

EEP595 Project

Eliminate password custodians with USB keys

12 December 2024

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Problem: Passwords

Non-profit are constrained:

- Budget
- Resources

Build (LMS) Authentication

- Registration / Login / Session
- Passwords, naturally?
- OWASP (and industry reco) guidelines
- "stop using passwords"

Options

- WebAuthn + Passkeys
- Yubikey (\$25, \$50)
- Solokey (\$34, \$46)

Previous work

OAuth2 (Cloudflare Access, GitHub, twitch integration)

Pros:

1. Wide adoption
2. Zero user training (transparent)
3. Low-cost?

Cons:

1. Multistep protocol (easy to get wrong)
2. Requires network to contact ID provider
3. Integrate each ID provider
4. or Resort to integration svc provider (Okta /Auth0)

Approach

OpenSK (<https://github.com/google/openSK.git>) open source project using Tock embedded OS

1. dependencies (python3/pip3, libssl, tockloader) 1.a. nrfutil (after 2022)
2. rustup
3. setup.sh
4. deploy.py

Demo

- nrf52840 dongle + OpenSK
- adafruit kb2040 + pico-fido
- rpi pico + SDK (blink)

Thank you

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