ActivityPods

Key learnings from building social apps with ActivityPods

Solid Symposium, 24 April 2025

Sébastien Rosset - @sro81:matrix.org

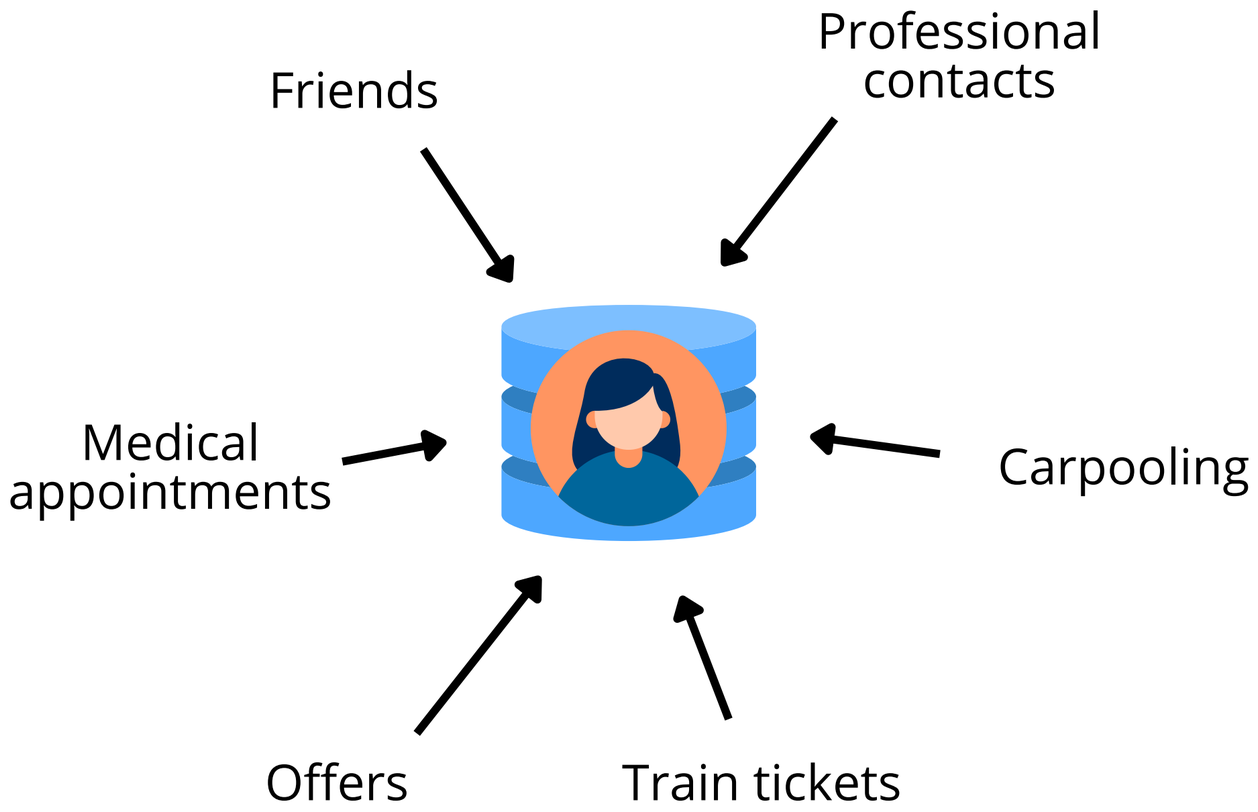
What is ActivityPods ?

ActivityPods

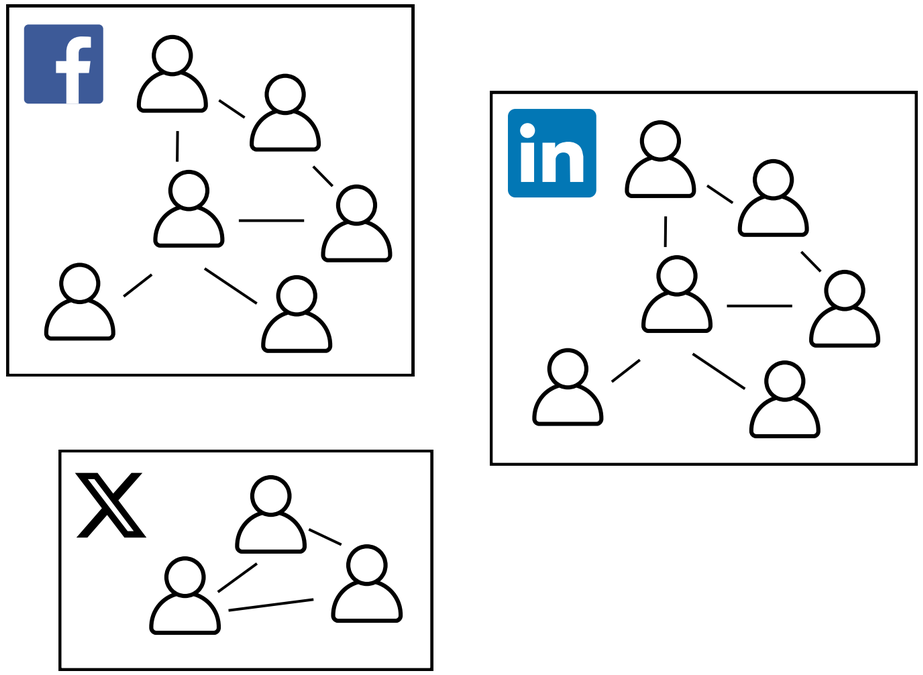
=

ActivityPub + Solid Pods

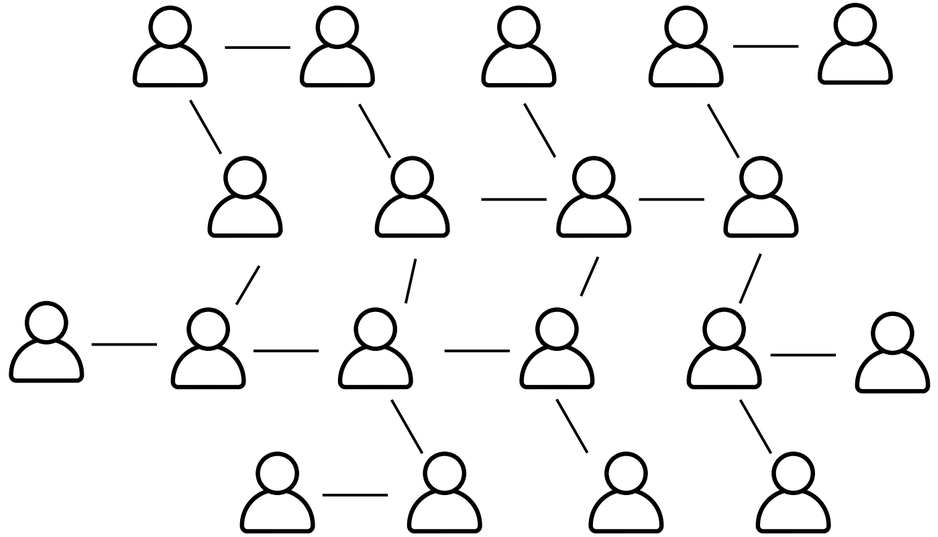
The Solid project: regaining control of our data



ActivityPub: enabling decentralized social networks

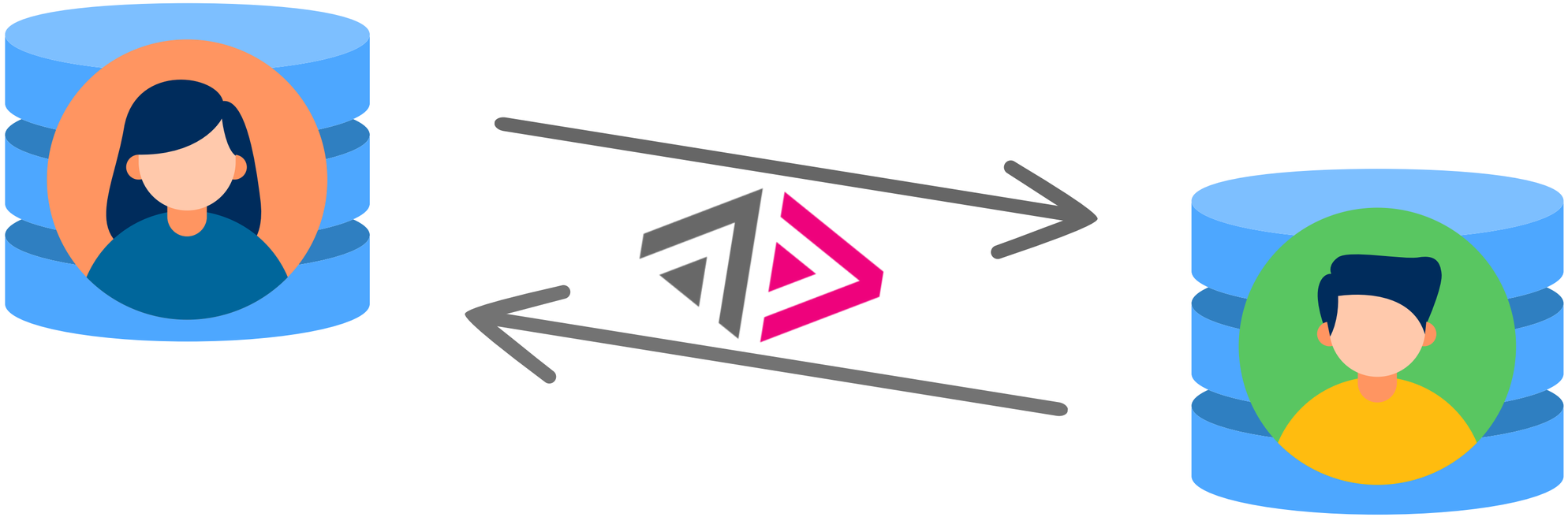


Silo model: users can communicate with each other only if they use the same application

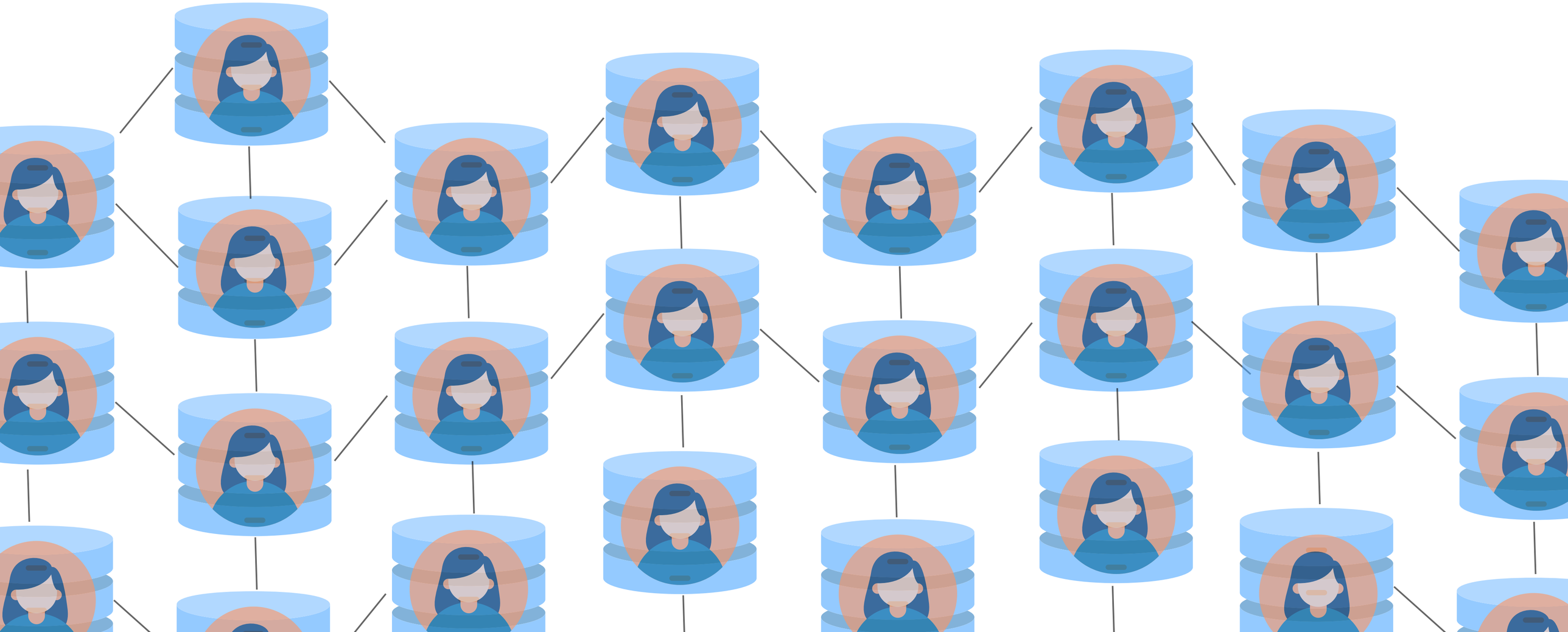


ActivityPub model: users can communicate with any other actor on the web (just like email)

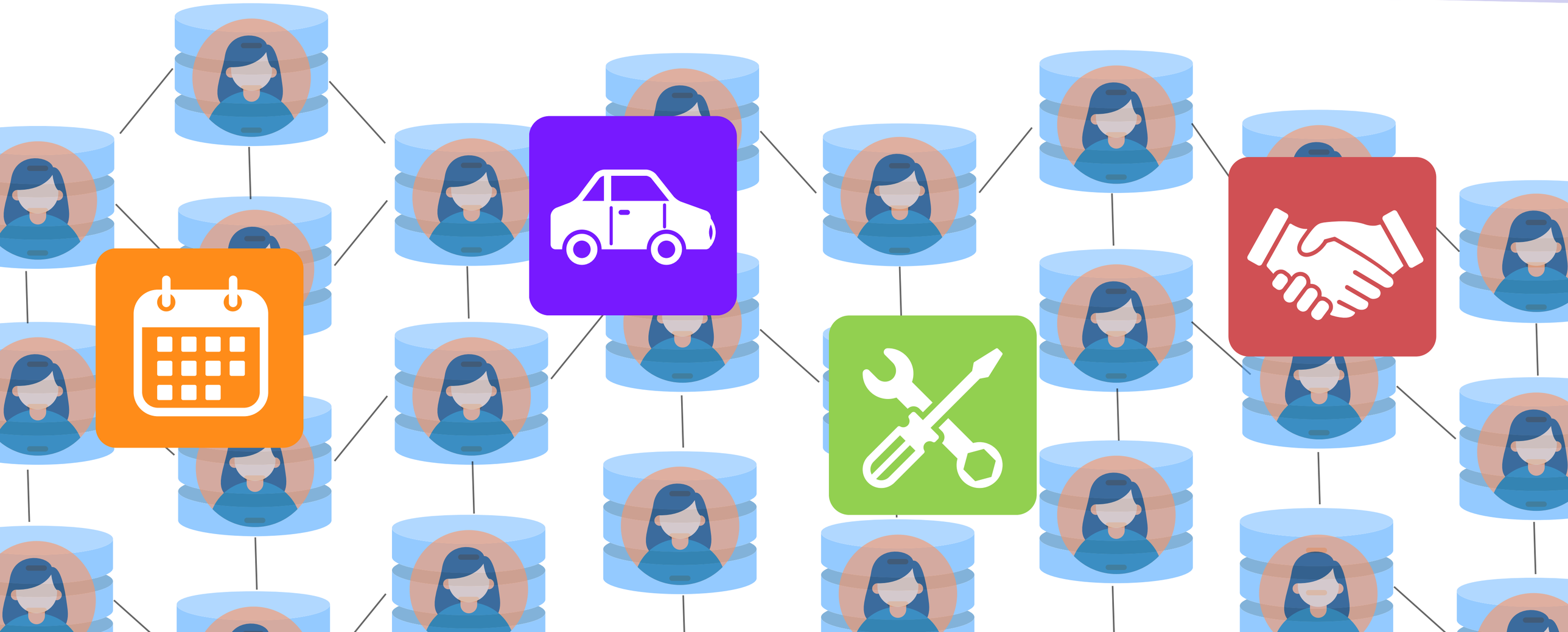
ActivityPods: Solid Pods that can communicate with each other through ActivityPub



ActivityPods: An universal social network



ActivityPods: An universal social network with applications built on top



What apps have we developed ?

Welcome to my Place: Private events at home to share knowledge and passions

Bienvenue chez moi Beta

Sébastien

OUVERTURE D'ESPRIT › CERCLE DE PAROLE

PARTAGER EDITER

Cercle de parole

ORGANISATEUR Sébastien | HÔTE Sylvie | DATE 30 septembre 2021, 19:00 | DURÉE 4 heures

Présentation

Pour ce 4ème cercle de parole, nous aurons le plaisir d'être accueillis chez Sylvie (notez bien l'adresse en bas de cette page). Que vous soyez venus à un cercle de parole précédent ou que ce soit votre première fois, vous êtes les bienvenus pour venir partager vos sentiments, réflexions, visions, en toute bienveillance et sérénité ! Pour celles et ceux qui le souhaitent, nous commencerons par un repas partagé convivial (chacun amène quelque chose à boire et/ou à manger)

Programme:

Cercle de parole

ORGANISATEUR
Sébastien

HÔTE
Sylvie

DATE
30 septembre 2021, 19:00

DURÉE
4 heures

JE ME DÉSINSCRIS

Mutual Aid: Classified ads to support each other within a trusted network

L'Entraide Beta

POSTER UNE ANNONCE

On garde votre toutou à la maison !

PARTAGER ÉDITER

TYPE D'ÉCHANGE
Offre de don

TYPE DE RESOURCE
Humain

DATE
27 avril 2022

Nous n'avons pas de chien car nous ne voulons pas l'enfermer dans un appartement.

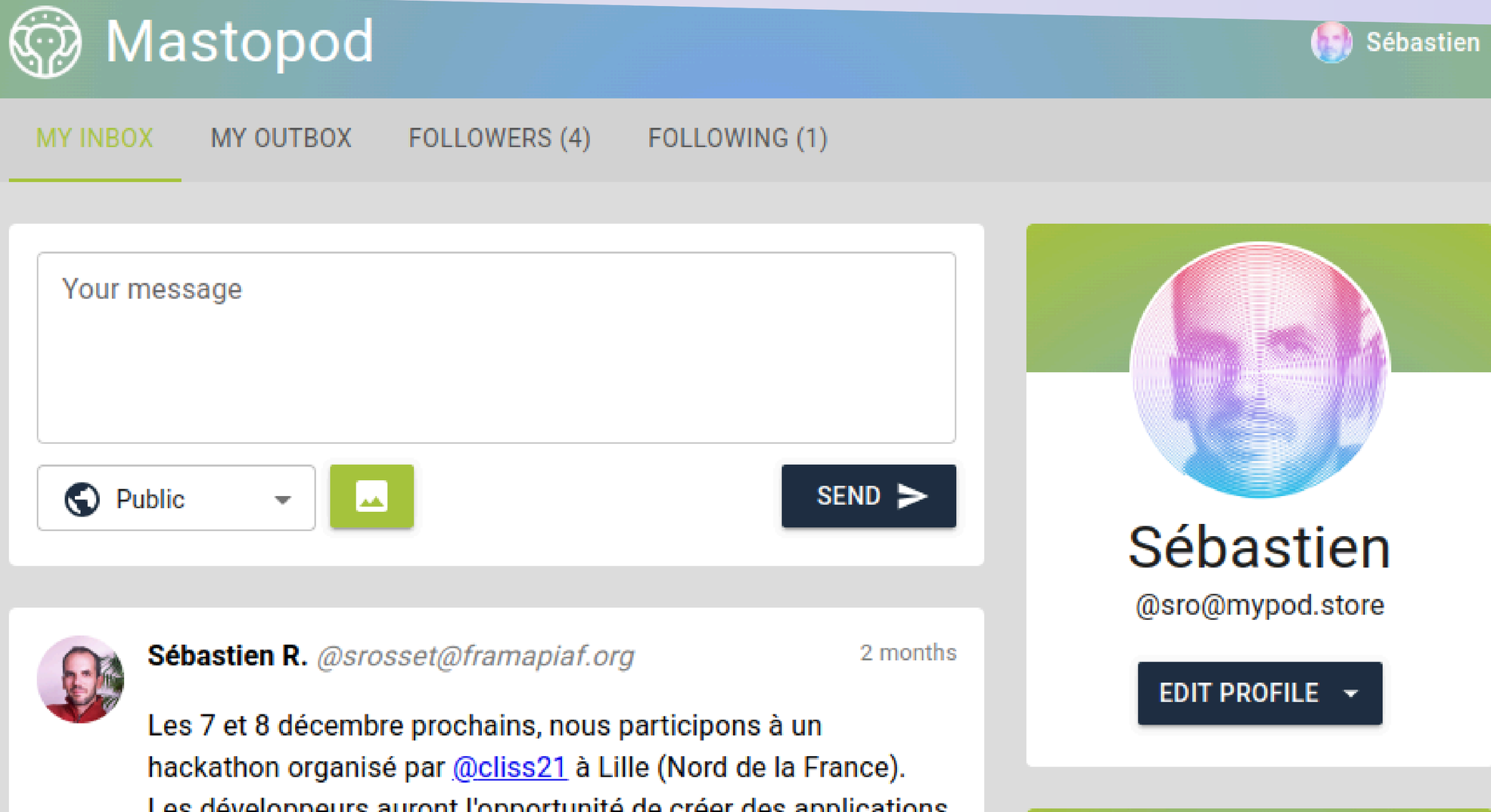
Cependant on serait ravi d'accueillir de temps à autre un toutou, et d'aller le promener "comme il le faut" dans la forêt.

N'hésitez pas à nous faire signe ;)

Conditions

- **Date d'expiration de l'annonce:** 16 juin 2022, 00:00

Mastopod: A Mastodon-compatible app that stores all data on your Pod

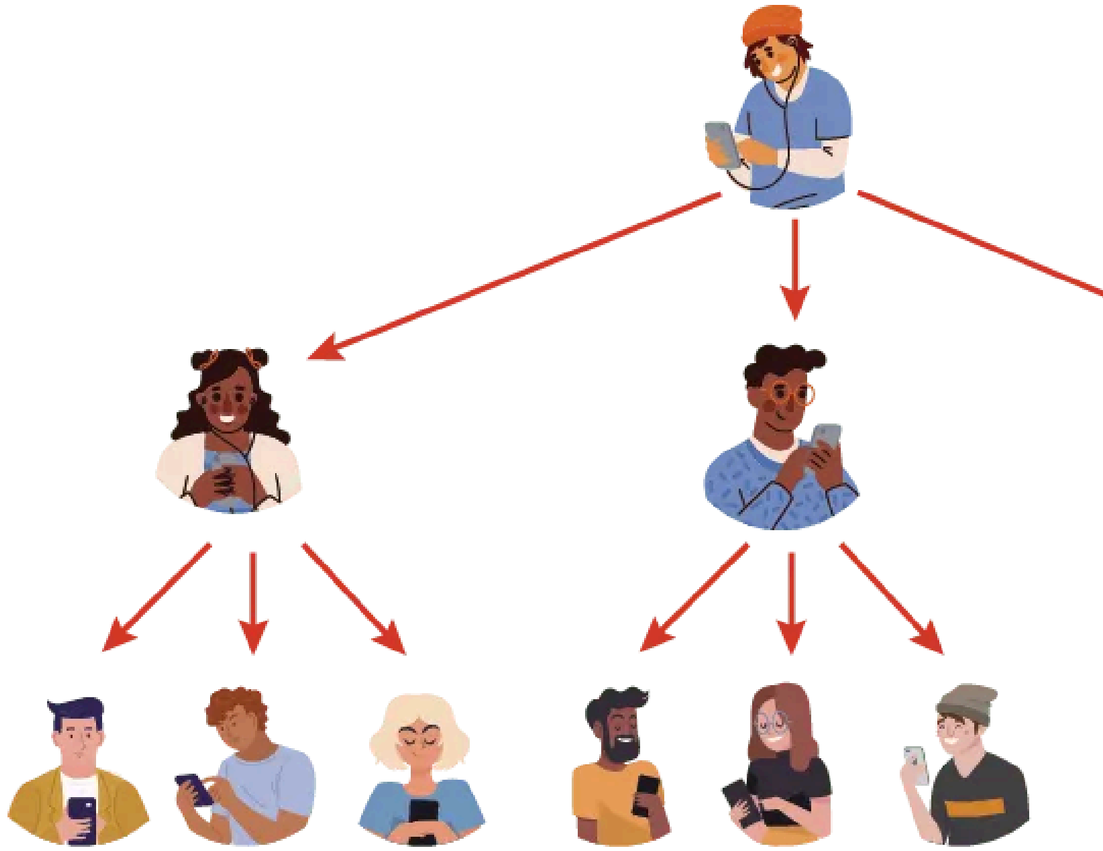


What are our key learnings ?

#1 Social features help apps go viral

- Apps with social features have a much faster adoption rate
- ActivityPub would be an important addition to Solid
- A group is working on creating a spec that will “glue” the two protocols

➡ github.com/solid/activitypub-interop

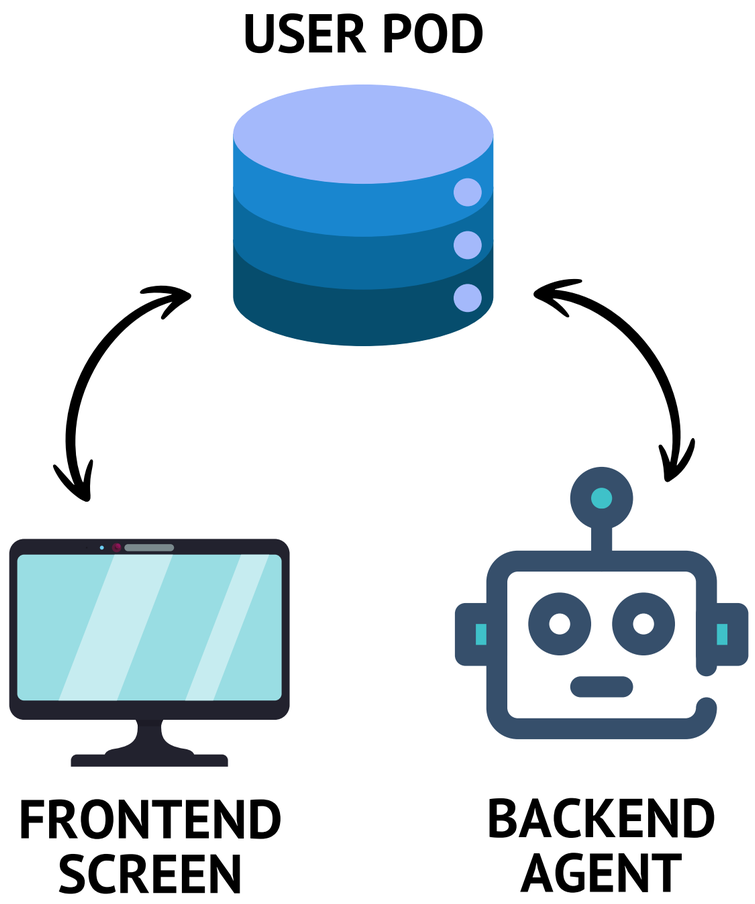


#2 Notifications bring users back

- Very important for many apps, but not easy to do with Solid
- In ActivityPods, applications send AP notes to users, which are then translated to emails (but could be web push notifications)
- We will give more fine-grained control to users in the future

#3 Frontend-only apps may be too limited

- All ActivityPods apps have, in addition to the frontend client, a backend agent
- Agents can listen to the user's Pod (with Solid Notifications) and react to that. Very useful for inbox/outbox.
- In Welcome to my Place, we use this to manage events conditions (eg. limit the number of participants)

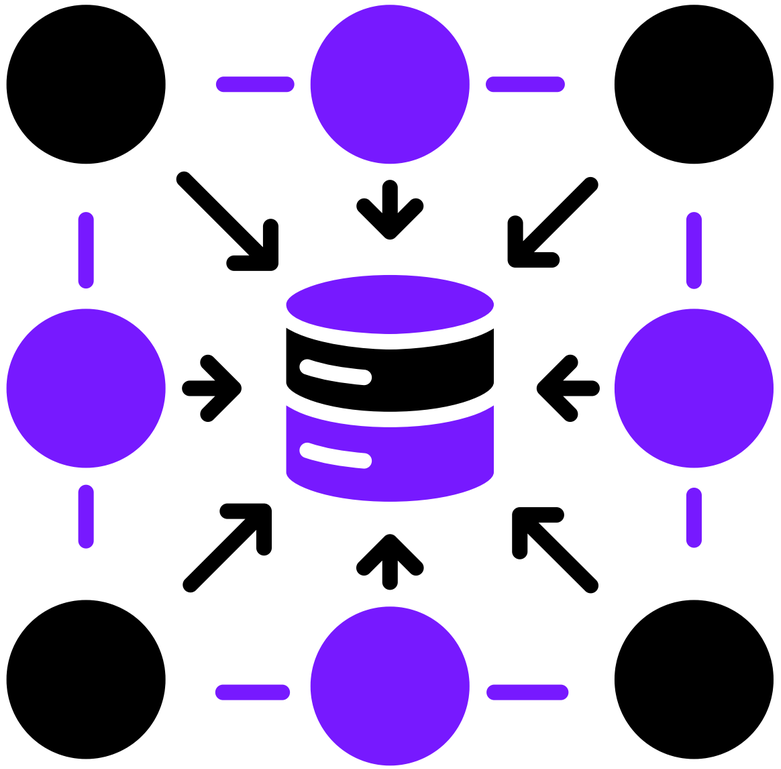


#4 Private-first is worth exploring

- Works well with a Solid architecture
- Private-first increases interest and virality because you trust the person who has shared something with you
- Network of trust will become increasingly important as AI bots fill public spaces

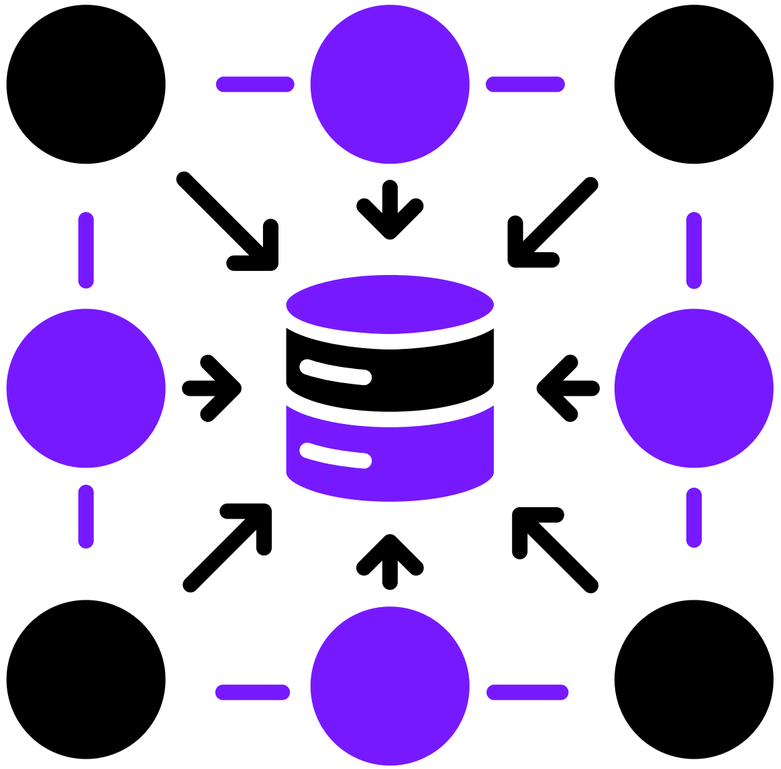
#5 Apps need public data also

- Something else that is not much taken into account with Solid
- In ActivityPods, such data is held in the “storage” of the application agent
- When public data is posted in a Pod, it can be aggregated. When the data is updated or deleted, the app is notified



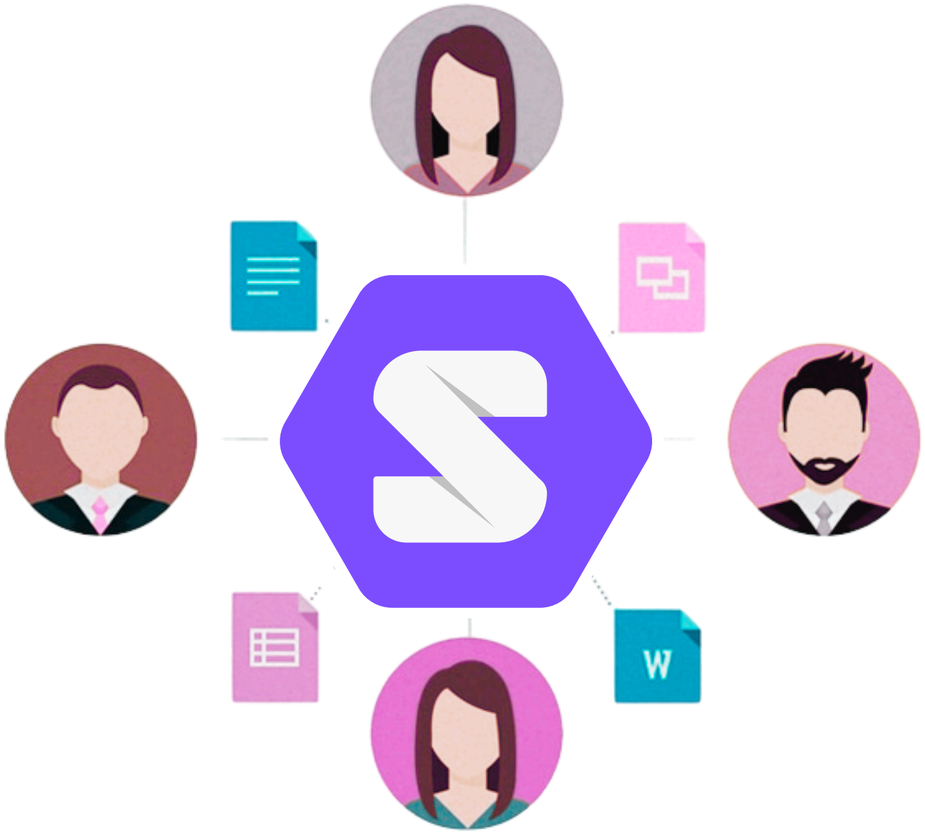
#6 Without cache, performances may suffer

- With ActivityPods, when a user share a resource with another user, we store it in their Pod
- Users are notified through ActivityPub when a resource is updated so that the cache may be updated
- In the future, we may build app-specific indexes for filtering, pagination and ordering



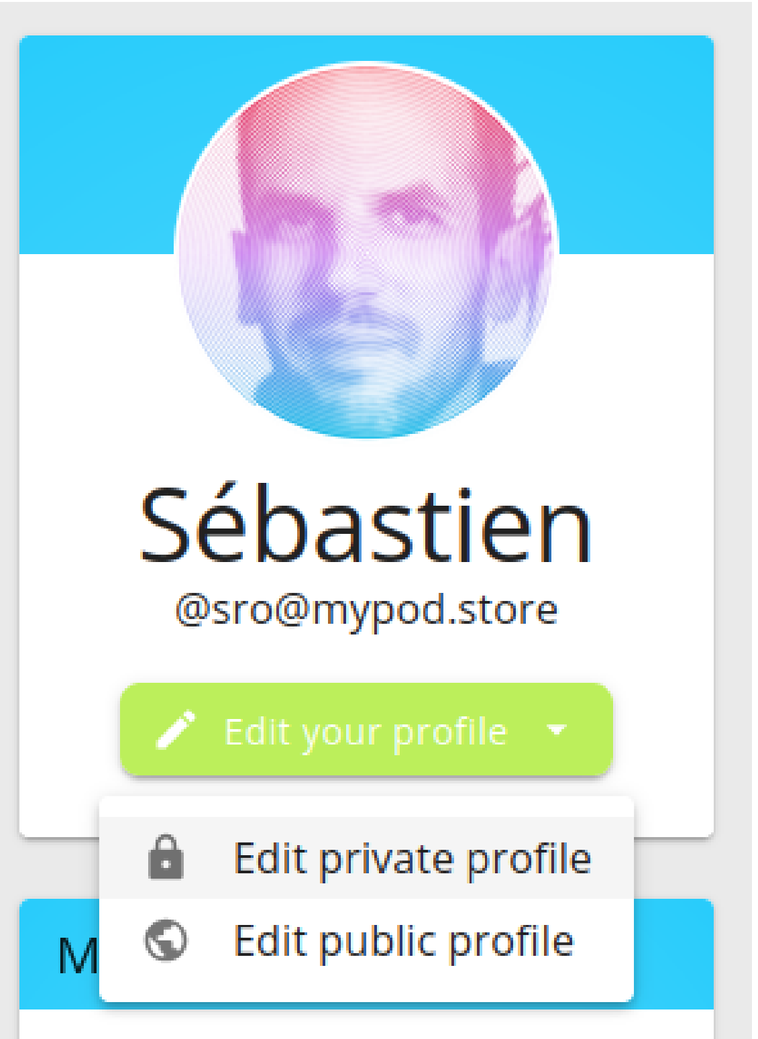
#7 Collective storages are an important piece

- In real life, some data are personal, others are collective.
- Possible in theory with Solid but nothing has been specified
- We need roles, administration rights and a good UX
- We are working with elf Pavlik to integrate this into the SAI spec



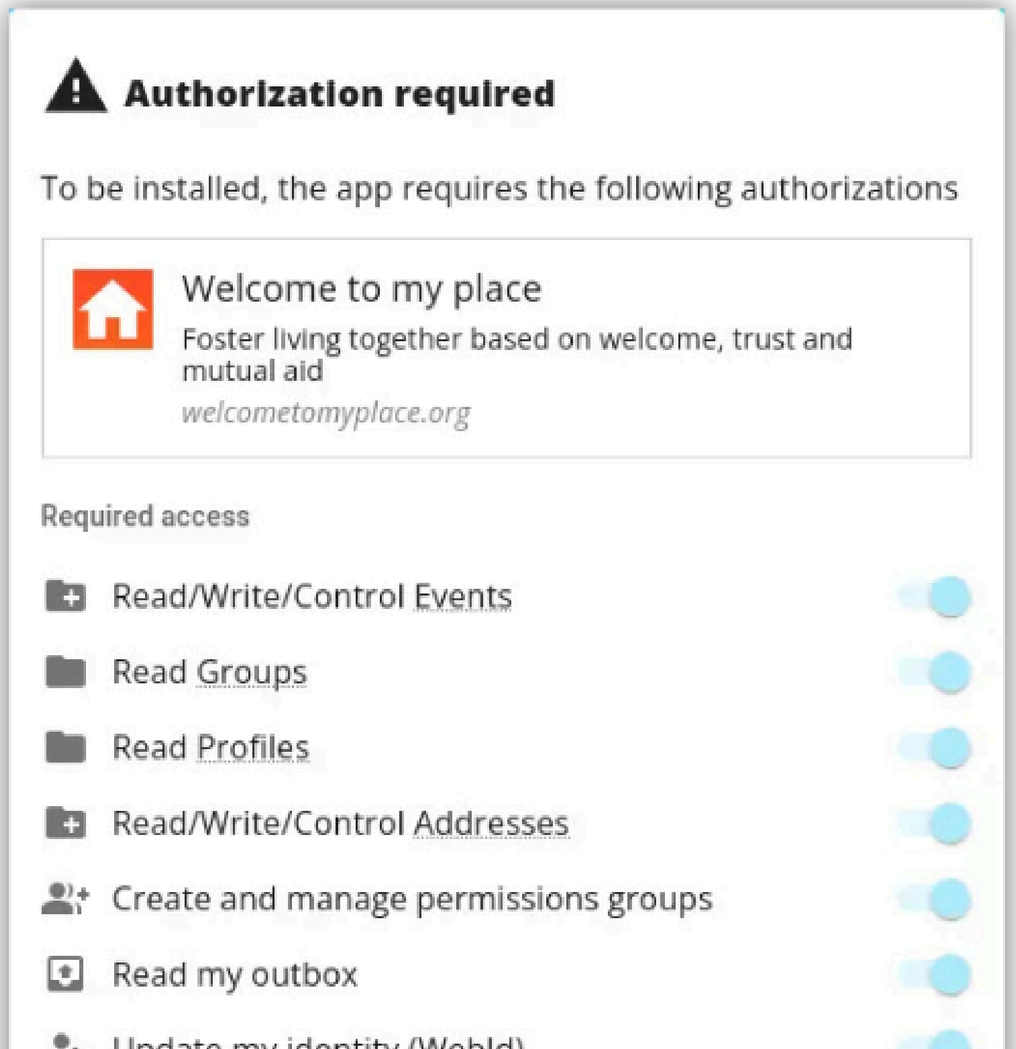
#8 Profiles are sensitive resources

- In ActivityPods, your profile is private by default (you choose with whom you share it)
- You can add a public profile if you want to be seen in the Fediverse
- The profile is a very sensitive information so we would need more fine-grained control about what the user want to share



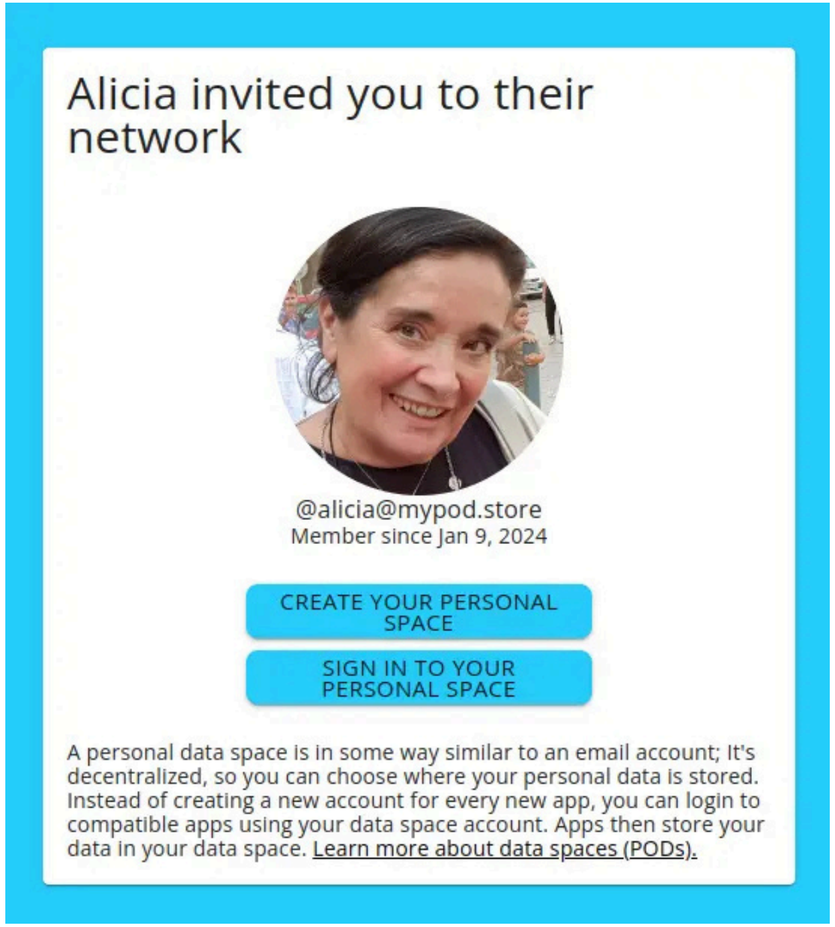
#9 Authorization screens can be frightening

- Since v2, we are implementing the Solid Application Interoperability (SAI) specification to register apps
- Applications only get access to the data they requested
- We must be careful about complex authorizations screens as it creates a sense of insecurity



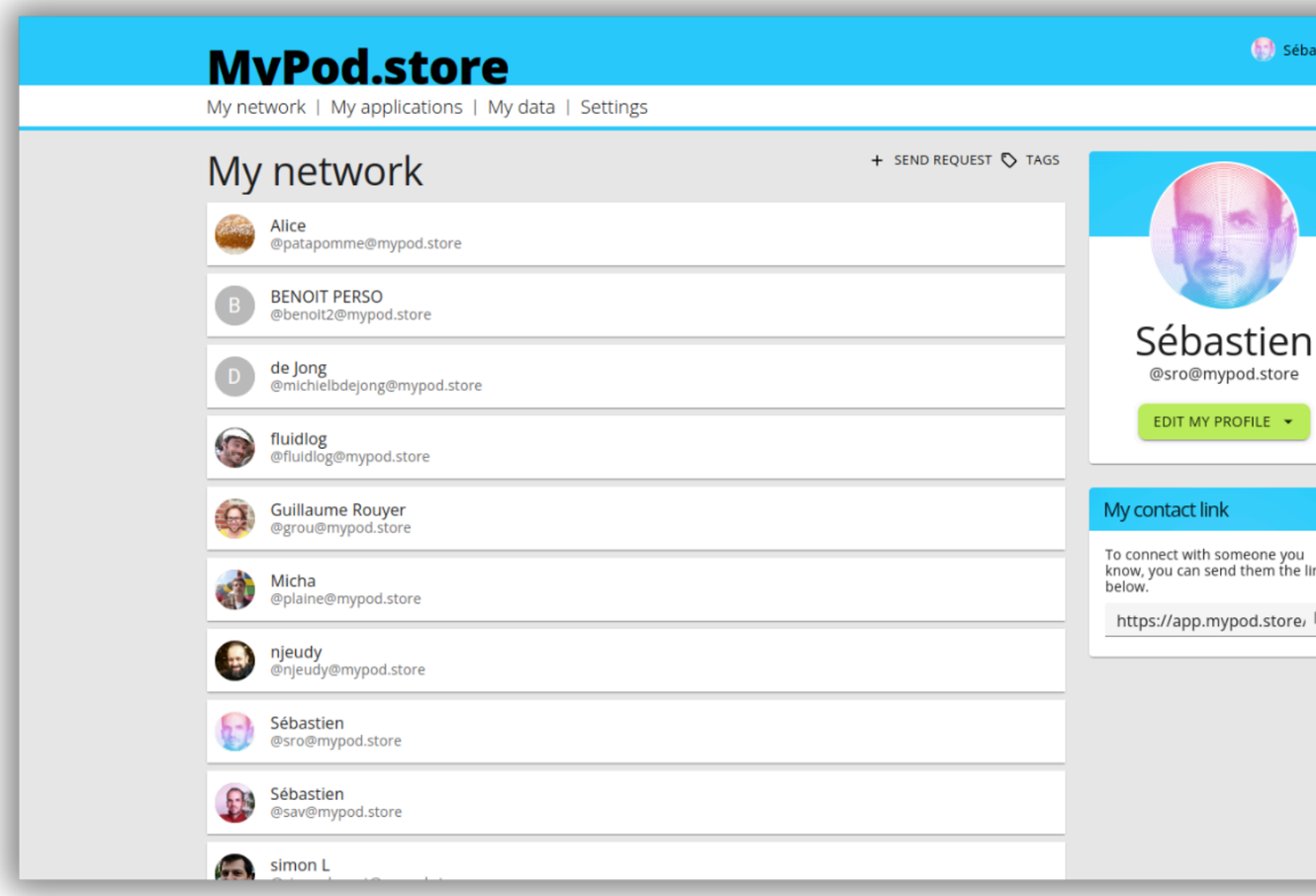
#10 Contact links have boosted adoption

- Initially people had to give their WebID, then make a request through ActivityPub (3 steps)
- We now use capability URLs (with VC) to automatically accept contact requests
- It must be easy for people to find each other (Telegram-like experience)



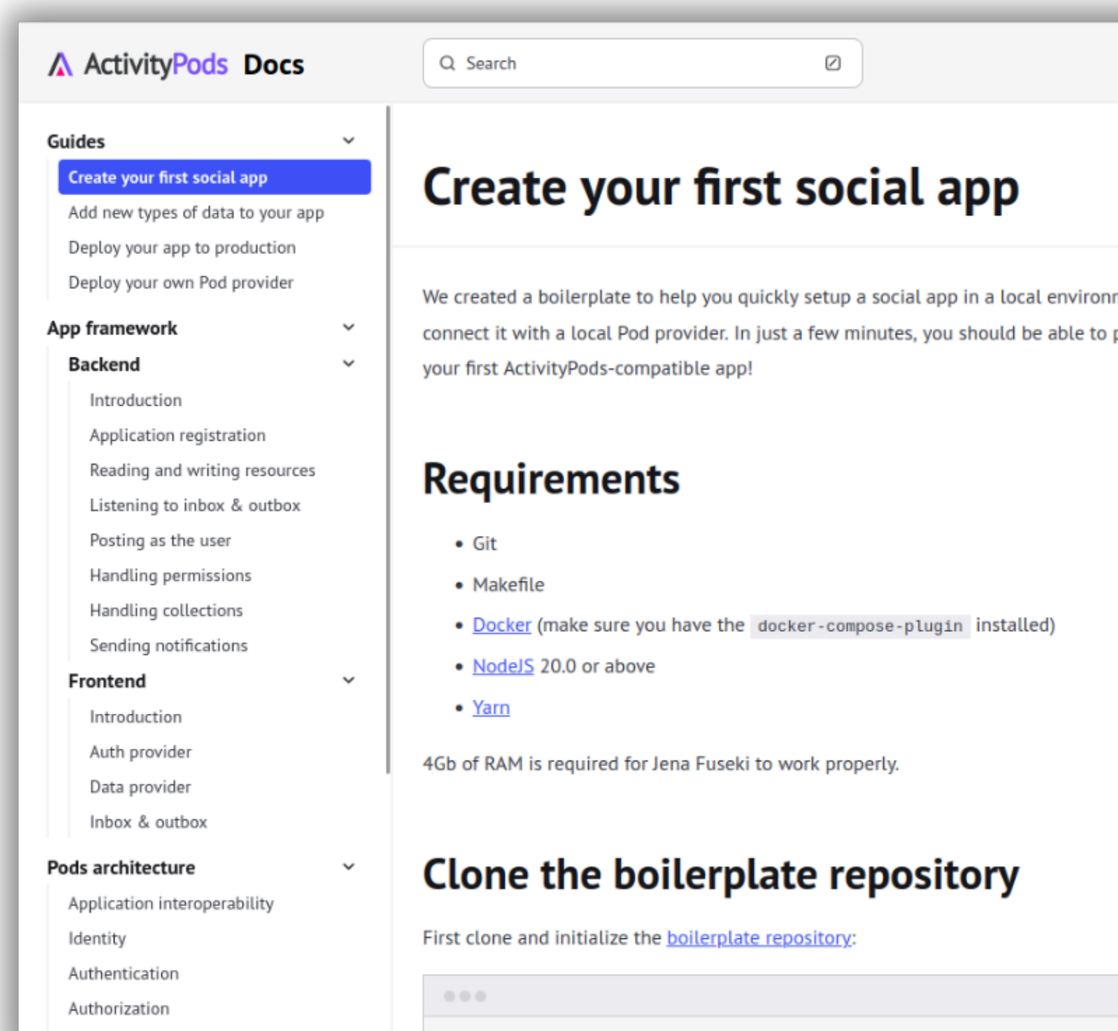
#11 Users may use Pods without being aware of it

- At first, our app users didn't understand they were using a special architecture
- We later added a Pod management frontend to make this more visible
- Users can see their data and open them with apps (like an OS)



#12 With Solid, building apps can be fast

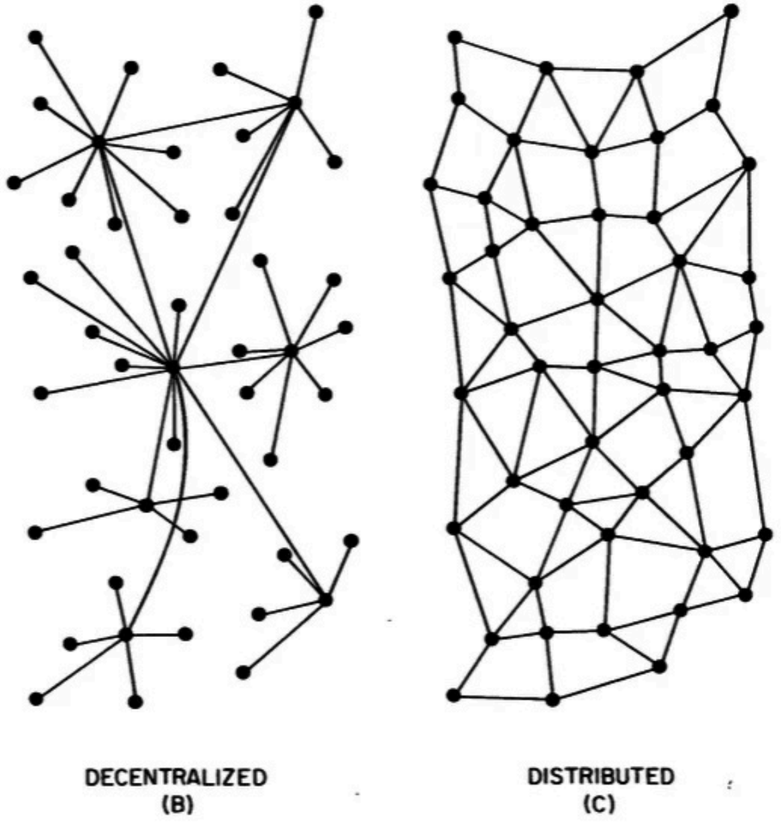
- All our apps have been created in less than 10 days, thanks to our framework
- Since the Pod provider handle a lot of things, we can focus on the core features
- We can build very simple apps that are complementary to others



#13 Pod hosting is a sensitive task

- In Solid, a lot of the burden rest on the Pod provider
- We thought more people would be interested in hosting Pods… but that didn’t happen
- In the future, we hope to rely on NextGraph for a more distributed, resilient architecture

➡ www.nextgraph.org



NextGraph

#14 Solid needs ~~a killer app~~ an ecosystem of apps

- Interoperability is what sets Solid apart from other solutions
- We need a few well-designed apps that can be used together … but that doesn’t come easily
- We are creating a cooperative, called Reconnexion, to gather actors around this goal

Thank you!

activitypods.org

github.com/solid/activitypub-interop

nextgraph.org

Sébastien Rosset
@sro81:matrix.org