

FindSampo: Finnish Archaeological Finds as Linked Open Data

Mikko Koho

University of Helsinki (HELDIG) and Aalto University

Ville Rohiola

Finnish Heritage Agency

Metal Detecting in Finland

Recreational metal-detecting as a hobby in Finland since 1980s

Considerable popularity from the 2010s onwards

Metal Detecting permitted in Finland

Digging prohibited in places such as ancient monuments without permit

Finds older than 100 years old must be reported to the Finnish Heritage Agency (FHA)

ILPPARI, a new digital reporting service for finds launched by FHA in 2019

→ *Need of a linked open database for archaeological finds data*



Photo: Marianna Niukkanen, FHA

The Background of FindSampo



SuALT project

The Finnish Archaeological Finds Recording Linked Open Database

A consortium project (2017-2021)

with *University of Helsinki, Aalto University & Finnish Heritage Agency (FHA)*

+ International cooperation with EPFRN: *PAS, PAN, MEDEA & DIME*



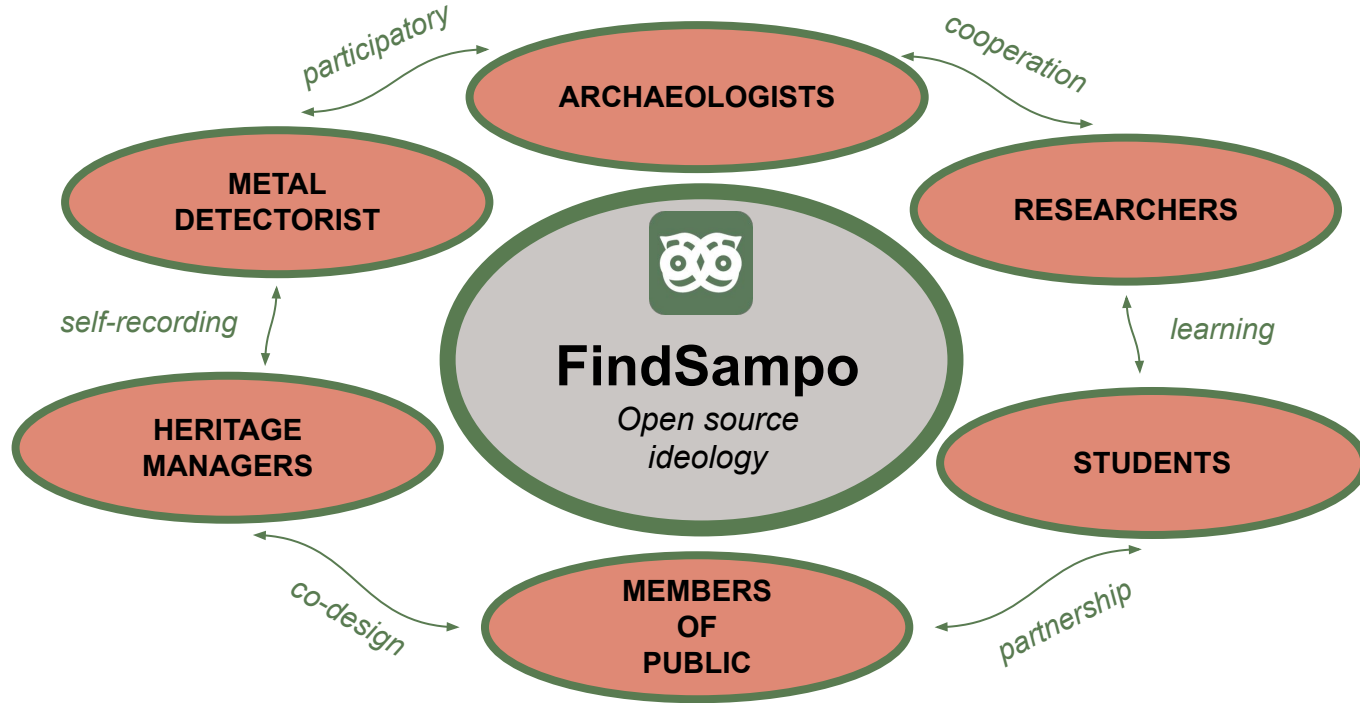
The aim is to develop **FindSampo**

an accessible, easy to use platform for finds made by the public

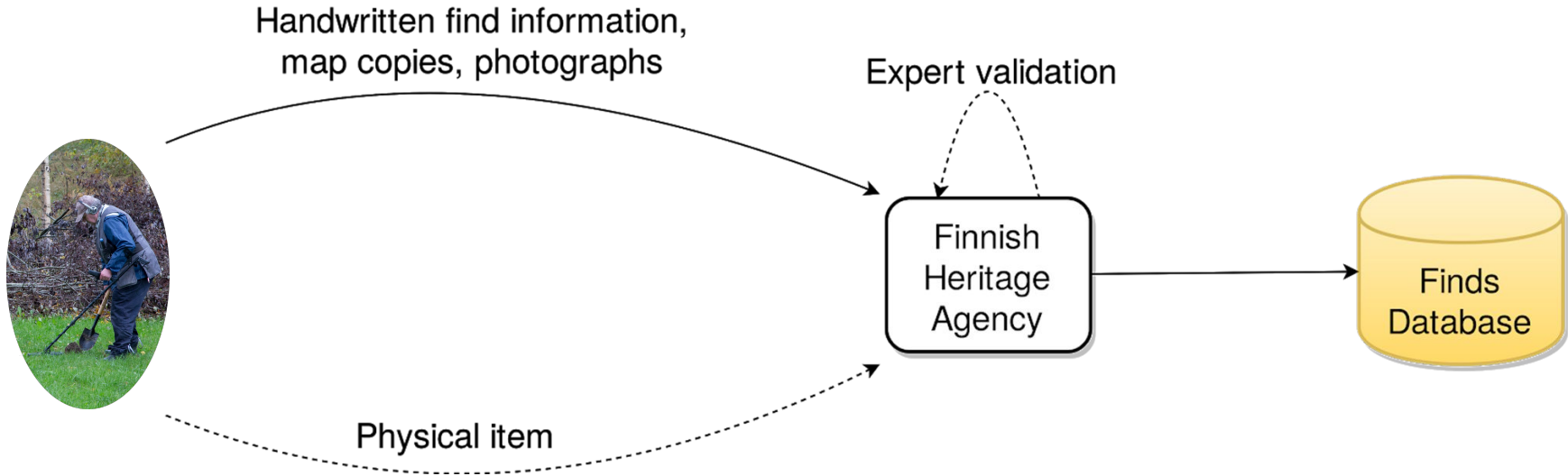
- A linked open database – *open source ideology!*
- An interactive forum for different users – *cooperation!*
- An educational tool – *guidelines and information!*

Citizen Science

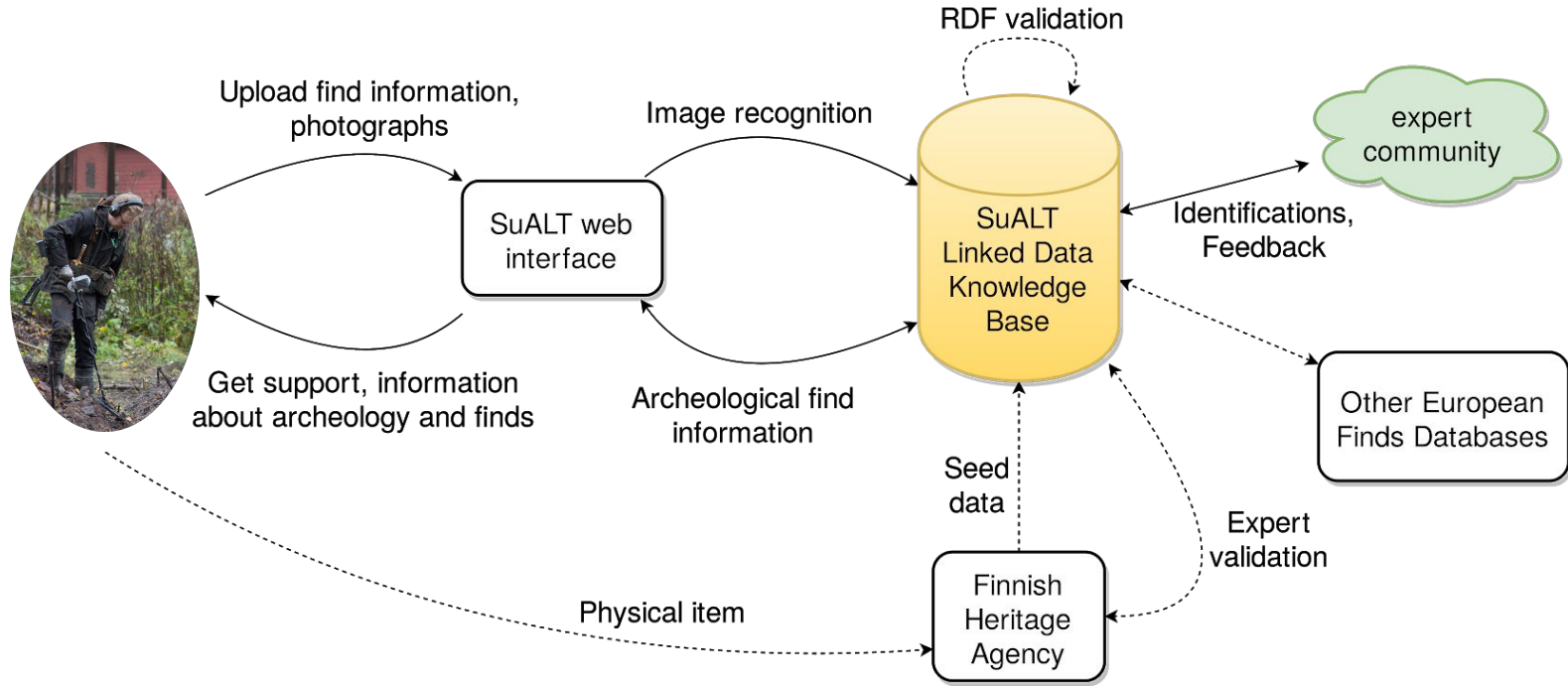
Perspectives from all the end-users



Initial Situation



Our Vision

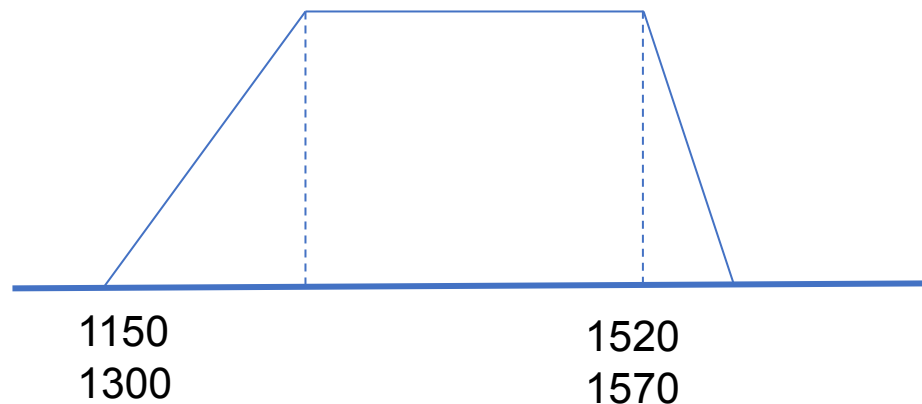


FindSampo Linked Data

- **Thousands of finds from FHA**
- **Ontology infrastructure for archaeological finds**
 - Ontology for museum domain (MAO) as basis
 - *Finds mapped to MAO*
 - Linked to Getty AAT
 - Enriching MAO with archaeological terms
- **Links to international finds databases**

Historical Time Periods

Middle Age (Keskiaika) in Finland



	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O
1	Level 0	Level 1	Level 2	Level 3	Level 4	Level 5	begin of begin	end of begin	begin of end	end of end	MAO	Definition	Provenance link : TP	Notes	
2	esihistoriallinen aika						-100000		1150	1300	http://www.yso.fi/onto/mao/p1244				
3		kivikausi					-8850	-8850	-1900	-1700	http://www.yso.fi/onto/mao/p2816			ei paleoliittista kivikautta	
4			mesoliittinen kivikausi				-8850			-5200	http://www.yso.fi/onto/mao/p3525				
5				varhaismesoliittinen kivikausi			-8850			-8000	http://www.yso.fi/onto/mao/p10592				
6				keskimesoliittinen kivikausi			-8000			-6800	http://www.yso.fi/onto/mao/p10944				
7				myöhäimesoliittinen kivikausi			-6800			-5200	http://www.yso.fi/onto/mao/p10719				
8			neoliittinen kivikausi				-5200		-1900	-1700	http://www.yso.fi/onto/mao/p2815				
9				varhaisneoliittinen kivikausi			-5200			-3900	http://www.yso.fi/onto/mao/p10785				
10				keskineoliittinen kivikausi			-3900			-2900	http://www.yso.fi/onto/mao/p10636				
11				myöhäisneoliittinen kivikausi			-2900			-2200	http://www.yso.fi/onto/mao/p10940				
12				loppuneoliittinen kivikausi			-2200		-1900	-1700	http://www.yso.fi/onto/mao/p10576				
13														MAO käsite pronssikausi rannikko	
14		pronssikausi					-1700			-500	http://www.yso.fi/onto/mao/p1241				
15			vanhempi pronssikausi				-1700			-1100	http://www.yso.fi/onto/mao/p10319				
16			nuorempi pronssikausi				-1100			-500	http://www.yso.fi/onto/mao/p10174				
17															
18		rautakausi					-500		1150	1300	http://www.yso.fi/onto/mao/p1006				
19			varhaisrautakausi				-500		375	400	http://www.yso.fi/onto/mao/p10169				
20				esiroomalainen aika			-500		0	50	http://www.yso.fi/onto/mao/p3834				
21				vanhempi roomalaisaika			0	50	150	200	http://www.yso.fi/onto/mao/p10217				
22				nuorempi roomalaisaika			150	200	375	400	http://www.yso.fi/onto/mao/p10195				
23			keskirautakausi				375	400		800	http://www.yso.fi/onto/mao/p10365			MAO:ssa virhe keskirautakauden ajoiss:	
24				kansainvaellus aika			375	400	550	600	http://www.yso.fi/onto/mao/p3835				
25				merovingiaika			550	600		800	http://www.yso.fi/onto/mao/p1341				
26			myöhäisrautakausi				800		1200	1300	http://www.yso.fi/onto/mao/p10137				
27				viikinkiaika			800			1050	http://www.yso.fi/onto/mao/p1796				
28				ristiretkiaika			1050		1200	1300	http://www.yso.fi/onto/mao/p3833				
29															
30	historiallinen aika						1150	1300		2099	http://www.yso.fi/onto/mao/p8689				
31		keskiaika					1150	1300	1520	1570	http://www.yso.fi/onto/mao/p3025				
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33			sydänkeskiaika				1323			1397	http://www.yso.fi/onto/mao/p9908				
34			myöhäiskeskiaika				1397			1550	http://www.yso.fi/onto/mao/p8382				
35															
36		uusi aika					1550			2099	http://www.yso.fi/onto/mao/p2250				
37			1500-luku				1500			1599	http://www.yso.fi/onto/mao/p8820				
38			1600-luku				1600			1699	http://www.yso.fi/onto/mao/p8669				
39			1700-luku				1700			1799	http://www.yso.fi/onto/mao/p9418 , http://www.yso.fi/onto/mao/p8076				
40			1800-luku				1800			1899	http://www.yso.fi/onto/mao/p8284				
41			1900-luku				1900			1999	http://www.yso.fi/onto/mao/p8604				
42			2000-luku				2000			2099					
43															

Time Periods in Finland Facet



PeriodO

A gazetteer of periods for linking and visualizing data.

Download the periods.

[JSON](#)[Turtle](#)[CSV](#)

Browse and edit periods.

[PeriodO client](#)

What is this?

PeriodO is a [public domain](#) gazetteer of scholarly definitions of historical, art-historical, and archaeological periods. It eases the task of linking among datasets that define periods differently. It also helps scholars and students see where period definitions overlap or diverge.

Who are you?

The PeriodO project is led by [Adam Rabinowitz](#) (University of Texas at Austin) and [Ryan Shaw](#) (University of North Carolina at Chapel Hill). [Patrick Golden](#) is the lead developer of the [PeriodO software](#). The PeriodO dataset has been developed largely by our generous [contributors](#). Our work has been funded

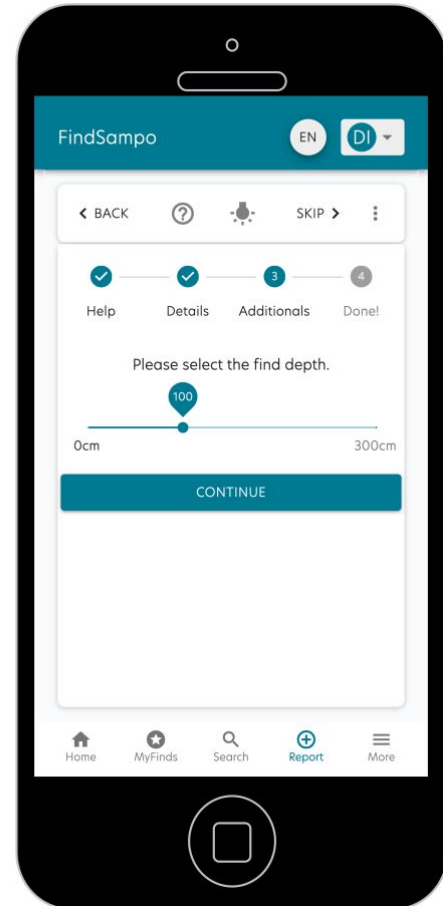
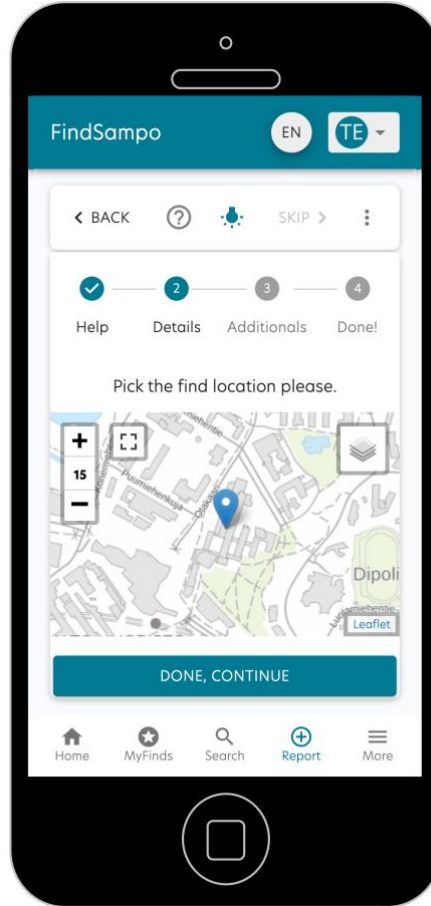
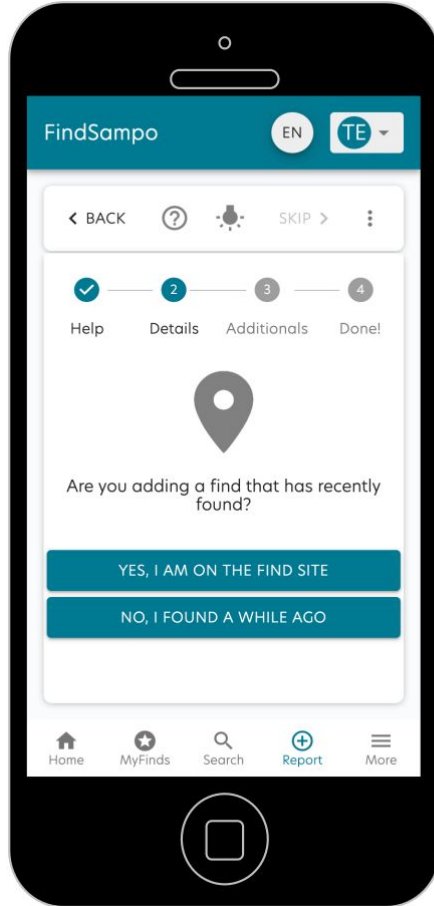
Tell me more.

Start by looking at the [guide to using PeriodO](#).

You may also be interested in reading about the [motivation](#) for the project or getting a [technical overview](#). Further information can be found in our [publications](#). To keep up with PeriodO developments,

<http://perio.do>

FindSampo Reporter



Archaeological finds

Results: 427 finds

Active filters:

Material: hopea

Narrow down by:

Find name

Search...

- ☐ Hopearaha [329]
- ☐ Hopearahan kappale [25]
- ☐ Dirhemi [23]
- ☐ Raha [8]
- ☐ Hopeavarras [6]
- ☐ Hopeaesine [5]
- ☐ Sormus [5]
- ☐ Hopeaspiraali [3]
- ☐ Hopeavartaan katkelma [2]
- ☐ Riipus [2]
- ☐ Hopeavartaan katkelma [2]

Object type

Material

Search...

- ☐ materiaali [2572]
 - ☐ keramiikka [46]
 - ☐ kivi [133]
 - ☐ luu [14]
- ☒ metalli [2354]
 - ☒ hopea [427]

TABLE

MAP

HEATMAP

TIMELINE

EXPORT

Rows per page

10

1-10 of 427

< >

Find name

Object type

Material

Province

Municipality



Nappi

nappi

hopea

Etelä-Karjala

Imatra



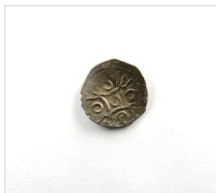
Ave Maria -sormus

sormus

hopea

Kymenlaakso

Pyhtää



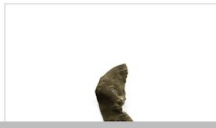
Hopearaha

raha

hopea

Varsinais-Suomi

Kaarina



Hopearaha

raha

hopea

Varsinais-Suomi

Kaarina

Archaeological finds

Search...

- ☐ Hopearaha [329]
- ☐ Hopearahan kappale [25]
- ☐ Dirhemi [23]
- ☐ Raha [8]
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- ☐ Hopeaesine [5]
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- ☐ Hopeaspiraali [3]
- ☐ Hopeavartaan katkelma [2]
- ☐ Riipus [2]
- ☐ ...

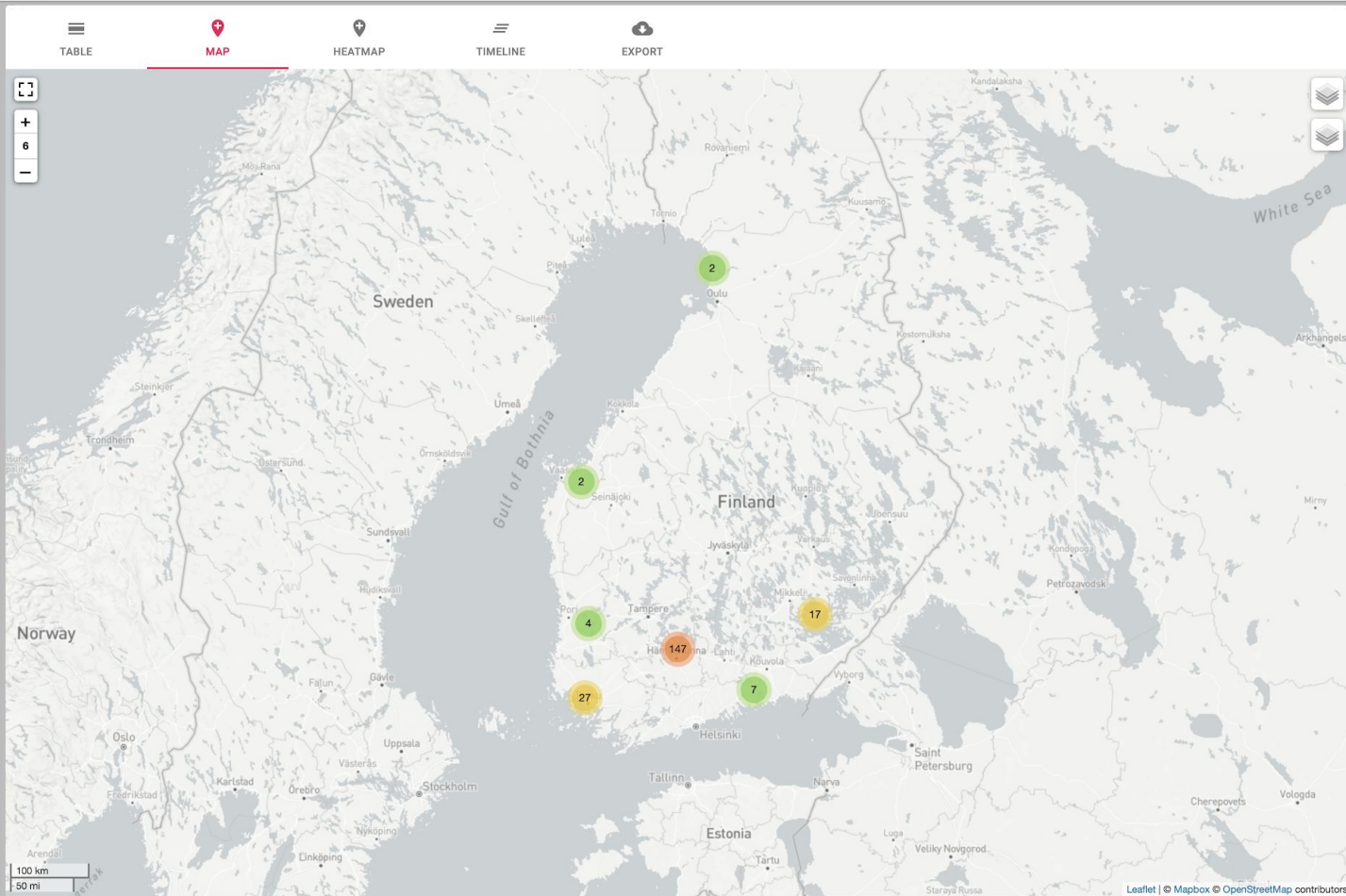
Object type ⓘ

Material ⓘ

Search...

- ☐ materiaali [2572]
 - ☐ keramiikka [46]
 - ☒ kivi [133]
 - ☐ luu [14]
- ☐ metalli [2354]
 - ☒ hopea [427]
 - ☐ kulta [3]
 - ☐ kupari [110]
 - ☐ kupariseos [44]
 - ☐ lyijy [18]
 - ☐ ...

Period ⓘ



Faceted search section


Title bar

Result area



Archaeological find

Ave Maria -sormus

TABLE	RECOMMENDATIONS	EXPORT
URI ⓘ	http://ldf.fi/findsampo/finds/40371-1	
Image ⓘ		
Find name ⓘ	Ave Maria -sormus	
Object type ⓘ	sormus	
Material ⓘ	hopea	
Province ⓘ	Kymenlaakso	
Municipality ⓘ	Pyhtää	
Period ⓘ	Keskiaika	
Earliest date ⓘ	1400-01-01	



MAP



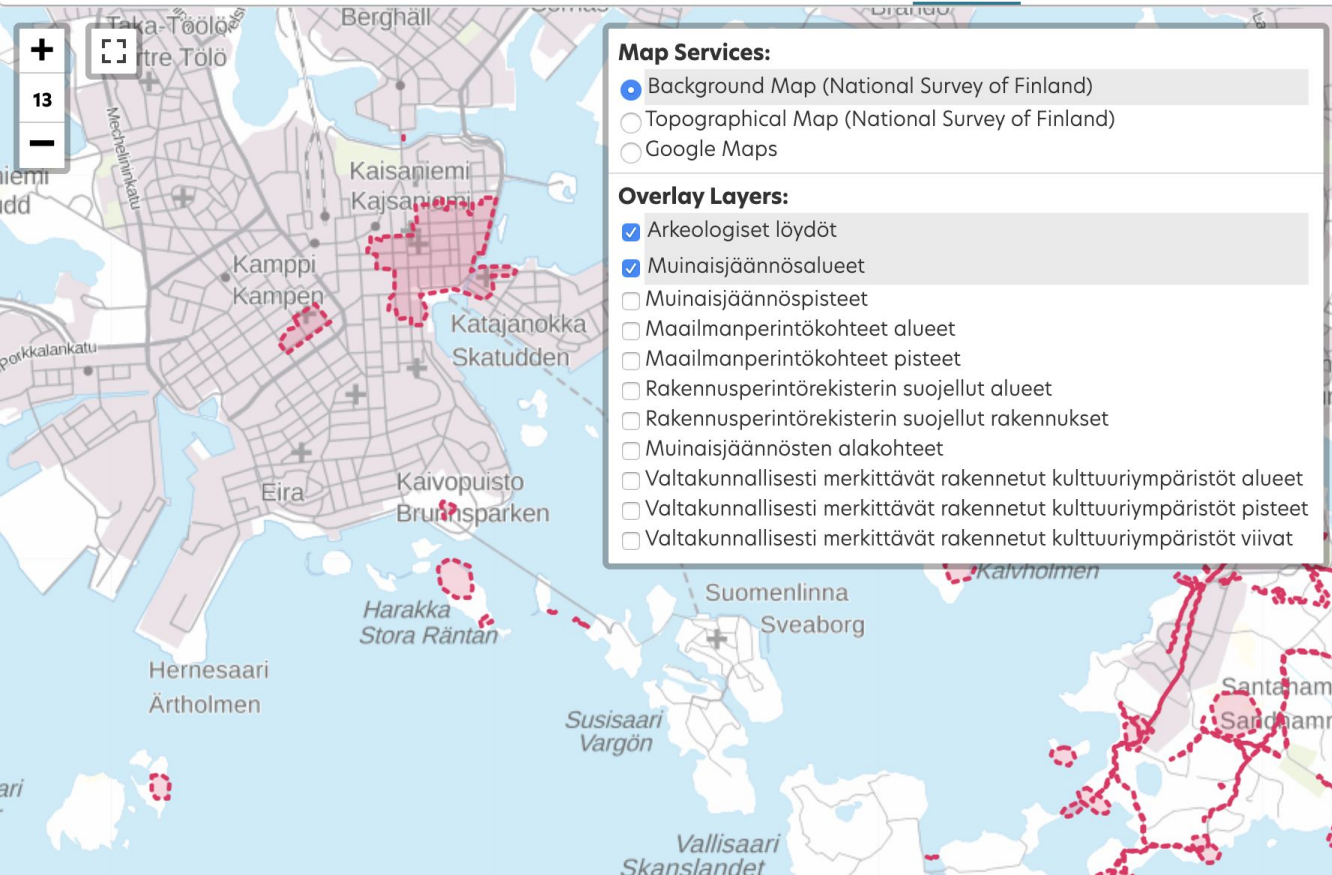
HEATMAP



TABLE



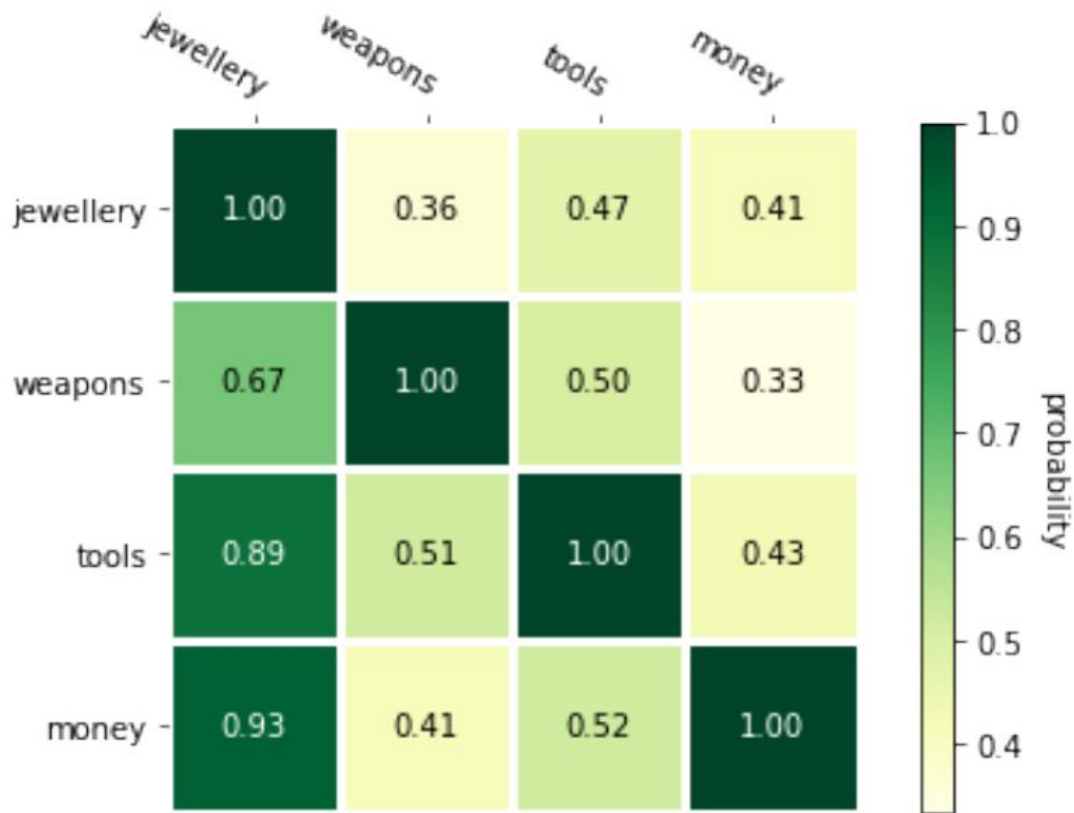
STATISTICS



FHA GIS data:

- Find CH areas of interest
- Show forbidden areas
- Different maps used

Data analysis on SPARQL endpoint



More information



<https://blogs.helsinki.fi/sualt-project/>