Partnership for innovative technological solutions to ensure privacy & enhance trust for the human-centric Internet

Webinar, 8 October 2021
## Webinar – Agenda

<table>
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<th>Timing</th>
<th>Topic</th>
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| 10:00 – 10:10 | Welcome  
Jean-Luc Dorel, DG Connect, European Commission                      |
| 10:10 – 10:20   | Introduction  
Alasdair Reid, NGI Trust coordinator, EFIS Centre                 |
| 10:20 – 11:35 | NGI Trust Funded projects results  
NGI Trust Project managers                                           |
| 11:35 – 11:55 | Round table discussion and exchange - Q&A  
All                                                                 |
| 11:55 – 12:00 | Wrap-up and close                                                    |
NGI TRUST in a snapshot

Jean-Luc Dorel, DG Connect & Alasdair Reid, EFIS Centre

Key facts & figures

- 3 open calls:
  - 300 applications;
  - 448 applicants;
  - 36 countries.

- 3rd party funding: €5.6m:
  - 57 funded projects;
  - 84 funded third parties;
  - 20 countries.
NGI TRUST Objectives & Partners

Jean-Luc Dorel, DG Connect & Alasdair Reid, EFIS Centre

Reinforce, structure and develop the **community** of researchers, innovators and technology developers in the field of privacy and trust enhancing technologies.

Build on the **state of the art in privacy and trust enhancing technologies** by focusing support for third-party projects in a limited number of priority topics.

Improve **user trust and acceptance of emerging technologies** by focusing on applications and solutions that develop a more open, robust and dependable Internet and strengthen Internet Governance.

Foster the **exploitation and commercialisation** of the results of selected third-party projects through a tailored process of coaching and mentoring.
NGI TRUST
57 PROJECTS FUNDED
12 THEMATIC AREAS

- Beyond Passwords
- Better Privacy
- Safer Browsing
- User Control
- Impact of AI
- Human-Centric Internet
- Stronger Tools
- Effective Identity
- Personal Data Management
- Data Ethics
- Securing the Internet of Things
- Advancing Identity
NGI TRUST Funded projects results
Areas: Data Ethics/ Advancing Identity

<table>
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<th>Project</th>
<th>Third party</th>
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<tbody>
<tr>
<td>CASPER / 2.0</td>
<td>University of Belgrade, O Mundo da Carolina, Fac. of Computer Science and Engineering, KINKI</td>
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<tr>
<td>FAIR-AI 2.0</td>
<td>University of Cambridge</td>
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<td>IRIS</td>
<td>Resonate Cooperative</td>
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<td>TruVeLedger</td>
<td>RISE Research Institutes of Sweden</td>
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<tr>
<td>MW4ALL / 2.0</td>
<td>Least Authority</td>
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<tr>
<td>Keyn / Chiff 2.0</td>
<td>Keyn, Content Power</td>
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<tr>
<td>MidPrivacy /MidScale</td>
<td>Evolveum</td>
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<tr>
<td>MedIAM</td>
<td>Fabien Imbault</td>
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</table>
- In shell, it is an A.I. based ghost
- Using A.I. at the HCI level to protect children
- Modular architecture
- Can analyze image/video/audio/text content
- Different types of threats can be detected
RESULTS AND NEXT STEP (CASPER TO SMITS)

• DEVELOPING MOBILE APP (ANDROID SOLUTION)
• IMPLEMENTATION IN 1000 SCHOOLS IN SERBIA
• TARGETING PARENTS IN WB6 COUNTRIES
Results

1. Modular platform for HCI screening, segmentation, classification, and content blocking/reporting.
2. Trained algorithms.
3. Datasets and Web application.
4. Good response from users, researchers, and relevant organizations.

Next Steps

1. Open-source foundation creation.
2. Android/iPhone support.
3. Improving performance (efficacy and efficiency).
4. Adding support for other user groups and threat types.
5. Support for evidence preservation.
6. Support for collaboration and federated learning.
Objectives and Contributions

Globally, contract conflict and user agreement conflict, costs 3 trillion dollars a year.

Research question: How does one predict if a contract will lead to a conflict in the future?

In being able to predict this, we can avoid these costs.

Research has found that a principal cause of conflict is: Inaccurate or mistaken Rights and Duties allocation.

Solution and Method

Develop artificial intelligence to be able to analyse User Agreements and Contracts to detect if a fair allocation of Right and Duties is being made.
Results

Three papers on detecting fair clauses:


4. A fully annotated corpus with 14,000 hand labeled legal assignments for machine learning training.

Next Steps

This project was a Type II (Development) NGI project.

For Commercialisation, and R&D, we secured collaboration of:

1. Center for Corporate and Commercial Law, University of Cambridge, Dr Felix Steffek.

2. Dr Rune Nyrup of the Levenshulme Center for the Future of Intelligence, University of Cambridge, and Cambridge Enterprise.
IRIS: Identity for the Resonate IS Ecosystem Discourse Community Credentials

Collaboration in our Ecosystem: Prioritizing Human-Centric Initiatives

- Resonate Community Forum
- Verifiable Credentials Exclusive Content
- Patronage with Resonate Artist Kallie Marie
- Know Your Own Co-Operator (KYCO) and Community Credentials
- Play Fair Stay Fair Collaboration with Fairbnb.coop
- Coffee Quest: Ethical Supply Chain Initiative
- Exploratory Meetings for Organizational Principles and Resource Means with tykn, Climate Justice Alliance, and Repaired Nations

Our strength in Resonate begins in the **Community** and social solidarity around music. That's where we start, not as a tech solution looking for a problem. Let's take it step by step, growing organically from our co-operative, community core.
Conclusion

Resonate’s progress has carved a path for people to organize and trade resources in ‘digital dignity’ without the market pressure for ever-increasing profits, data surveillance and coerced labor. We’ve steadily increased engagement to support the following:

- Decolonizing and democratizing community spaces and creative channels to break from domineering private capital
- Generating genuine accountability across adjacent communities through our collaborative ecosystem
- Connecting the international social power of music to community-led, on the ground repair
- Building security and resilience against speculation, alienation and market pressures to maximize the depth of our reach with localized cultural support systems

In conjunction with our accomplishments regarding SSI and Community Credential Plug-ins, as well as the introduction of updated technical tools to support our artists and users, we have built the principles foundations for building true trust. Our path forward utilizes these community and governance protocol updates to define the technical requirements that support ‘digital dignity’ for frontline communities.

Technology

Connect community path to our burgeoning tech deliverables here:
TruVeLedger
(Trusted Platform for Disruptive Vehicular Ad Hoc Networks using Distributed Ledger Technology)

Anders Lindgren, anders.lindgren@ri.se
Project Background and Objectives

- Trusted communication important for Vehicular Ad Hoc Network (VANET) applications (trusted source of sensor data, etc)

- Decentralised operation desireable
  - Large data volumes, so processing at edge beneficial
  - Potentially sensitive data, so don't want all data stored centrally

- Blockchains/Distributed Ledger Technology has potential to provide trust
  - Both VANETs and DLTs are inherently decentralized, so good fit, but current DLT solutions not optimal in terms of robustness for scenarios with network disruptions/partitioning, or where you want to keep data local.

- Goal: Identify suitable DLT mechanisms for VANETs and adapt/include in conceptual framework to show viability of DLT based trusted system for VANETs. Identify stakeholders and user scenarios.
Project results and next steps

• Results
  – Literature survey and stakeholder analysis
  – TruVeLedger framework definition
  – Paper “Towards A Distributed Ledger Based Verifiable Trusted Protocol For VANET” published in the 2021 International Conference on Digital Futures and Transformative Technologies (ICoDT2)

• Next steps
  – In talks with major vehicular manufacturer to submit proposal to national Vinnova FFI vehicular industry targeted funding call
MW4ALL 2.0

Developing and Deploying a New Version of Magic Wormhole for Identity-Free File Transfer

NGL_Trust Results Webinar - 8 October 2021
Our competitive advantages

- Large file size support
- Fast
- Identity-free
- End-to-end encryption
  Data not stored on our servers
- Easily share a code to send files
- No-download web app
What did we work on?

1. Iterative design & user research

2. Developing for scalable web-to-web transfers

3. Outreach and sustainability planning
Making it easier to be secure online
Login with your smartphone as a hybrid authenticator
  - No masterpassword
  - End-to-end encrypted
  - Privacy-by-design
  - Independent of underlying authentication method (passwords / OTP / WebAuthn)
Results NGI_Trust project

- Solution available for B2C and B2B market
- Open sourced the core of Chiff
- Bridged the gap to WebAuthentication
- Tested and validated solution
- Found a product/market fit within BPO-companies
- Scalable solution for commercialization
Chiff

4b!LkrVD8F=/6/:#wTR

[signed challenge]

:[1@C]UUhK/yJiTfl!/B
Next steps

- Paid pilot to validate added value at a major contact center
- Sales and acquisition at BPO companies
- Expand and scale Chiff for teams at SMEs
- Making WebAuthn-checker website for developers

Always open for collaborating on online authentication!
Goals
Manage complex provenance metadata in identity information, thus providing transparency and accountability.

Outcomes
Successful prototype, integrated into midPoint, an open source identity governance platform.

https://docs.evolveum.com/midpoint/projects/midprivacy/phases/01-data-provenance-prototype/
End-to-End Metadata
Metadata managed from the sources all the way to GUI.

Complex metadata schema specified using Axiom, new metadata-aware schema language.

Future
Personal data protection
MidScale: MidPoint Scalability

**Goals**
Make **midPoint** scalable for large deployments (beyond millions of managed identities).

**Outcomes**
Scalable data storage implementation, major performance and usability improvements.

https://docs.evolveum.com/midpoint/projects/midscale/
MidScale: MidPoint Scalability

Large-Scale Deployments
Speedup by factor of 2 (or more*)
Scalability beyond millions of identities
100% open source

Future
New opportunities (government, academia, telco, …)

*) Exact numbers to be confirmed. Project is not finished yet, last tests are still running.
objectives

IAM of things (identity & access management) applied to medical systems

experiment involved healthcare organisations and medical device suppliers
results

opensource project doc.mediam.dev includes a hardware prototype and a full documentation
next steps

- - - - -

focus on IETF GNAP + DIF KERI as the core foundation

disseminate research into an industrial project
| Experience and learning from the project – how can the NGI initiative further improve support third-party projects |
| What’s next: the route to market – or scale-up - what can NGI do to help? |
| Future NGI: what should we be focusing on in terms of privacy and trust in future initiatives for a human-centric internet |
More information/contact us

- Project coordinator: Mr Alasdair Reid @ EFIS Centre - www.efiscentre.eu
- Email: NGI-Trust-support@lists.geant.org
- Twitter: @NgiTrust
- NGI_TRUST wiki: https://wiki.geant.org/display/NGITrust
- NGI.eu website: https://www.ngi.eu/about/

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