

FIDO2 Token Isolation on Linux

Master's Project

> version: POC



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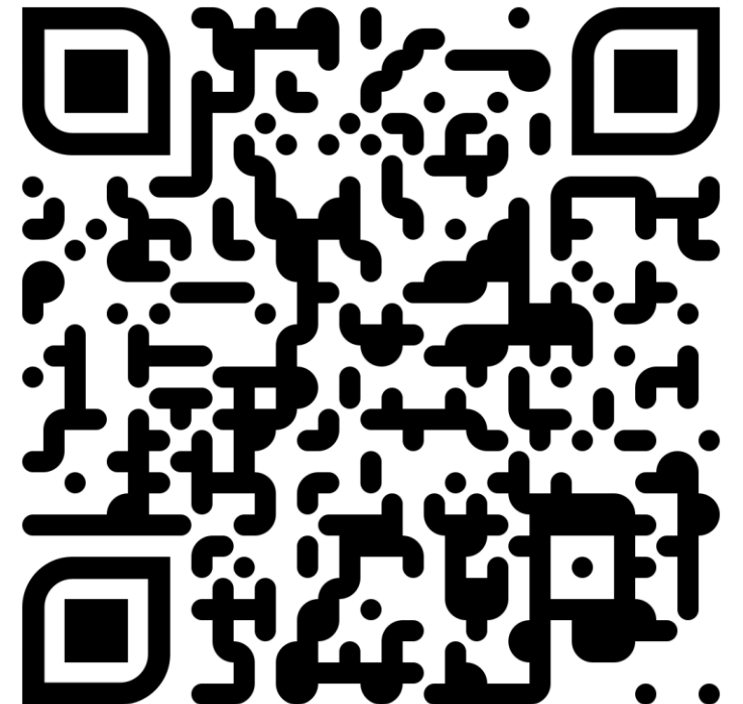


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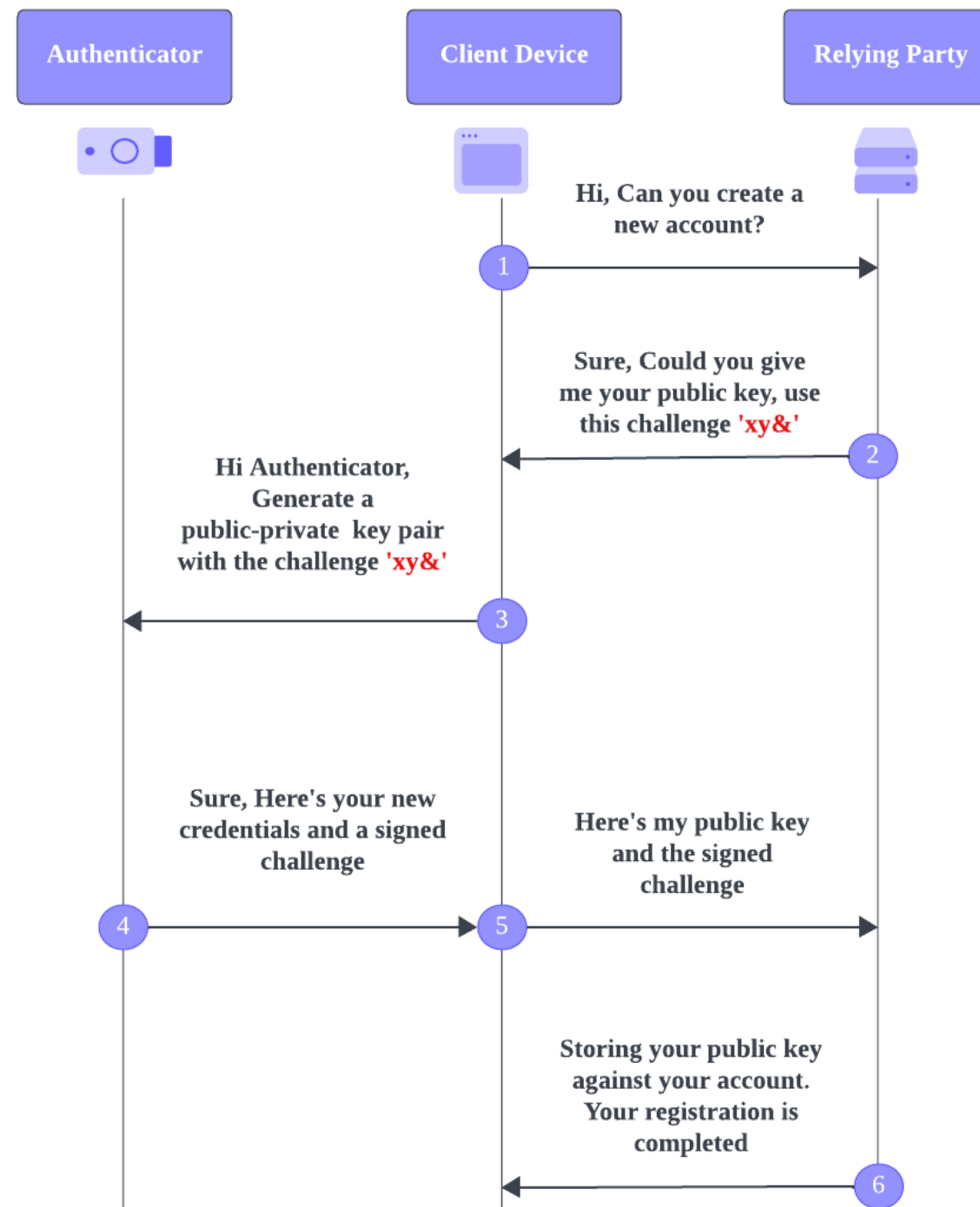
26.08.2024

<https://github.com/aurarius1/FidoDBus-MasterProject>



Motivation

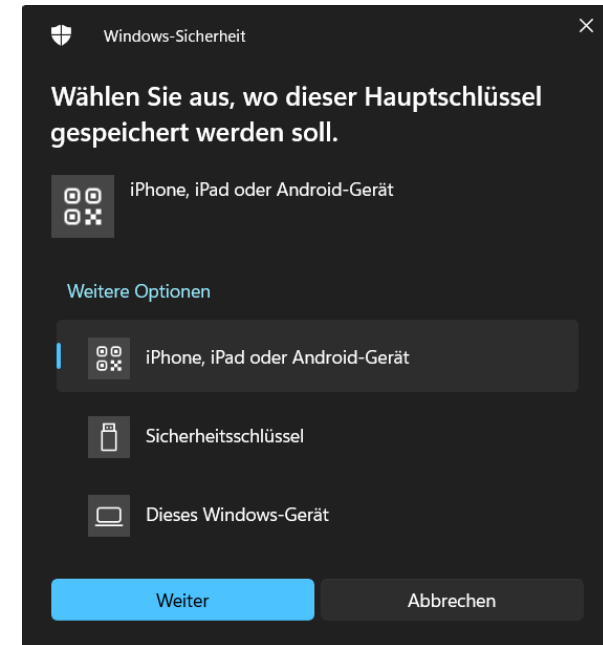




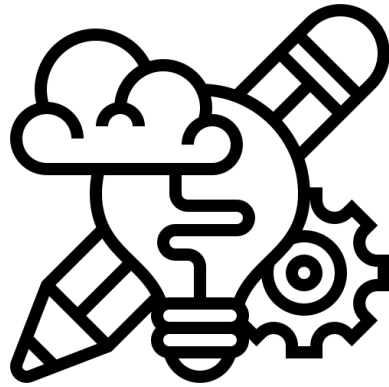
Graphic from:
<https://auth0.com/blog/webauthn-a-short-introduction/>

Motivation

- Windows and MacOS: centralized access
- Linux: every application on its own
 - Trust interaction request?
 - Malicious actors?



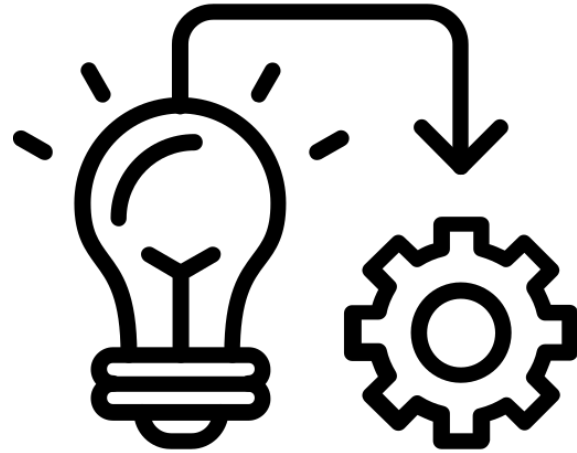
Design Considerations



Design Considerations

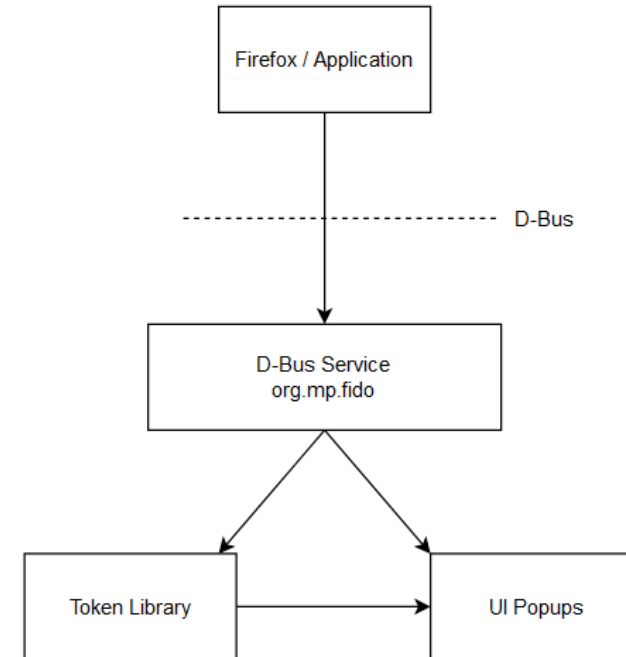
- Token interaction
 - Via libraries
 - Don't reinvent the wheel
 - Allows switching
- DBUS
 - Session Bus
 - System Bus
- Access restriction
 - UDEV Rules

How it works



How it works

- DBUS Server (C++)
 - Using sdbus-cpp
 - Custom bridge to Rust library
 - UI elements
 - Returns Assertion/Attestation
- API defined via xml
 - Generation of Server/Client possible
- Access only with special user



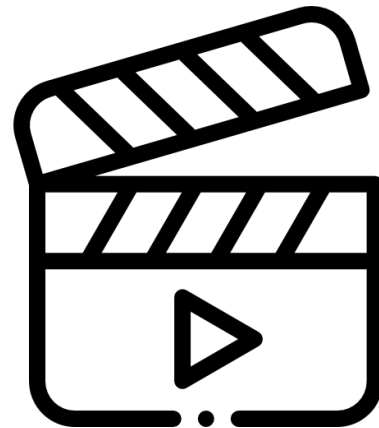
Open “Todos”



Open “Todos”

- Remaining Methods
- Using DBUS capabilities
 - Display calling binary
 - Adjust timeouts
- Error Handling

DEMO



Special thanks

- <https://www.flaticon.com/> (for icons in this slideset)