

Filozófia és Tudománytörténet Tanszék

eduCLAIMS project demo Mihály Héder

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Budapest University of Technology and Economics



21836

hallgatók száma
NUMBER OF STUDENTS

 14. oldal

73%

állami finanszírozású hallgatók aránya
PROPORTION OF STATE-FINANCED STUDENTS

 14. oldal

12%

nemzetközi hallgatók aránya
PROPORTION OF INTERNATIONAL STUDENTS

 16. oldal

82,5%

tudományos fokozattal
rendelkező oktatók aránya
PROPORTION OF TEACHERS WITH
A SCIENTIFIC DEGREE



The eduCLAIMS Team



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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

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