

Hackathon – Solid Fundamentals

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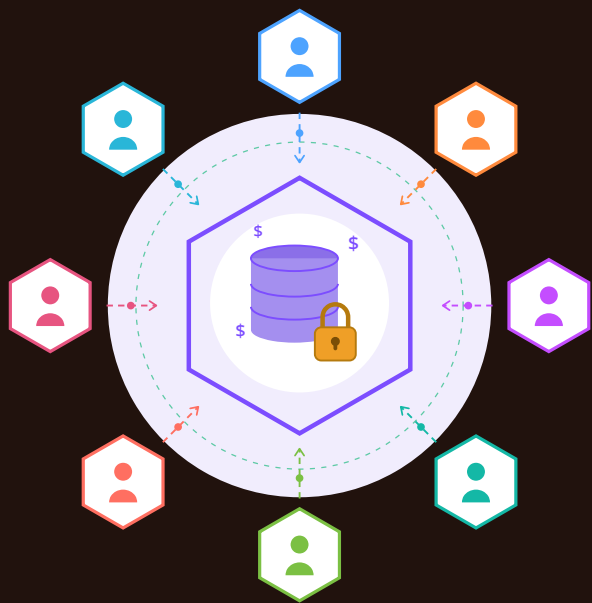


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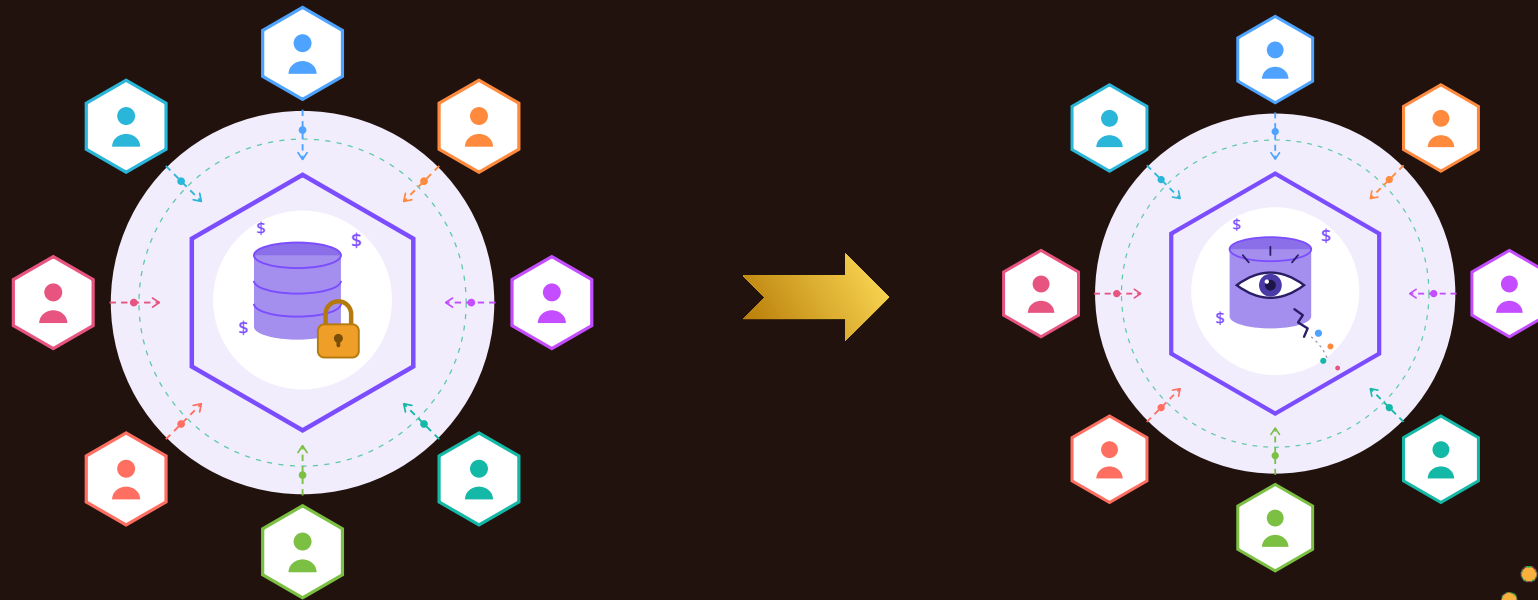
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Data Privacy – Why and How



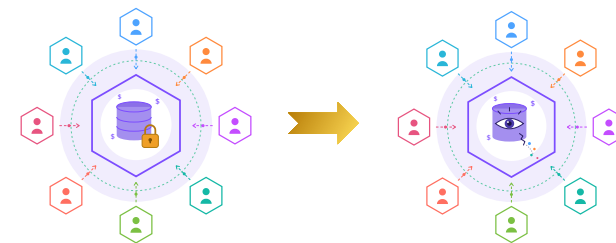
Data Privacy – Why and How



Centralised Data Hoarding ...

Collecting, Controlling, and Locking Down the Internet

- Single point of failure – Telstra?
- Data privacy and security risks with centralised data stores attractive targets compromising the entire data store, ...
- Lack of Transparency and Trust:
Central authority to do the right thing.
- Data Ownership and Vendor Lock-In:
Who owns and controls your data?



So What's Wrong?

Data is the basis of Generative AI, but whose data?

- Data is the foundation of today's AI, Machine Learning, Data Science
- Web has evolved to centralise and monetise everyone else's data
- Generative AI uses massive data without acknowledgement
- Our collective data has made the tech oligarchs rich and powerful
- Most of use are left out of the economic boom

A Vision for the WWW

The Original Vision versus Today's Reality – It's Time to Reconsider

- Sir Tim Berners-Lee's original vision: **freely accessible** web-of-data
- Vision of a **de-centralised** individually **empowered** WWW
- The reality of a **centrally** controlled and **profit** driven WWW
- We **need** a paradigm shift back to a de-centralised WWW
- Individual ownership, governance, sovereignty
- Micro payments so that we all participate in the economic boom

Personal Online Datastores (PODs)



Personal Online Datastores

POD – data privacy, data sovereignty, data empowerment

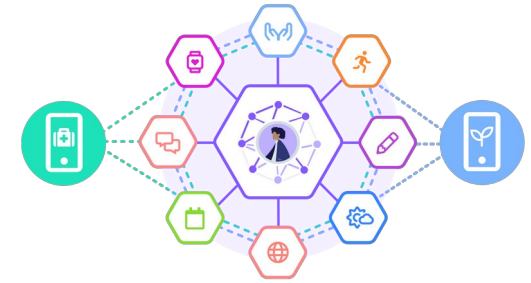
❖ **Trust No One** until they have earned the trust

❖ **Individual as the data custodian**

- Individuals manage their own data in their own POD
- Individuals control who they share their data with – informed, engaged, trusted
- All data in a single location under the individuals control – financial, health, personal, ...

❖ **An ecosystem for innovation**

- Innovators can quickly deliver new apps targeting shared data
- Trusted data stores accessed by trusted apps and agents

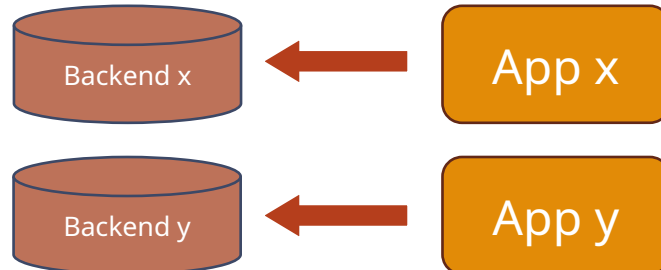


Solid Pods

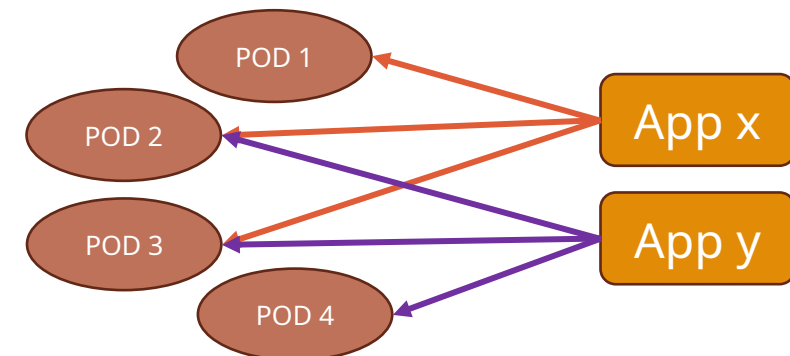


SOcial LInked Data as a decentralised WWW

- ❖ Web decentralisation project led by Sir Tim Berners-Lee (<https://solidproject.org/>)
- ❖ SOLID is an **open-standard** for individuals to store their data securely
- ❖ Centralised the storage of PODs within Data Vaults
- ❖ **Open Source** Solid servers are available – CSS



Centralised – Separate backend for each app

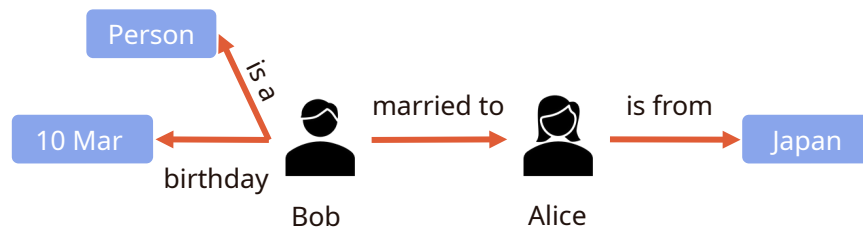


Decentralised – All apps same PODs

Terminology Overview

Data is the basis of Generative AI, but whose data?

- ❖ **WebID** - HTTP URI to identify person, organisation, or software uniquely
Example: **`https://pods.d01.solidcommunity.au/ktw/profile/card#me`**
- ❖ Goal is to store world wide **Linked Data** in PODs
- ❖ **RDF** is the Resource Description Framework serialised as **Turtle** (ttl) files
- ❖ Turtle data is represented as triples: **<subject, predicate, object>**.



```
<Bob> <birthday> <2008/03/10>  
<Bob> <married to> <Alice>  
<Alice> <is from> <Japan>
```

Securely Storing All Your Data

All Your Data sits in Your POD within a Data Vault hosted on a Solid Server

- ❖ Health Data, Fitness Data, Social Data, Chat Data, Financial Data, Hobby Data, Travel Data, ...
- ❖ Text documents, Spreadsheets, pdf, docx, odt, xlsx, doc, exe, ...
- ❖ Audio, Video, Structured, rdf, ttl, md, org, tex, png, gif, jpg, mp4, avi, ...
- ❖ Encrypted by default – protecting privacy and offering security

Let's Create a Pod

Using the MyPod app to create a Pod for yourself

ANU SII **temporary** solid servers for the hackathon:

<https://pods.d01.solidcommunity.au>

<https://pods.d02.solidcommunity.au>

<https://pods.d03.solidcommunity.au>

<https://pods.d04.solidcommunity.au>