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Geoprivacy Platform: First Experiences from an Open Service for Sharing Personal-level Location Data

LBS Conference 2023, Ghent, Belgium

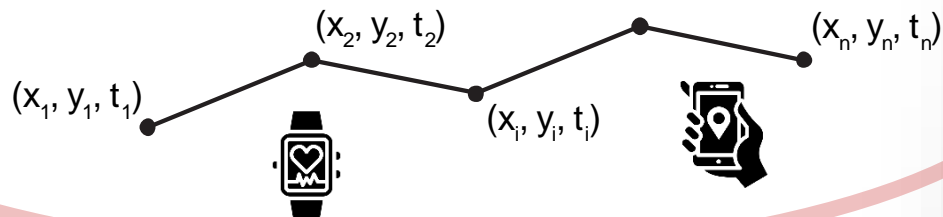
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Finnish Geospatial Research Institute,
National Land Survey of Finland

Nov 20th 2023

Motivation

Icons: Surang, SBTS2018



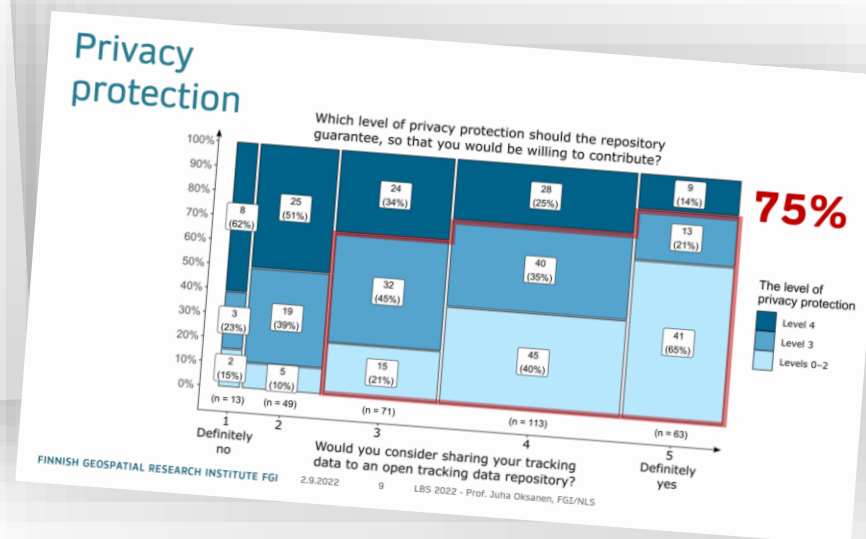
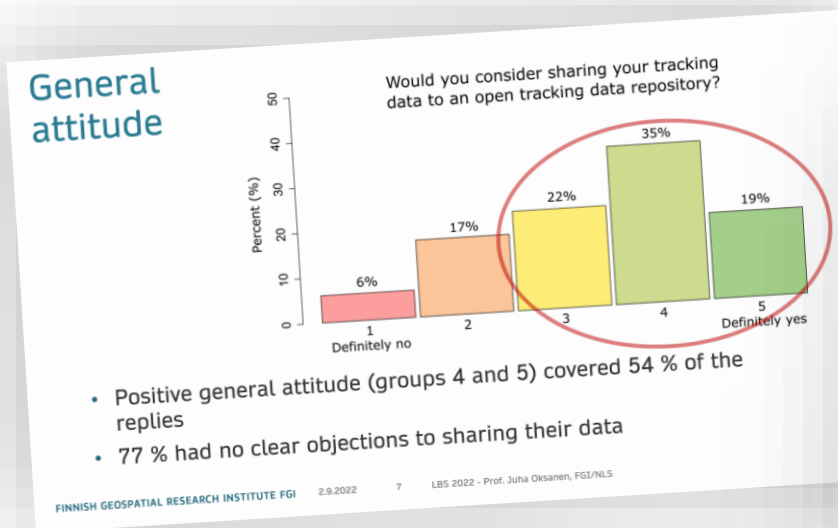
- EU's 2030 Climate Target Plan:
 - Reduction of greenhouse gas (GHG) emissions to at least 55% below 1990 levels by 2030
 - Climate-neutrality by 2050
- In 2017, 22% of GHG emissions from land transport
- Revolution of carbon-neutral traffic must happen and it will have a major impact on traffic planning
- Huge amount of personal location data is collected every day, but not used
- [Geolife open tracking data](#) gets old (2007-2012)

Our goals

- Proof of concept for open trajectory database based on donated personal GNSS tracking data
- Users decide what trajectory data is published and have control on the level of privacy protection
- “Keep data as much as possible – Delete data as little as necessary”



Opinions of the general public



- In short, majority of people are willing to share their personal location data for common good, but they don't have a platform for doing it
- Comment at the LBS 2021 conference: "Typically people reply like this in a survey, but will they really donate data if they have an opportunity?"



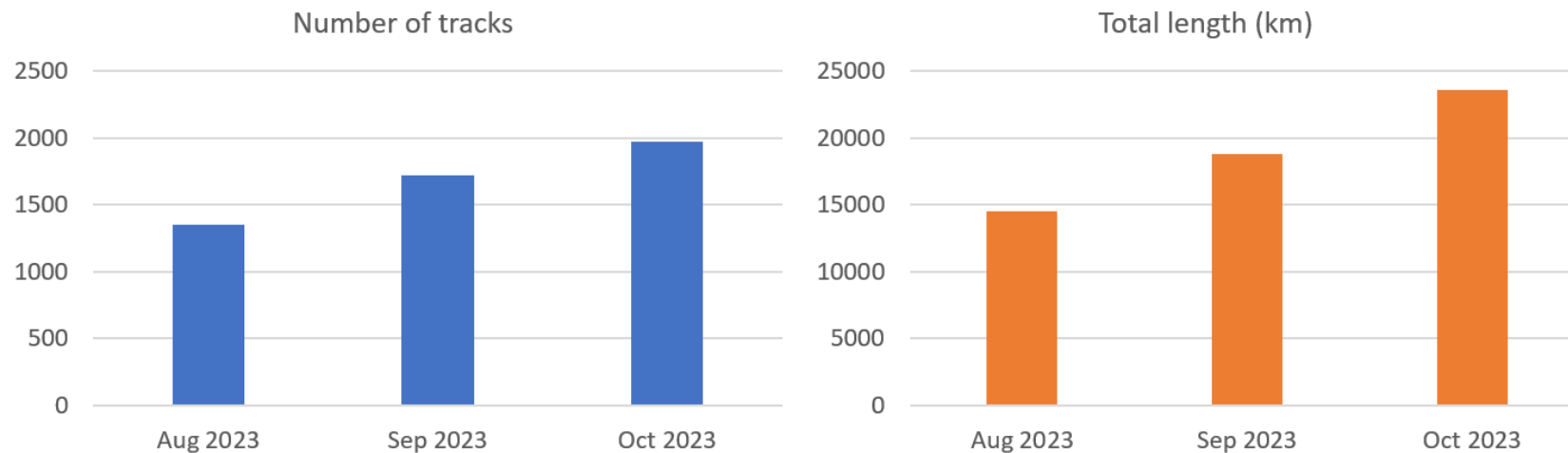
Our solution

- A platform for donating personal location data and sharing it as open data in a privacy-preserving way
- Will be provided as a pilot service in the Open Geospatial Information Infrastructure for Research (Geoportti RI)
- <https://www.geoprivacy.fi/>

The screenshot shows the GeoPrivacy website interface. At the top, there is a navigation bar with the following links: FAQ, About GeoPrivacy, Open data, Log out, and Lang. Below this is a secondary navigation bar with: My contributions, My stats, Contribute, and Account. The main banner features the headline "Your tracks move science forward" and an illustration of a cyclist on a map with various location markers. To the right of the illustration, there are three statistics: > 1720 TRACKS, > 18800 KILOMETERS, and < 10 CONTRIBUTORS. At the bottom of the banner, the slogan "Move. Record. Participate." is displayed. Below the banner, a paragraph of text begins: "Your data provides a unique perspective of movement. With your data, and those of hundreds of others, we as a society can see mobility through new eyes. We can make better..."

Contributions – What we have?

- Good news: The amount of donated tracks increase steadily



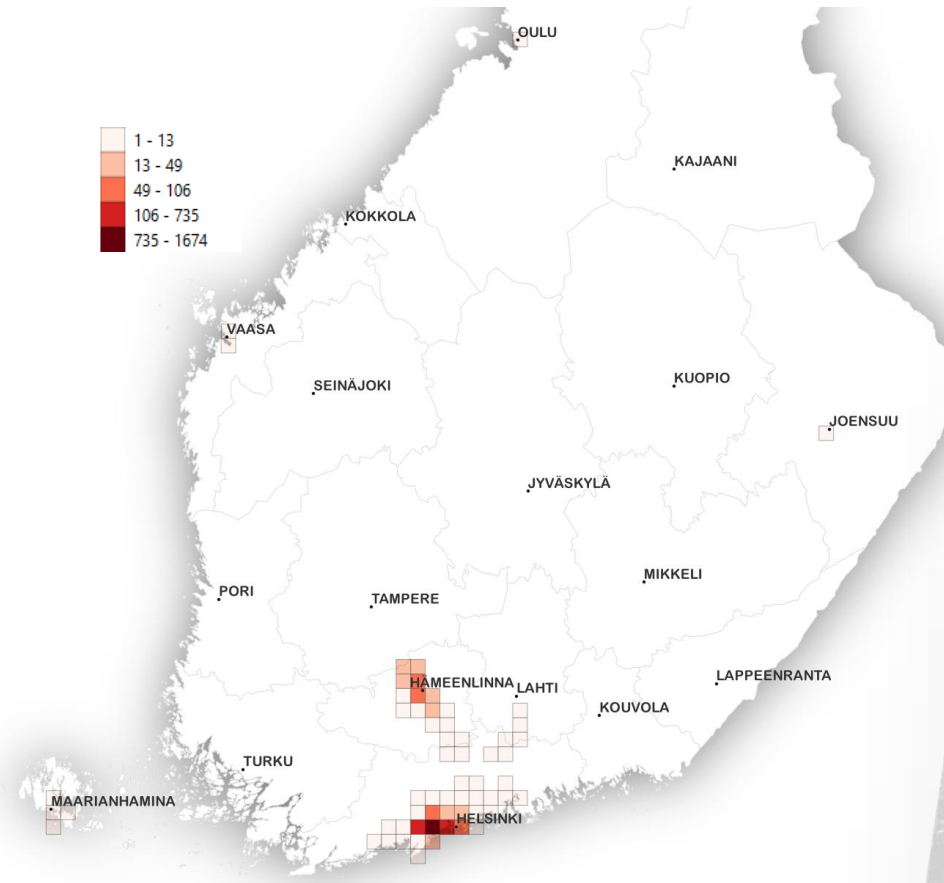
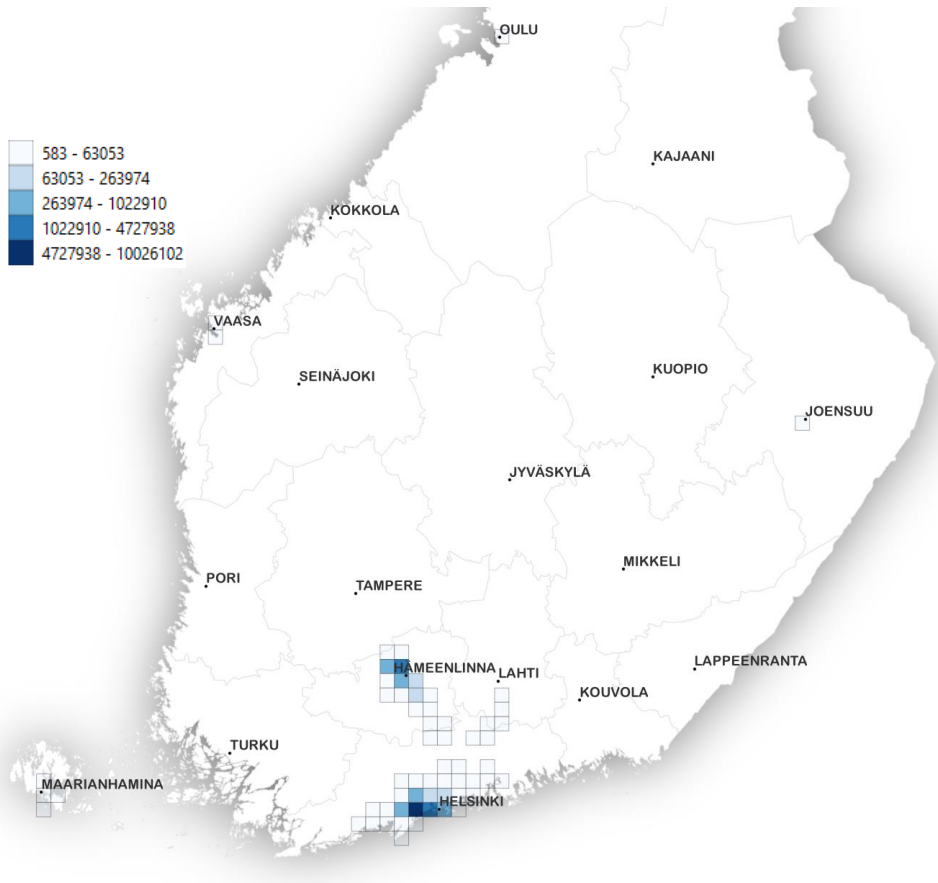
- Bad news: We still have <10 contributors

Contributions – Where?



Total length (km)

Total count (n)



Users of Geoprivacy Open Data

- Monthly frozen data findable at the Finnish Fairdata-service [ETSIN](#)
- Total views:
 - Sep 2023 version 218
 - Oct 2023 version 15
- Total downloads:
 - Sep 2023 version 5
 - Oct 2023 version 0



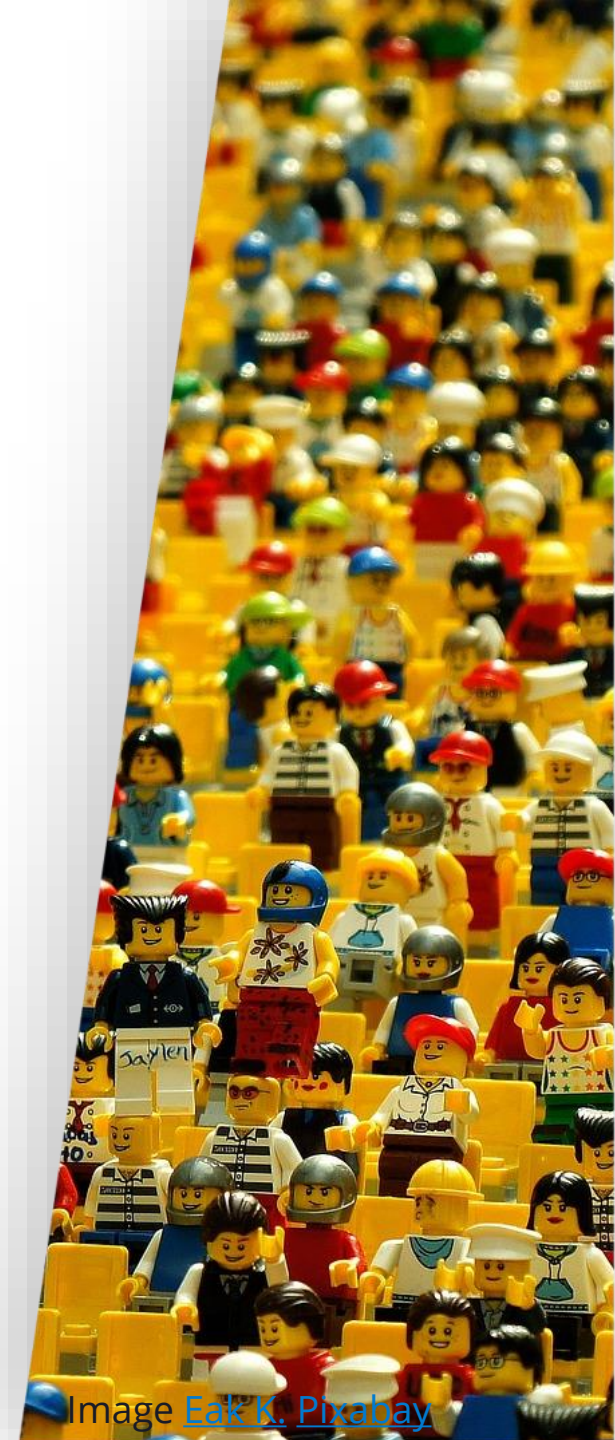
Experiences – VeloFinland 2023

- Face-to-face experiences among the cycling experts and enthusiasts
- Extremely positive feedback
 - A lot of excitement and kudos regarding the importance of the work
 - Number of collaboration ideas => so far one taking concrete steps
- The importance of the platform and the idea of FAIR personal-level data understood



Experiences – Social media

- Advertisements in cycling and walking Finnish social media groups:
 - Audience: ~25000 people in the groups
 - Very few “Likes”; much less compared to the invitation to the survey in 2021
 - Some people got very excited and expressed will to make significant contributions
 - Few questions regarding further instructions for mass uploads; complexity of the platform caused frustrations
 - Also negative feedback – “yet another platform”, “does not make any sense to contribute since we have Strava”, “you should have Strava API connection” etc.



Lessons learnt

- Platform development extremely time consuming; a big challenge to create it in a single research project
 - Final implementation would have been impossible without additional research infrastructure funding
- Legal aspects
 - Also extremely time consuming, but also extremely important
- Communication/marketing aspects
 - Marketing could and still need to be more efficient
- => Balanced resource allocation is the key to success

Image [WOKANDAPIX Pixabay](#)



