FIDO2 Token Isolation on Linux

Master’s Project

> version: POC

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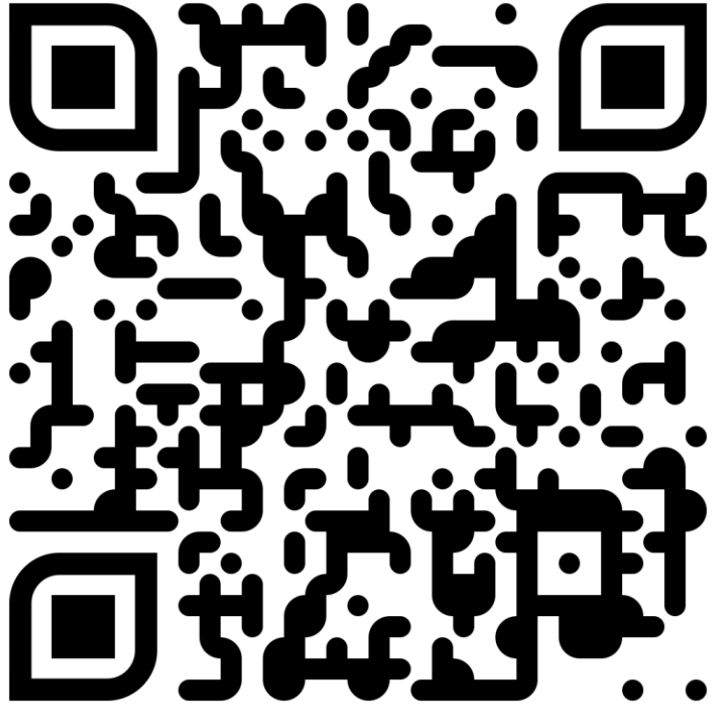
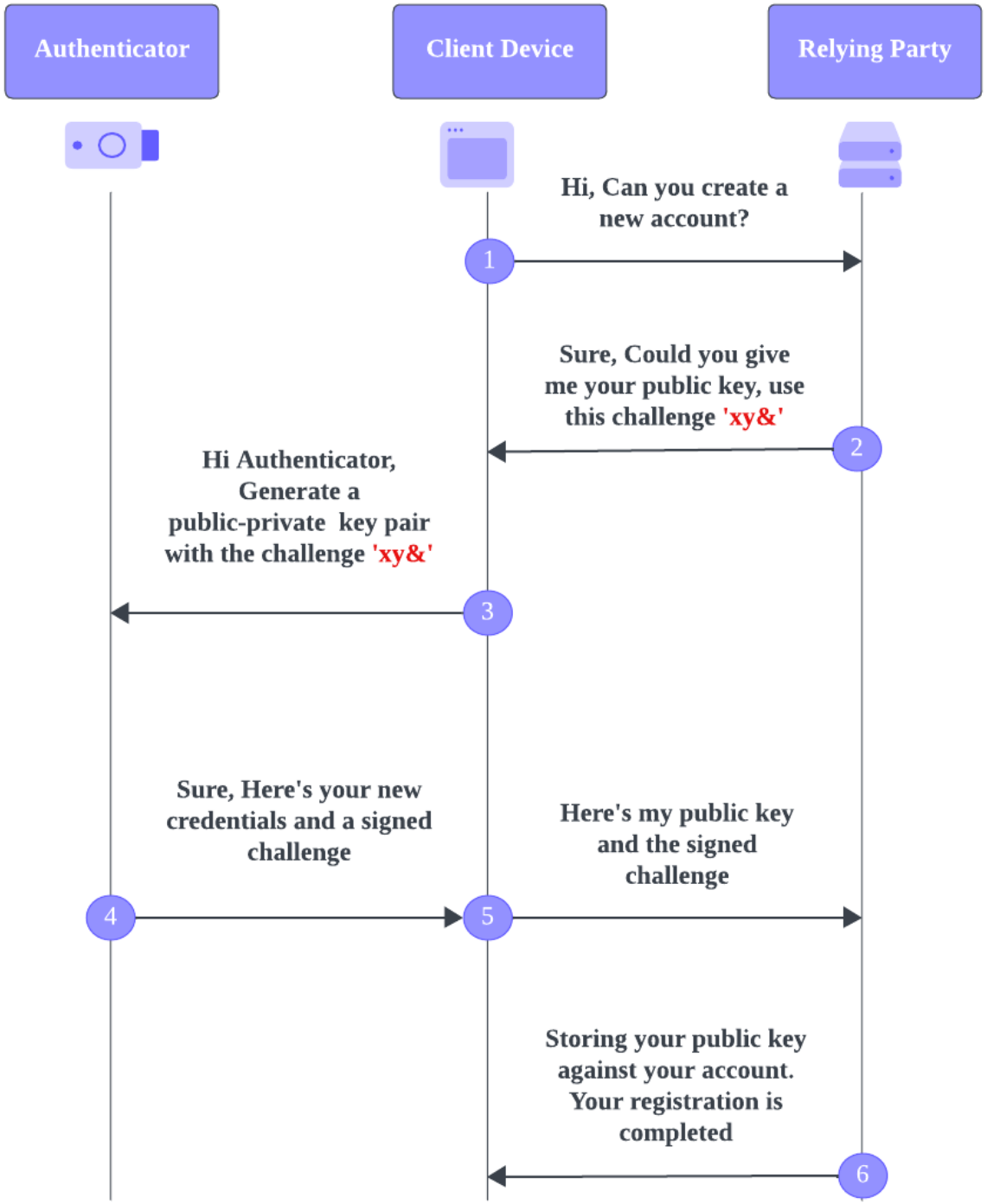
https://https://github.com/aurarius1/FidoDbus-MasterProject



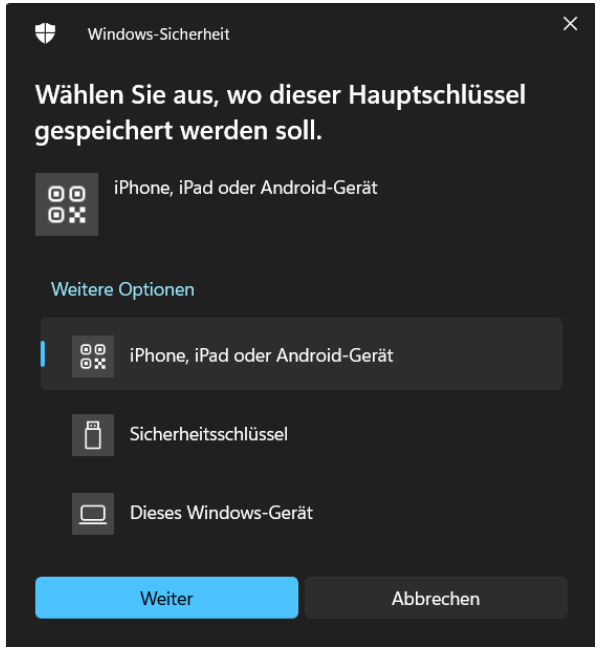
Motivation



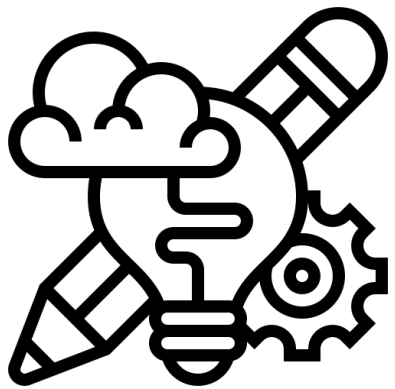
Graphic from: https://auth0.com/blog/webauthn-a-short-introduction/

Motivation

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



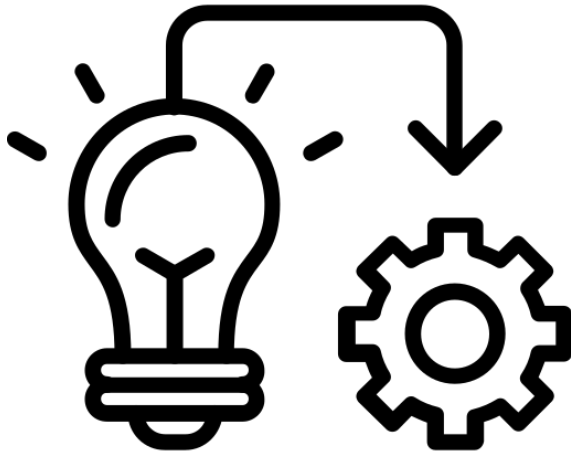
Design Considerations



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

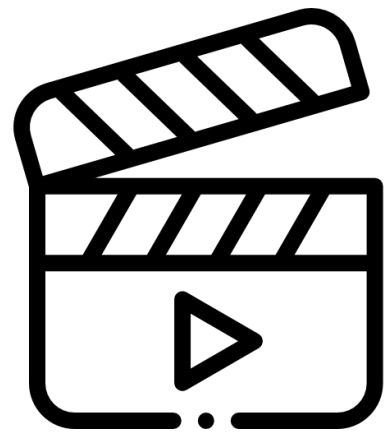
- DBUS Server (C++)
  - Using sdbus-cpp
  - Custom bridge to Rust library
  - UI elements
  - Returns Assertion/Attestation
- API defined via xml
  - Generation of Server/Client possible
- Access only with special user

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)