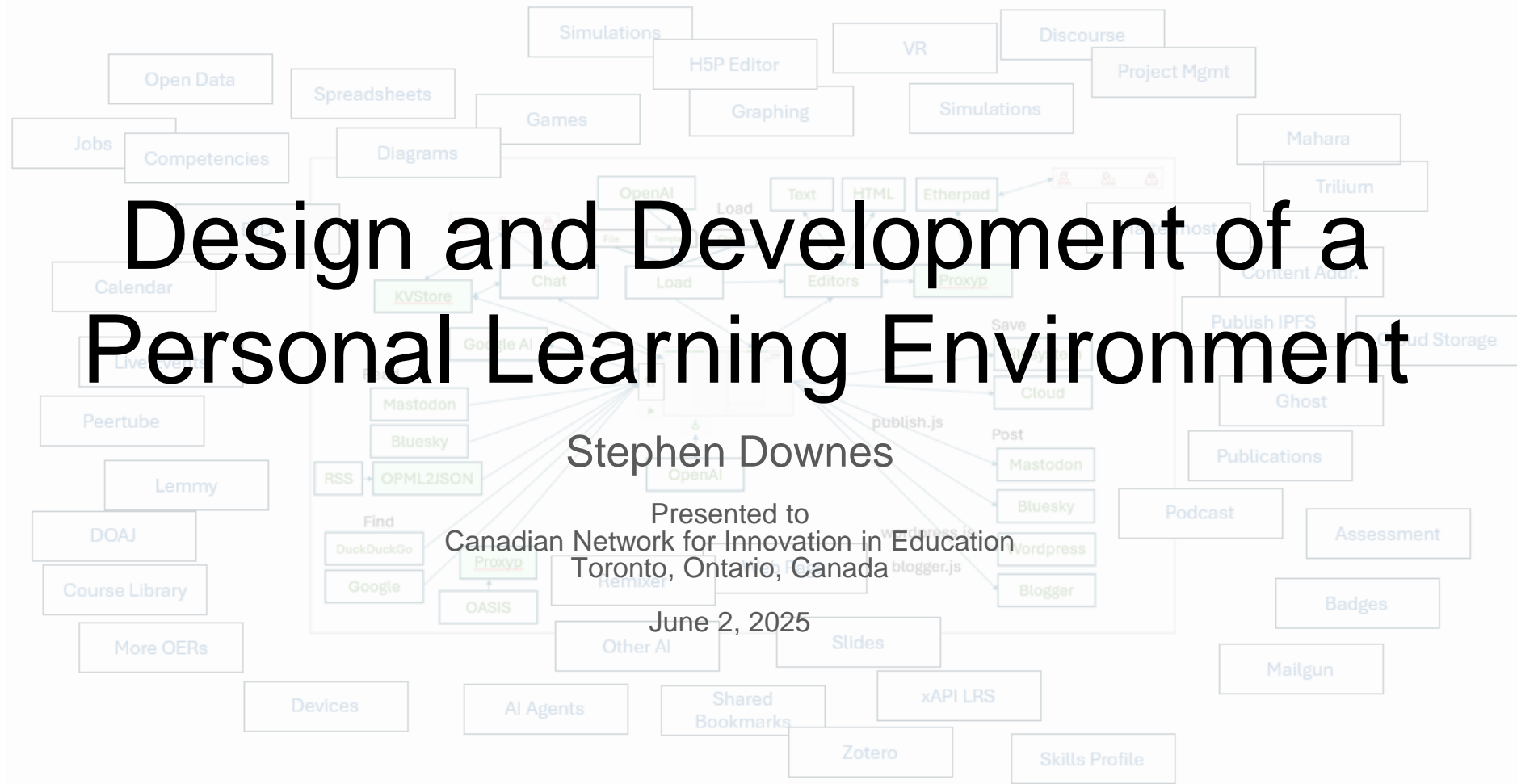


# Design and Development of a Personal Learning Environment

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Presented to  
Canadian Network for Innovation in Education  
Toronto, Ontario, Canada

June 2, 2025



# Start With The Demo

LogoutAccountsX

Identity: aaaa

Read

Please select an account

Downes

OLDaily

Cosocial

Bluesky

Test OPML

Open-Ed OPML

Manual

https://mastodon.social

ReadFindChat

PostFollowingBookmarksListsLocalHashtagUser



OLDaily (@oldaily) wrote:  
Australian children who play Roblox spending average of 139 minutes a day on the gaming app, data shows #oldaily <https://www.downes.ca/post/...>. The problem isn't 'motivation'.  
"Australian children who play Roblox are on the app for an average of 139 minutes a day and it is the gaming app most blocked by parents, a new industry report has found." The problem is designing learning technology people want to use as much as they want to use Roblox...

Reclaim Hosting (@reclaimhosting@reclaim.rocks) wrote:  
Announcing Bloggers Anonymous!  
<https://bavstudiesdays.com/ol...>  
We've got lots of things cooking on the event calendar, so make sure to check that out too:  
<https://events.reclaimhosti...>

Relogged by Peter Hanecak (@phanecak):  
Dalibor Záhora (@daliborz@twitter.cz) wrote:  
Šipová will compete with Hřib for the position of national leader Šipová and Hřib represent two different views of the Pirates. Hřib, with the New Wave initiative, pushed through changes that lead to greater concentration of power (e.g., it will not be possible to propose dismissal from office so easily).  
Šipová, on the other hand, advocated the original pirate values, i.e. greater influence of rank-and-file members on whether they will vote, for example, on whether a specific colleague should continue to be a minister or should leave office.  
<https://denikn.cz/1631830/h...>

LoadSaveRefsX

Title (Optional)

B I   <>


make sure to check that out too:  
<https://events.reclaimhosti...>

ma.host) wrote:  
I wrote about holiday celebrations held in spite of oppression, visiting the log in the Arctic that Fridtjof Nansen slept under in the winter of 1895-6, and why determination is better than inspiration.  
"Everything won't go wrong."  
A post for the New Year.  
  
<https://degenerateart.beehi...>

Eugen Rochko (@Gargron) wrote:  
A hardened criminal... Always climbing the Christmas tree.  
#CatsOfMastodon #Caturday

Danie (@danie10@squeet.me) wrote:

n

Build with  tinymce

Author Name: Reclaim Hosting  
Author ID: reclaimhosting@reclaim.rocks  
Feed: reclaimhosting@reclaim.rocks  
URL: <https://reclaim.rocks/@reclaimhosting/113867176472151583>  
Title: Mastodon  
Created At: 2025-01-21T16:00:26.000Z  
ID: 113867176669689177

Save Locally

Save As

The File System Access API is not supported in this browser. A file download will be used instead.

Post content to...

Click on accounts to select then click 'Save'. Contents of the 'Write' panel will be posted on the selected accounts

Downes

OLDaily

Cosocial

Leftish

Bluesky

Half an Hour

Published

saveResult

<https://ple.mooc.ca/>

# Promises I Made in the Abstract

Technological and business model considerations addressing:

- the challenges faced in the early years of PLEs
- the elements of the system
- and broader learning ecosystem requirements that will support PLEs in general.

The PLE will be contrasted with the existing LMS infrastructure in order to highlight the pedagogical and economic advantages of an open and decentralized learning infrastructure

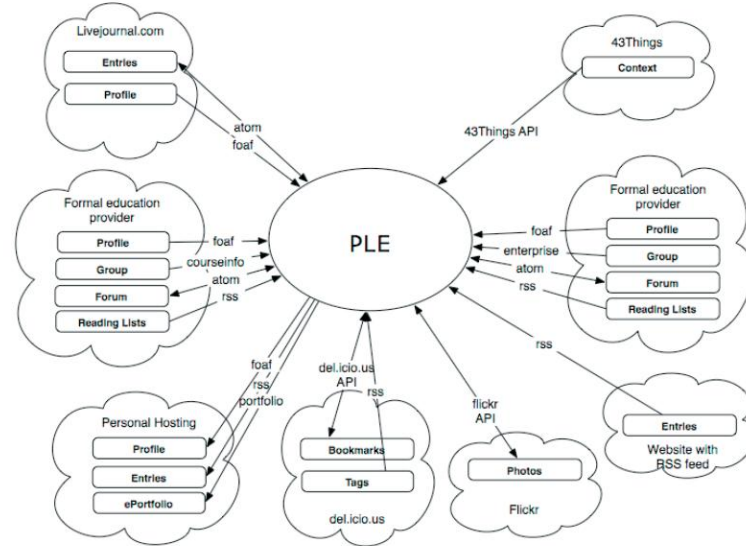
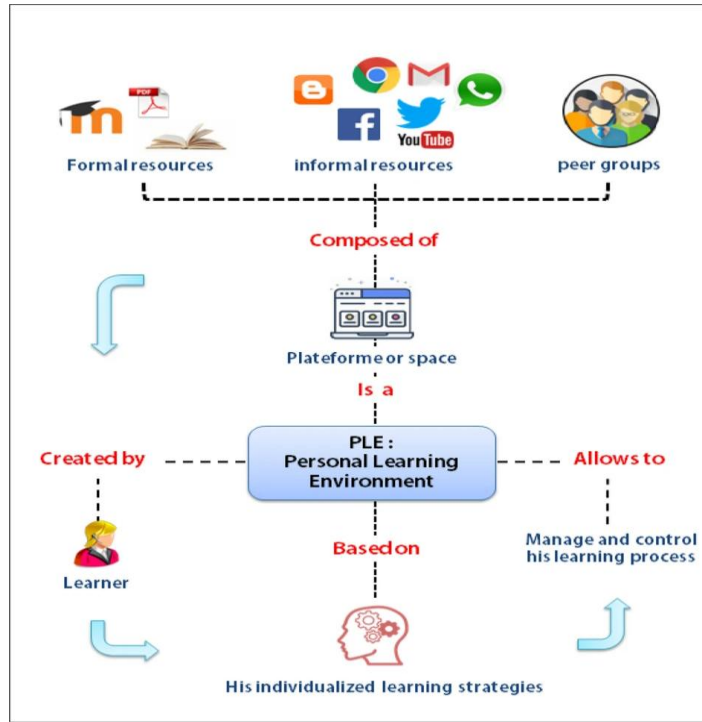
Advice will be provided to enable institutional support for a PLE ecosystem.

# What Even Is a PLE?

“A PLE is an environment equipped with digital and non-digital resources (Bolton et al., 2016) and it can also include peer groups gathered to study, courses, reading summaries, concept maps and institutional resources such as libraries and manuals (Henri, 2014) for learning purposes.

“Generally, a basic PLE should comprise a variety of tools selected by learners according to their individualized learning strategies to better manage and control their learning activities with the collaboration of his peer groups.”

# What Even Is a PLE?



Wilson, S., Liber, O., Johnson, M., Beauvoir, P., Sharples, P., & Milligan, C. (2009). Personal Learning Environments: Challenging the dominant design of educational systems. *Journal of E-Learning and Knowledge Society*, 3(2). [https://www.je-lks.org/ojs/index.php/Je-LKS\\_EN/article/view/29](https://www.je-lks.org/ojs/index.php/Je-LKS_EN/article/view/29)

Ben Rebah, H., Barthes, D. & Carnus, MF. (2023). Personal learning environment: instrument system for learning beyond the boundaries of the university. *Learning Environ Res* 26, 843–87. <https://link.springer.com/article/10.1007/s10984-023-09457-x>

# Why a PLE?

“The idea of PLEs appears to have been associated with the development of new models of learning, breaking with traditional educational structures and focusing on the learner (to the point of placing her at the centre of the learning process), and providing increased autonomy.

“At the same time, teachers are seen as adopting the role of facilitator and guide. It can be claimed that the idea of PLEs has challenged the traditional failure of educational technology to reconcile technological and pedagogical change.”

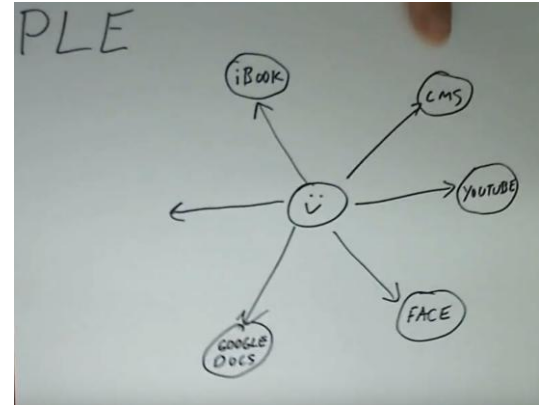
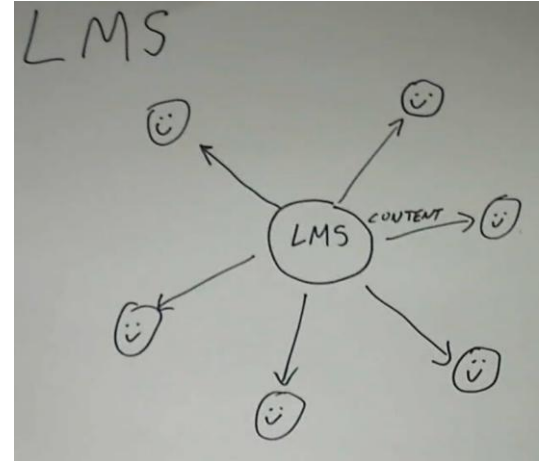
# PLE vs LMS

In an LMS, the learning is ‘managed’ by the institution. All activities, all sociality, even, is mediated through the learning platform.

“When we disaggregate the power in education, we empower individual learners. It can encourage them to learn more than is presented in the curriculum. It can encourage lifelong learning. PLEs provide an excellent venue for this to happen.”

Cormier, D. (2010). PLE vs. LMS – disaggregate power, not people. Dave's Educational Blog.  
<https://davecormier.com/edblog/2010/09/19/ple-vs-lms-disaggregate-power-not-people/>

My video PLE vs LMS: <https://www.youtube.com/watch?v=zDwcCJncyiw>



# Business Model Challenges

- Software licensed to institutions isn't personal software
- No incentive for institutions to allow others into the same learning environment
- Access controls and restrictions enforced by commercial content providers
- Institutional control of learning environment for record-keeping and assessment
- Strong adherence to traditional pedagogical models

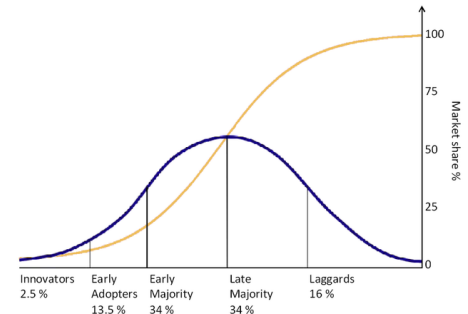


# Business Model Challenges

Here's Terry Anderson in 2006: “LMS systems have afforded teachers the capacity to create their own web courses with minimal programming expertise or even instructional design support...

“Similarly, PLEs are nowhere near as easy to use to facilitate and support many of the educational functions that are trivial in modern LMS systems.”

Anderson, T. (2006). PLE's versus LMS: Are PLEs ready for Prime time? Virtual Canuck.  
<https://virtualcanuck.ca/2006/01/09/ples-versus-lms-are-ples-ready-for-prime-time/>



# Business Model Challenges

Similarly, Rita Kop: “People learning on an informal network will choose the subject they want to learn about or the activity they want to engage in, but in a connectivist environment they have to make other choices as well.

“For instance, they have to manage time, set their own learning goals, find resources, and try out new tools and make them work. These choices would in a formal classroom be the instructor’s responsibility, but are in an autonomous learning environment linked to tasks that the learner will carry out independently, which could be problematic.”

Kop, R. (2011). The challenges to connectivist learning on open online networks: Learning experiences during a massive open online course. The International Review of Research in Open and Distributed Learning, 12(3), 19–38. <https://doi.org/10.19173/irrodl.v12i3.882>

Kop, R. (2010). The Design and Development of a Personal Learning Environment: Researching the Learning Experience. European Distance and E-learning Network annual Conference 2010, June 2010, Valencia, Spain, Paper H4 32. [https://www.researchgate.net/profile/Rita-Kop/publication/44390189\\_The\\_Design\\_and\\_Development\\_of\\_a\\_Personal\\_Learning\\_Environment\\_Researching\\_the\\_Learning\\_Experience/links/02e7e531e76782527b000000/](https://www.researchgate.net/profile/Rita-Kop/publication/44390189_The_Design_and_Development_of_a_Personal_Learning_Environment_Researching_the_Learning_Experience/links/02e7e531e76782527b000000/)

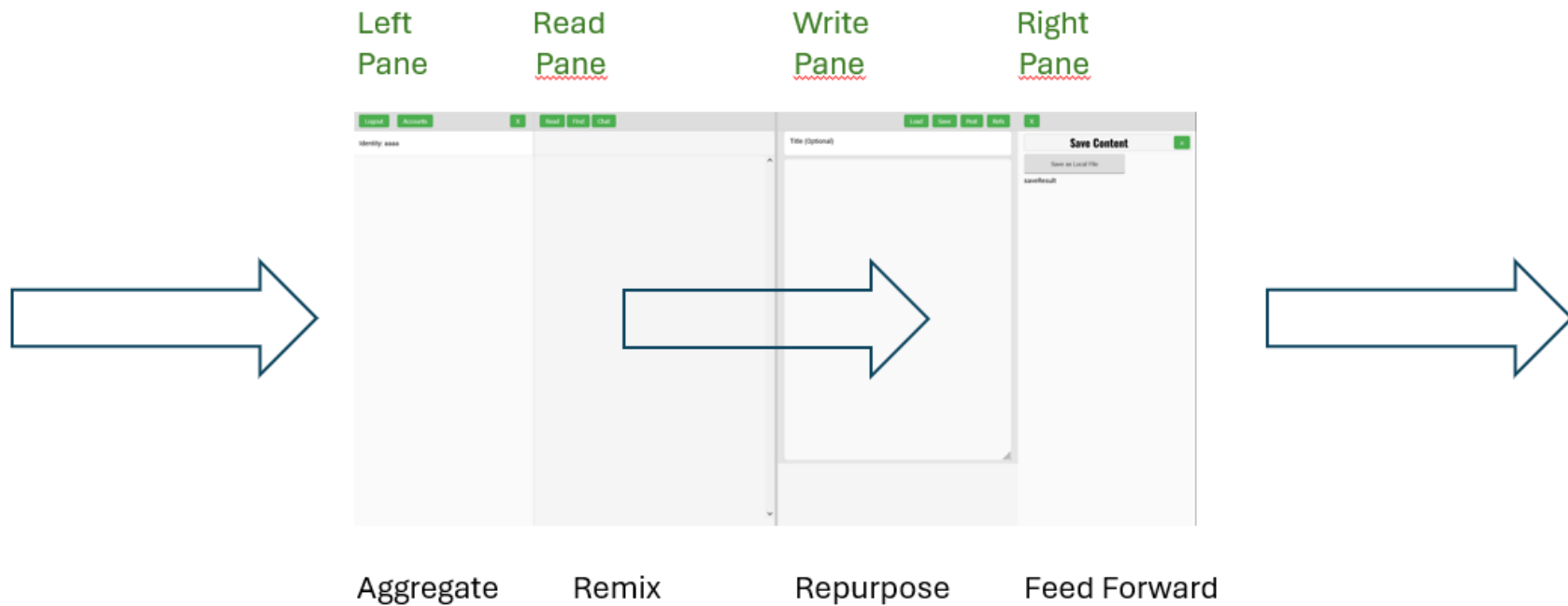
# Technical Challenges

- No real model for single user website
  - Before web 2.0, people used discussion boards or Blogger
  - After web 2.0 multi-user services like Twitter and Facebook took over
- No cloud
  - Hosting a personal website was difficult
  - No place to store data online for use by multiple services
- Platform lockdown
  - Web 2.0 started with open APIs but eventually they were all locked down
  - Open standards such as RSS were depreciated (cf. Google kills Reader)
- Complexity
  - Identity, permissions, copyright, etc. created major challenges
  - Interoperability standards (eg. SOAP) were difficult and cumbersome

# Design Considerations

- This is a single user application, not a multi-user platform
- It's completely open source CC-by to be used by anyone
- As a whole it is designed to be distributed and decentralized
- It is as simple as possible, so anyone can use it
- The ideal is that it can run anywhere (still working on that)
- Mostly plain HTML-JS-CSS (no Node, no React, no crazy installs)

# Flow



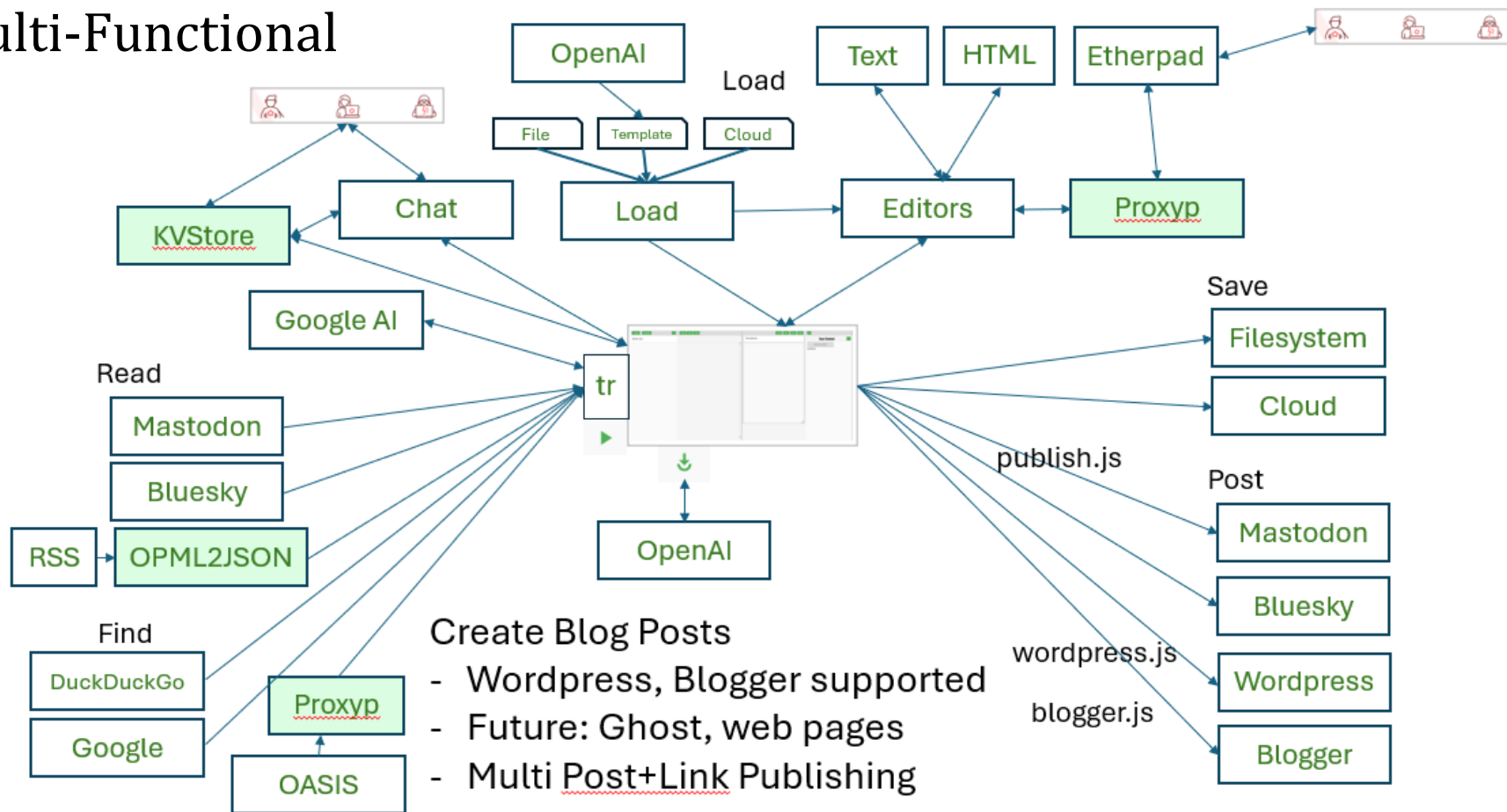
# Read – Edit - Write



## Mastodon

- Accounts from multiple servers
- Multiple accounts from the same server

# Multi-Functional



# The Future...?

