GNUHealth

GNU Taler - A Payment System by GNU

GHCon2020

openSUSE

THYMBRA HEALTHCARE

KHADAS

Qt

Cabildo de Gran Canaria

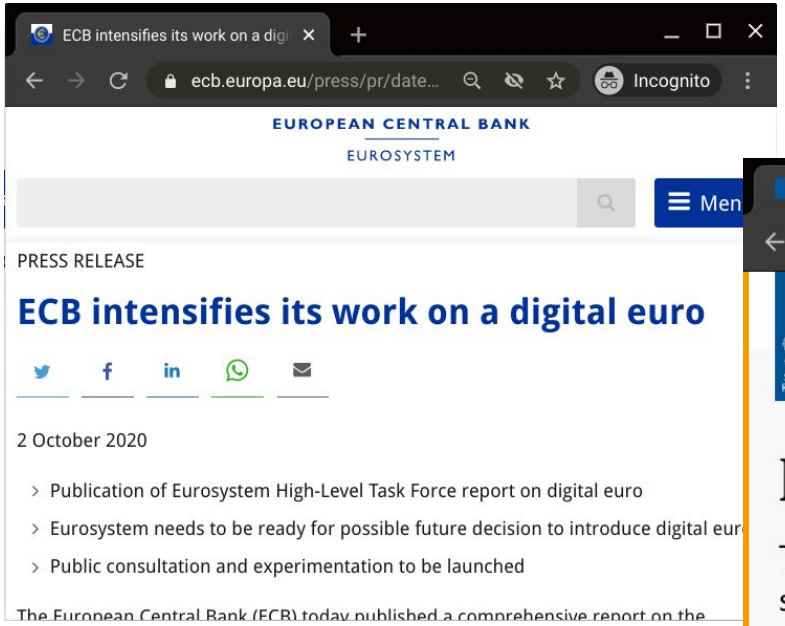
GRAN CANARIA SOLIDARIA
Consejería de Solidaridad Internacional

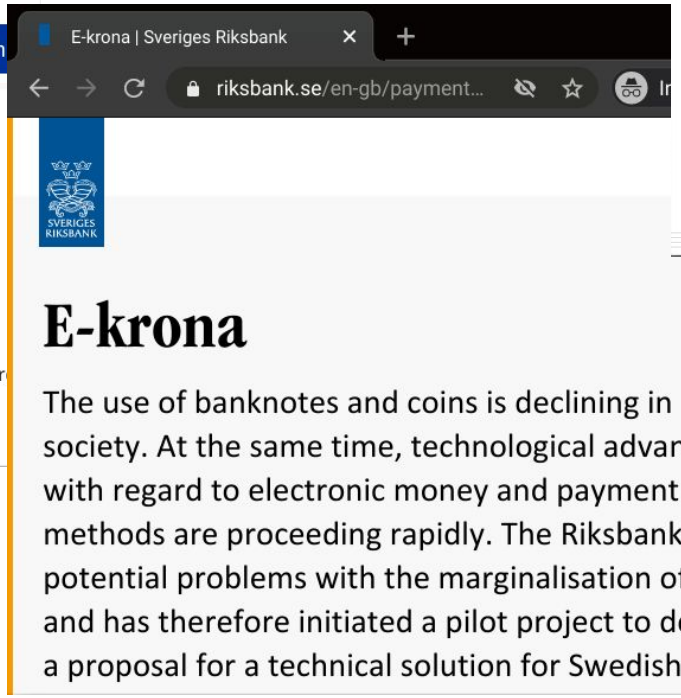
Why should you care about payments?

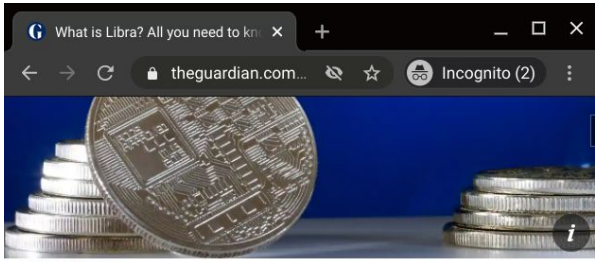
- Electronic Payments are inevitable
- Mainstream suggestions are not **Free Software**
- ... do not have **privacy protections**
- ... do not care about the (financial/psychological) **well-being** of end users.

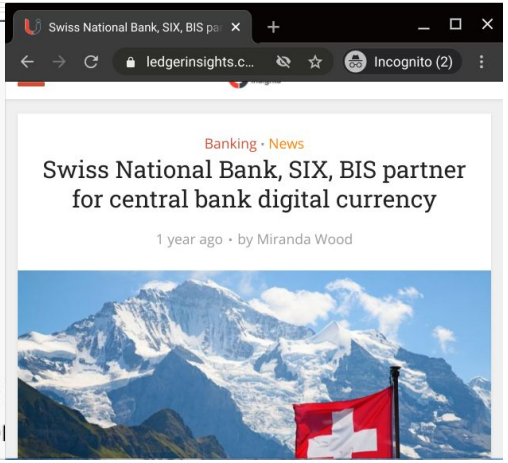
=> The Free Software community should push for a better solution

Why now?


ECB intensifies its work on a digi
ecb.europa.eu/press/pr/date...
Incognito
EUROPEAN CENTRAL BANK
EUROSYSTEM
Men
PRESS RELEASE
ECB intensifies its work on a digital euro
2 October 2020
Publication of Eurosystem High-Level Task Force report on digital euro
Eurosystem needs to be ready for possible future decision to introduce digital eur
Public consultation and experimentation to be launched
The European Central Bank (ECB) today published a comprehensive report on the


E-krona | Sveriges Riksbank
riksbank.se/en-gb/payment...
SVERIGES RIKSBANK
E-krona
The use of banknotes and coins is declining in society. At the same time, technological advances with regard to electronic money and payment methods are proceeding rapidly. The Riksbank sees potential problems with the marginalisation of cash and has therefore initiated a pilot project to develop a proposal for a technical solution for Swedish krono


What is Libra? All you need to kn
theguardian.com...
Incognito (2)
Facebook
What is Libra? All you need to know about Facebook's new cryptocurrency
Facebook claims it wants to reach people without access to a bank account, and that Libra is the best way


Swiss National Bank, SIX, BIS pa
ledgerinsights.c...
Incognito (2)
Banking · News
Swiss National Bank, SIX, BIS partner for central bank digital currency
1 year ago · by Miranda Wood

GNU Taler: Overview

- Project started in 2014
- Goal: Develop **libre** infrastructure for deploying **privacy-friendly** electronic payment systems that could gain **mainstream** adoption.

Small scale: Cafeteria, festival, company office, hacker space

Large scale: Retail Banks, Central Banks (CBDC)

User Experience

Taler at Biel University of Applied Sciences

1. Student installs wallet
2. ... tops up wallet with CHF digital cash at cashier terminal
   => E-Cash is on the *device*, **no account/identity** is created
3. *Optional:* ... sets up backup / key recovery
4. ... selects item to buy at vending machine
5. ... scans QR code, reviews payment and pays **anonymously**
6. After aggregation period, cafeteria receives payment made via Taler as bank transfer

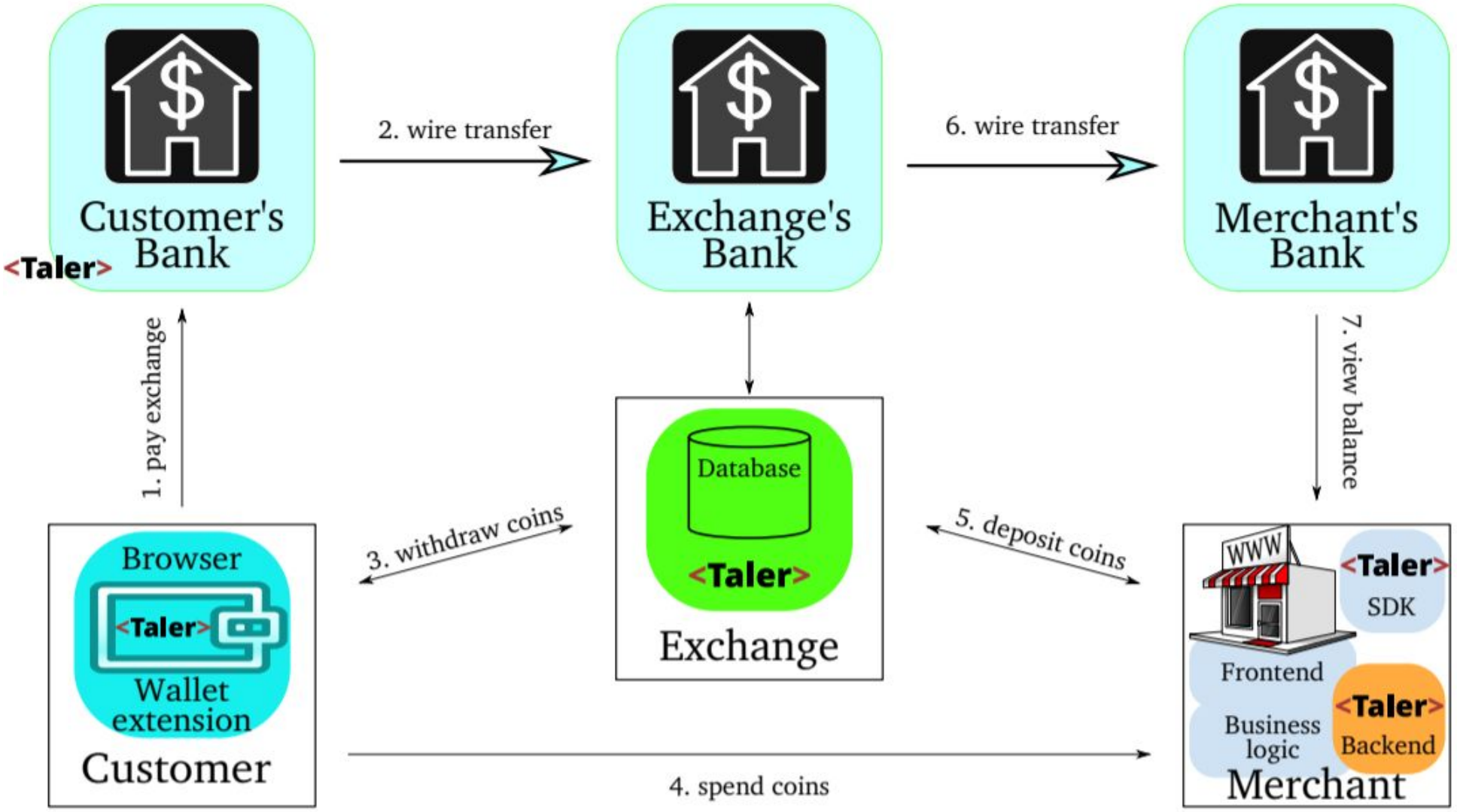
GNU Taler: Principles

1. Free/Libre Software
2. Protect the privacy of buyers
3. Auditability (tax/fraud)
4. Prevent payment fraud
5. Collect the minimum information necessary
6. Be usable
7. Be efficient
8. Fault-tolerant design
9. Foster competition

GNU Taler: Technology

- Based on Chaum's E-Cash (1980s) with some improvements
- Proven and time-tested cryptographic technology
- **Income-transparency** for merchants, **anonymity** for customers

Trade-off: Customer and merchant are **separate entities**

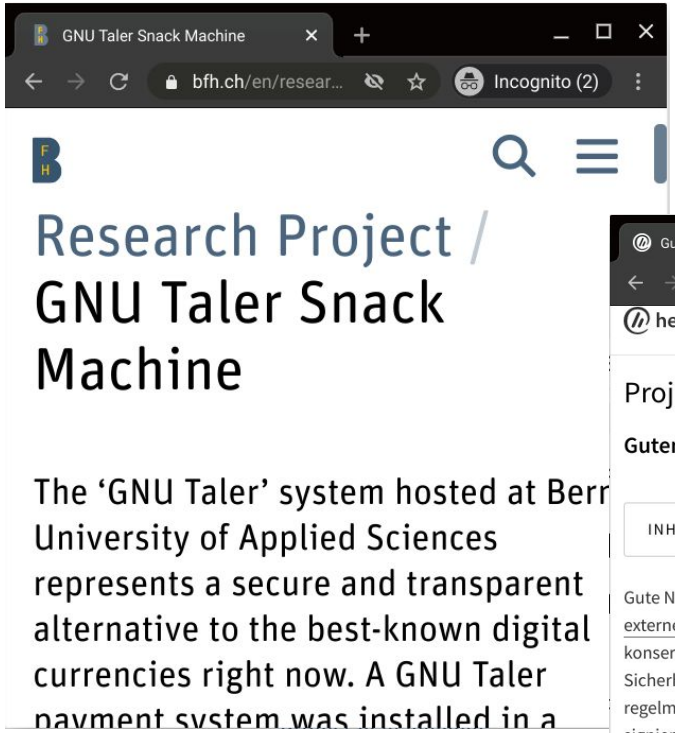

Customer's Bank
<Taler>
2. wire transfer
Exchange's Bank
6. wire transfer
Merchant's Bank
1. pay exchange
Database
<Taler>
Exchange
7. view balance
3. withdraw coins
5. deposit coins
Browser
<Taler>
Wallet extension
Customer
WWW
<Taler>
SDK
Frontend
Business logic
<Taler>
Backend
Merchant
4. spend coins

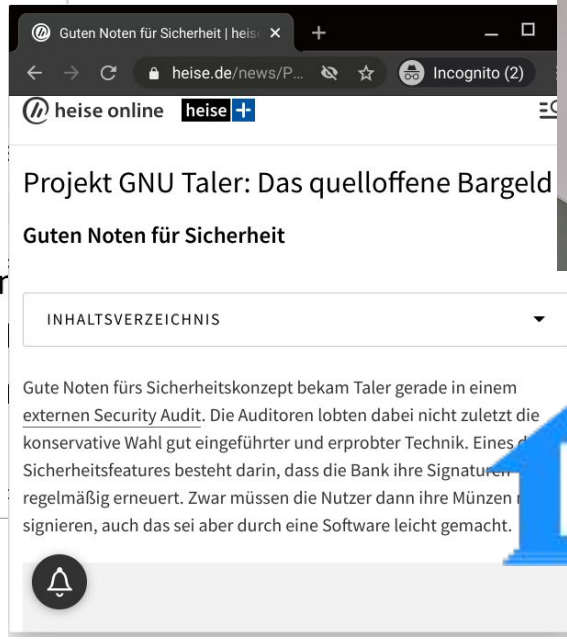
GNU Taler: Components

- Exchange (trusted PSP)
- Auditor (software+party)
- Merchant Backend
- Demo Bank
- Wallet (API, CLI, WebExtension, Android)
- Storefront Demos
- Vending Machine Demo

- LibEuFin (connection to bank/accounting system)
- Sync Storage Service
- Anastasis Key Backup&Recovery

GNU Taler: Progress





LibEuFin

GNU Taler: What's Left?

- Additional security audits
- UX improvements and cross-platform support for wallets
- Finish backup & key recovery implementation
- Project for auditor approval in Eurozone in progress
- Operation & auditing of an Exchange in Germany
- Onboarding of merchants

Get in Touch!

me: dold@taler.net

taler@gnu.org
https://taler.net
Twitter: @taler
IRC: #taler