

Rahasammon julkistustilaisuus, Kalevalan päivänä, 28.2.2024

Rahasampo - uusi jäsen Sampo- portaalien ja datapalveluiden sarjassa

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<http://seco.cs.aalto.fi/u/eahyvone/>

Kiitokset yhteistyöstä: Rahasammon takojat

Projektiryhmä

Rahasampo on kehitetty Aalto-yliopiston, Helsingin yliopiston ja Kansallismuseon välisenä monialaisena yhteistyönä:

Aalto-yliopistossa ja Helsingin yliopistossa:

- Eljas Oksanen (Helsingin yliopisto, kulttuurien osasto, ja Aalto, vetäjä)
- Heikki Rantala (Aalto, tietotekniikan laitos)
- [Eero Hyvönen](#) (Aalto, tietotekniikan laitos ja Helsingin yliopisto, HELDIG-keskus)

Kansallismuseossa:

- Frida Ehrnsten (numismaattiset kokoelmat)

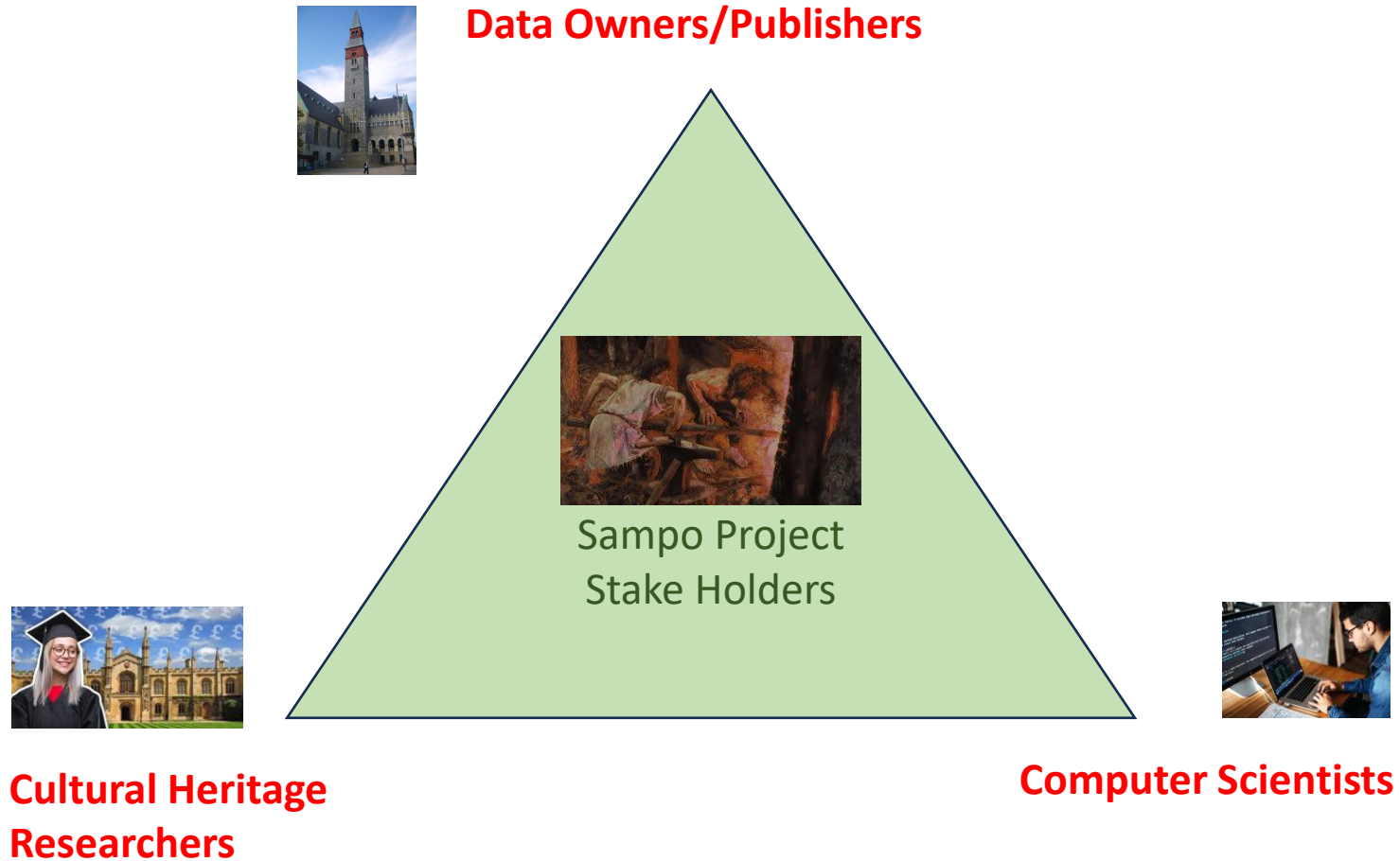
Kiitokset

DigiNUMA:n ohjausryhmään kuuluivat prof. Michael Lewis (British Museum), Dr David Wigg-Wolf (German Archaeological Institute and Nomisma.org), FT Frida Ehrnsten (Kansallismuseo), amanuessi Ville Rohiola (Museovirasto) ja TkT Jouni Tuominen (Helsingin yliopisto & Aalto-yliopisto).

Hanketta rahoitti Jenny and Antti Wihurin säätiö, Euroopan komission Marie Skłodowska-Curie -toimet, Aalto-yliopisto ja Helsingin yliopiston humanistis-yhteiskuntatieteellinen instituutti ([HSSH](#)).



Triangular Collaboration Model in Sampo Research Projects



A close-up, slightly blurred image of Leonardo da Vinci's Vitruvian Man. The man's face is the central focus, looking slightly to the right. He has long, wavy brown hair and a full, dark beard. The background is a dark, textured surface, possibly the wall of the Vitruvian Man drawing.

“Learn how to see. Realize that everything connects to everything else.”

Leonardo da Vinci (1452-1519)

Why Linked (Open) Data

- Enriching everybody's data collaboratively from separate silos
 - Everybody wins by collaboration!
- Creating **F**indable, **A**ccessible, **I**nteroperable, **R**e-usable data
 - The value of data increases!
- Creating more intelligent applications for the public, curators, and researchers
 - The machine “understands” linked data!



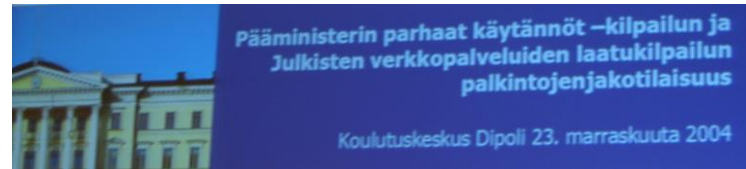
FAIR



<https://www.go-fair.org/fair-principles/>



MuseoSuomi – Suomen museot semanttisessa webissä 8.3.2004



3rd International Semantic Web Conference (ISWC2004)



*Semantic Web Challenge Award
ISWC 2004, Hiroshima, Japan*

Julkistustilaisuus Kansallismuseossa

Pääministerin kunniamaininta

Sampo Series of CH LOD Services & Portals



20 Years,
20 Sampos



A. Gallen-Kallela: The Defense of the Sampo, 1896, Turku Art Museum

1. **MuseumFinland** – Finnish Museums on the Semantic Web (2004) [39 000 users]
2. **CultureSampo** – Finnish Culture on the Semantic Web (2008) [107 000 users]
3. **TravelSampo** - Mobile Contextualized Services of Cultural Tourism (2011)
4. **BookSampo** – Finnish Fiction Literature on the Semantic Web (2011) [1.6 million users in 2022]
5. **WW1LOD** – World War I Linked Open Data (2014)
6. **WarSampo** – Finnish World War 2 on the Semantic Web (2015-19) [1 300 000 users]
7. **Norssi Alumni on the Semantic Web** – Historical person registry using LOD (2017)
8. **U.S. Congress Prosopographer** – U.S. Congress Legislators 1789-2018
9. **BiographySampo** - Finnish Biographies on the Semantic Web (2018-20) [381 000 users]
10. **NameSampo** – Linked Data Workbench for Toponomastic Research (2019) [55 000 users]
11. **WarVictimSampo 1914-1922** – National War History [80 000 users]
12. **Mapping Manuscript Migrations (MMM)** – medieval manuscripts (2020) [9100 users]
13. **AcademySampo** – Finnish Academic People 1640 – 1899 (2021) [26 000 users]
14. **FindSampo** – Archaeological Finds on the Semantic Web (2021) [7 000 users]
15. **WarMemoirSampo** – Memoirs of Finnish WW2 veterans (2021) [3 800 users]
16. **LetterSampo** – Early Modern Letters on the Semantic Web (2022)
17. **ParliamentSampo** – Parliament of Finland on the Semantic Web (2023)
18. **LawSampo** – Finnish Legislation and Case Law on the Semantic Web (2023)
19. **BookSampo II** – Semantic Search, Browsing, and Data-analyses (2023)
20. **OperaSampo** – Opera and music theater performances in Finland 1830-1960 (2023)
21. **ConfermentSampo** – Conferment Ceremonies of the University of Helsinki 1640-1899 (2023)

Sampo-UI



Year of 5
Sampos
2023

Sampo = Mythical artifact of the Finnish Epic Kalevala that gives to its owner riches and good fortune. A metaphor of amazing ancient technology.

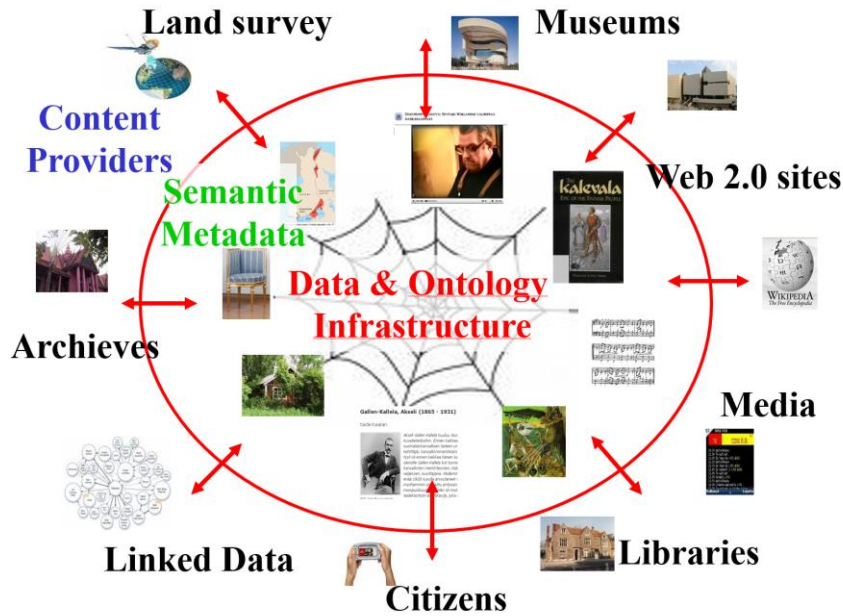
Links to all Sampos: <https://seco.cs.aalto.fi/applications/sampo/>

Sampo Model for 1) Human Users and 2) Machines



LINKED DATA SERVICE

Findable, Accessible, Inteoperable, Re-usable **FAIR** data!



Linked Data Finland

Living Laboratory Data Service for the Semantic Web

<https://ldf.fi/>

APPLICATIONS & TOOLS

Use Cases

Sampo Portals & Applications



Sampos: <https://seco.cs.aalto.fi/applications/sampo/>

Digital Humanities Research

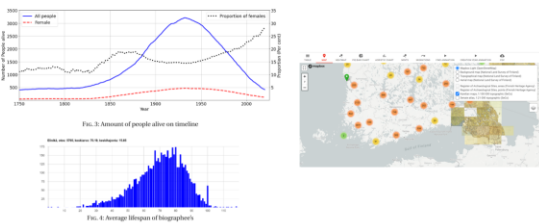
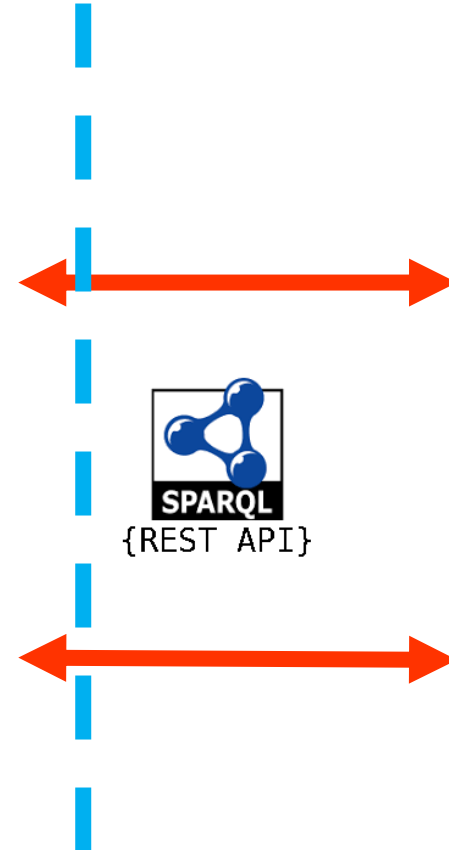


Fig. 3. Amount of people alive on timeline
Fig. 4. Average lifespan of biographers

Tools

Sampo-UI, etc.

Google Colab, Jupyter, YASGUI, etc.



References

Eero Hyvönen: [How to Create a National Cross-domain Ontology and Linked Data Infrastructure and Use It on the Semantic Web](#). *Semantic Web*, 2024. In press.

Eero Hyvönen: [Digital Humanities on the Semantic Web: Sampo Model and Portal Series](#). *Semantic Web*, vol. 14, no. 4, pp. 729-744, 2023.

Esko Ikkala, Eero Hyvönen, Heikki Rantala and Mikko Koho: [Sampo-UI: A Full Stack JavaScript Framework for Developing Semantic Portal User Interfaces](#). *Semantic Web*, vol. 13, no. 1, 69-84, 2022.

More Sampos in 2024

- **CoCoSampo** – Finnish letters on the Semantic Web 1809–1917
 - <https://seco.cs.aalto.fi/projects/coco/>
- **FinEst-LawSampo** – Cross-border Multilingual Legislation Search
 - <https://seco.cs.aalto.fi/projects/finestsampo/>
- **PASampo** – Portable Antiquity Scheme Sampo of British Museum
 - <https://seco.cs.aalto.fi/projects/diginuma/>
- **CoinSampo** – Finnish Numismatic Public Finds 2013–2023
 - <https://seco.cs.aalto.fi/projects/diginuma/>
- **ArtSampo** – Finnish Art on the Semantic Web
 - <https://seco.cs.aalto.fi/projects/taidesampo/>
- **SampoSampo** – Finnish Linked Open Data Cloud of Cultural Heritage
 - All sampos interlinked under one user interface



A. Gallen-Kallela: The Forging of the Sampo, 1893, Ateneum Museum,



LESSONS LEARNED

1. Develop shared LOD infrastructure step-by-step together
2. Make it easy to develop/use applications on top of it

Our work is part of the National Finnish FIN-CLARIAH/DARIAH-FI Research Infrastructure
funded by the Research Council of Finland (Suomen Akatemia):
<https://seco.cs.aalto.fi/projects/fin-clariah/>



Why infrastructure?

“Intellectuals solve problems
- geniuses prevent them”

Albert Einstein

Making Application Development Easy: Sampo-UI

- Re-use “standard” interface model & logic
 - Easy to (re-)learn by end users
 - Easy to (re-)implement by developers
- Base applications on simple linked data service API: SPARQL



But the Lunch is not Free

- More collaboration is needed -> complicates work
- Integration of semantic systems with legacy systems
- Manual annotations are costly and may not scale up
- Automatic annotation and linking lowers data quality



Need more source criticism and data literacy!

- What the data actually are and mean?
- Big data quality issues: completeness, skewness, errors

More Information – Questions?

<https://seco.cs.aalto.fi/>



Semantic Computing Research Group (SeCo)
[Making computers and the web more intelligent and interoperable!](#)

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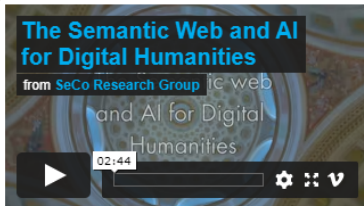
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Semantic Computing Research Group (SeCo) researches machine-processable semantics related to, e.g., the Semantic Web. We are located at the [Aalto University, School of Science, Department of Computer Science](#) and [HELDIG – Helsinki Centre for Digital Humanities](#), University of Helsinki, Faculty of Arts. Our group consists of researchers both from the Aalto University, School of Science, Department of Computer Science and [University of Helsinki, Department of Computer Science](#), and HELDIG.

Our research is [focused](#) on semantic technologies, such as the Semantic Web and intelligent web services. In addition to research and [publications](#), we also create prototype applications that demonstrate the new possibilities of semantic technologies, such as **semantic portals for end users**, **semantic infrastructural data and ontology services**, and **ontologies and tools** for creating semantic applications.



500 publications about the infras and their applications:

<https://seco.cs.aalto.fi/publications/>

Videos:

<https://seco.cs.aalto.fi/applications/sampo/>

- PUBLICATIONS
- APPLICATIONS
- ONTOLOGIES
- LINKED DATA
- INFRA FOR DH
- SERVICES
- TOOLS
- SOFTWARE
- DOWNLOAD

Wikipedia: [Semantic web suomeksi](#)

Google this site

Application Domains

Our work is highly cross-disciplinary, including application domains, such as Digital Humanities, Health, Learning, Government, Commerce, Geography, and Biology.

Selected SeCo Applications and Demos for End Users



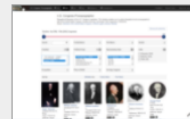
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[Semantic Finlex - Finnish Law](#)



[WarSampo - Second World War](#)



[Hipla.fi - Finnish Ontology](#)



[Semantic National Biography](#)



[BirdWatch - Mobile Semantic](#)

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Eero Hyvönen: [Relevance Feedback Search Based on Automatic Annotation and Classification of Texts](#)

Eero Hyvönen: [How to Create a National Cross-domain Ontology and Linked Data Infrastructure and Use It on the Semantic Web](#)

Eero Hyvönen, Esko Ikkala, Mikko Koho, Jouni Tuominen, Toby Burrows, Lynn Ransom, and Hanno Wijsman: [Mapping Manuscript Migrations on the Semantic Web: A Semantic Portal and Linked Open Data Service for Premodern Manuscript Research](#)

Petri Leskinen and Eero Hyvönen: [Reconciling and Using Historical Person Registers as Linked Open Data in the AcademySampo Knowledge Graph](#)

SeCo on Twitter

Tweets by @secoresearch

SeCo Research Group Retweeted

ManuscriptMigrations
@MSMigrations

"Harmonizing and publishing heterogeneous premodern manuscript metadata as Linked Open