oct 2024 at 17:58	2 KB
> Gaussian distributions	22 Oct 2024 at 17:02	--
poisson-distribution.note.pdf	22 Aug 2024 at 23:22	21 KB
poisson-distribution.note.tex	22 Aug 2024 at 23:22	3 KB
▼ Probabilistic Machine Learning 4f13 Michaelmas 2024	Yesterday at 16:31	--
gaussian-processes.note.html	Yesterday at 16:31	901 KB
gaussian-processes.note.jl	Yesterday at 00:06	50 KB
variance-of-sum.note.pdf	16 Oct 2024 at 17:11	151 KB
variance-of-sum.note.typ	16 Oct 2024 at 17:11	958 bytes

Just store notes as files (ii)

Mark files as notes with `.note.` in filename.

Notes can have multiple files:

- `A.note.tex` + `A.note.pdf` = A LaTeX PDF
- `B.note.typ` + `B.note.pdf` = A Typst PDF
- `C.note.md` = A standalone markdown document
- `D.note.jl` = A raw Julia script
- `E.note.ipynb` + `E.note.html` = A Jupyter notebook with exported HTML
- `F.note.jl` + `F.note.html` = A Pluto.jl notebook
- `G.note.png` + `G.note.txt` = A picture with words

(All this is currently hard-coded into the build script)

Make simple static site to host them

Put your notes in a Git repo.

Add a GitHub workflow to run this action:

<https://github.com/Jollywatt/notes-deploy-action>

When pushed, a static site is built and hosted on GitHub pages:

<https://jollywatt.github.io/notes/>

Advantages

- Notes of all different sorts can live together
- Notes get permalinks so you can link to them and cross-reference
- To add a different format, the build script can be extended
- You can build and serve the site locally as an alternative way to navigate your files
- You get free hosting if you want your notes to be public

Disadvantages

- Currently super basic and breakable
- Doesn't work with notes that you couldn't easily put on a Git repo (Google Docs, Apple Notes)

3 Next steps

Integration with Typst

To cite other notes, you can write, e.g.:

```
This was proven in #link("https://jollywatt.github.io/notes/proof-of-thing")[this note].
```

With a simple Typst package that hooks into metadata produced by the build script, you can write:

```
#import "@local/notes:0.1.0"  
#show: notes.style
```

```
This was proven in @proof-of-thing[this note].
```

Adding HTML renderers for different formats

- Renderer for plain markdown files
- A format for adding words to pictures, e.g., `idea.note.png` + `idea.note.txt` could produce an HTML page with both side-by-side.