Filozófia és Tudománytörténet Tanszék

eduCLAIMS project demo
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73%
12%
82,5%
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Motivations of eduCLAIMs
Layers of motivations

• We wanted to create an **easy-to-use** digital claims so that:
  • freedom of academic evaluation increases - things that don’t fit into the regular credit system
    • Supplementary info for credits
    • Internship certification
    • Recommendation letter
  • peer-to-peer claims can be issued
  • freedom of participation increases
    • Taboo topics, disruption of higher education
  • distributed diploma use cases enabled
  • saving paper, saving the planet
Design parameters

• Ease of use for anybody, students, visitors
  • Not smartphone-only (no wallet, no qrcode)
  • Single-source presentation

• Signature
  • No hardware tokens necessary
  • Using the cow path ~ not PKI
    • e-bank-like

• Social construction of authenticity
  • Visual stamp
  • Lends interpretation
Related work

• Similar efforts - eduBadges (NL), EELISA, Erasmus without paper, etc.
  • user need validated
• Technologies are abundant
  • Chosen one: **W3C Verifiable Claims**
• Use cases
  • **Regular**: recommendation letter, credit supplement, volunteer work, extra-curricular activities, internship, phd minutes, habilitation minutes, e-portfolio, auto-CV
  • **Our contribution**: peer-to-peer claims (students on students, teachers on teachers), students-on-teacher claims, partial fulfillment, student union
    • Ultimately a zero-trust distributed university
Idea in a nutshell

• Use **Authentication-based Document Verification**
  • Make benefit from **REFEDS** Assurance Profiles
• Use **PDF only - what you see is what you get**
  • Users can store it in various ways and anybody can visualize, no displayer needed
• Embed W3C JSON to PDF
  • Sign JSON, Visualize signature
  • Sign PdF
  • Generate SHA256 hash of PDF
Research
Blockchain

• For the an alternative to notarization we looked into blockchains
  • European Blockchain Services Initiative
  • Bitcoin, Ethereum
  • Cardano
  • **Solana - highest throughput, lowest carbon footprint among the major ones, proof-of-stake**
Legal Research

- GDPR vs Blockchains
  - as soon as personal data is entered on the blockchain, GDPR features cannot be upheld
- Digital signature vs EIDAS
  - Digital signature method and private law
- eduCLAIMS workable
  - Common AUP
Demo

(if you are not attending the event live, visit: https://www.filozofia.bme.hu/projects/educlaims) for some demo videos.
Potential

- Truly inclusive usage of “signature”
- Killer app for eduGAIN
  - deriving benefit from the 50M accounts, registered and vetted
Thank you for your attention

eduCLAIMS project