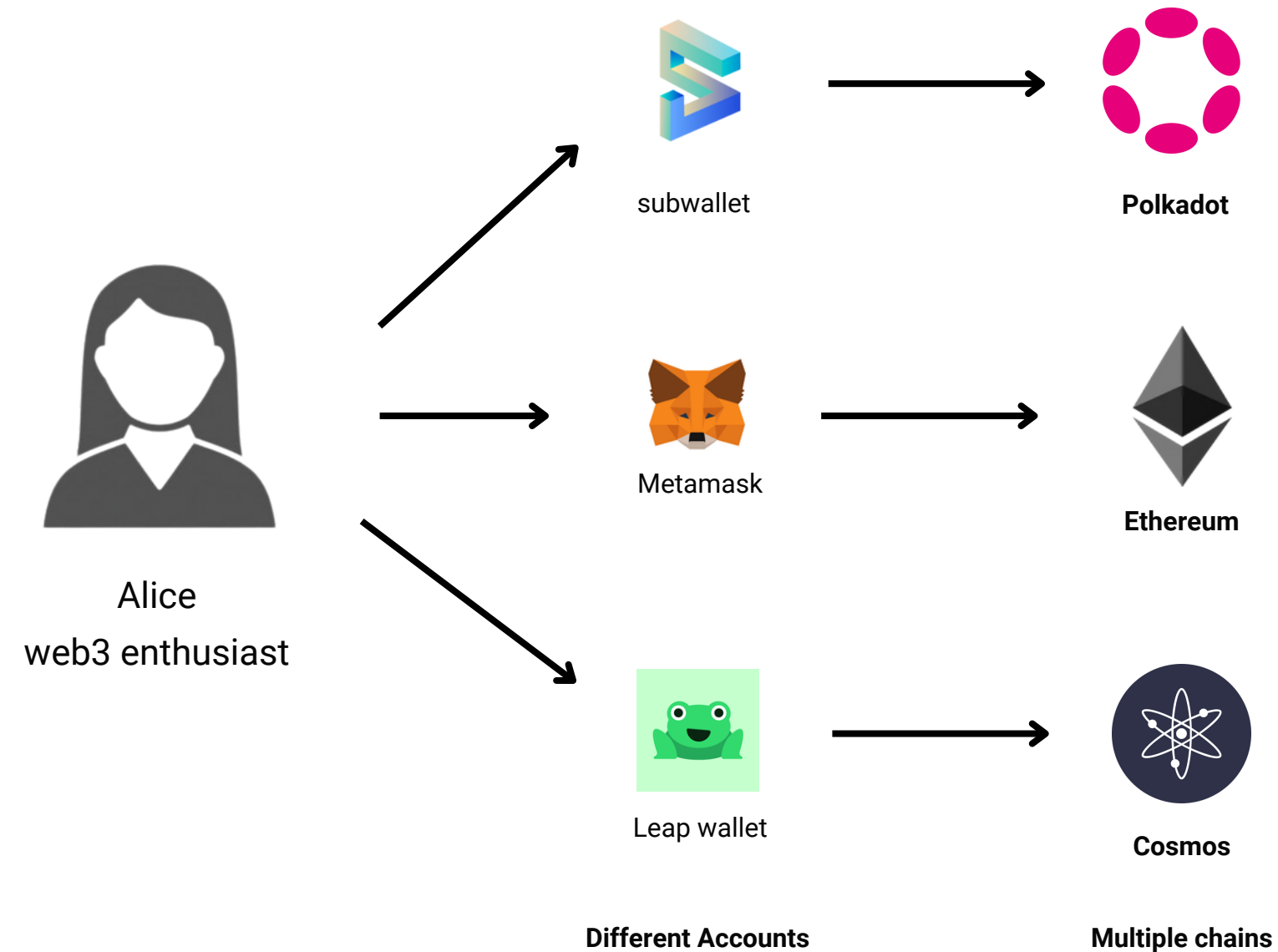# Xenon pallet

Stay connected with Xenon

Need

Issues

Multiple Identities
Alice has unique addresses on each network (e.g., Ethereum, Polkadot, Cosmos), leading to fragmented identities.

Complex Key Management
Each network uses different cryptographic keys, making it difficult for Alice to track which private key matches each blockchain.

Lack of Unified Control
Alice's identities are isolated on separate blockchains, limiting her ability to manage and confirm ownership across networks.

Inefficient Cross-Chain Applications
Alice has to verify her identity separately on each chain for cross-chain apps, adding extra steps and reducing convenience.

Xenon pallet ?

Xenon pallet is a multichain Decentralized ID (DID) pallet created in polkadot solochain to help polkadot developers build cross-chain DApps and users to have all there identities at one place.

It has 3 key Functions

Supports multiple cryptographic standards

Creating a DID

```
// Create a new DID document
XenonPallet::create_did(origin)?;
```

Linking a Chain

```
// Link an Ethereum address to your DID
XenonPallet::link_chain(
    origin,
    "ethereum".as_bytes().to_vec(),
    1,  // Ethereum chain ID
    eth_address.as_bytes().to_vec()
)?;
```

Unlinking a Chain

```
// Remove a linked chain
XenonPallet::unlink_chain(origin, 1)?;  // Unlink Ethereum chain
```

```
pub enum KeyType {
    Ed25519,
    Sr25519,
    Secp256k1,
    X25519,
}
```

Rigorous error handling

```
pub enum Error<T> {
    DidDocumentNotFound,
    DidDocumentAlreadyExists
    ChainAlreadyLinked,
    ChainNotLinked,
    TooManyLinkedChains,
    TooManyPublicKeys,
    TooManyServices,
    InvalidChainAddress,
    NotDocumentController,
}
```

How Xenon Pallet Solves Alice's Problems

- Create a central DID for identity management.

- Link public keys across different blockchains.

- Verify her identity across chains without logging into each platform.

Xenon DID Dashboard
Manage your decentralized identity across multiple chains

DID Status

DID: did:xenon:5GrwV...7dhw

Copy DID

Quick Actions

Link Chain   Add Key

Linked Chains

Ethereum
0x1234...5678   Unlink

Polkadot
5GrwV...7dhw   Unlink

Public Keys

Ed25519
ed25519-2023...   Copy   Remove

Sr25519
sr25519-2023...   Copy   Remove

How Developers Can Use Xenon Pallet

Onboarding

Simplified Onboarding

Developers can allow users to create a DID and authenticate once, simplifying the onboarding process across chains.

Cross-Chain Asset Access:

Build features that allow users to view and manage assets from multiple chains in one place.

Verification and Security:

Implement secure, multichain identity verification for sensitive dapp interactions.

Possibilities and Road ahead

What can be build ?

- Decentralized Account recovery
- Cross Chain Governance and DAOs
- Cross chain Asset management tool
- Unified Reputation system
- Cross Chain Identity verification in Dapps
- Multichain Loyalty programs.

Roadmap

Nov 24	Dec 24	Jan 25	Apr 25
Beta release and documentation	Community Feedback and zk Inclusions	Partnership outreach (wallet connectibility)	Mainnet release (polkadot)

Links

Dashboard demo - https://ni8crawler18.github.io/Xenon-pallet/

Github link - https://github.com/Ni8crawler18/Xenon-pallet

Developer docs - https://ni8crawlers-den.gitbook.io/xenon-pallet

Thank you