Data Ideathon kick-off

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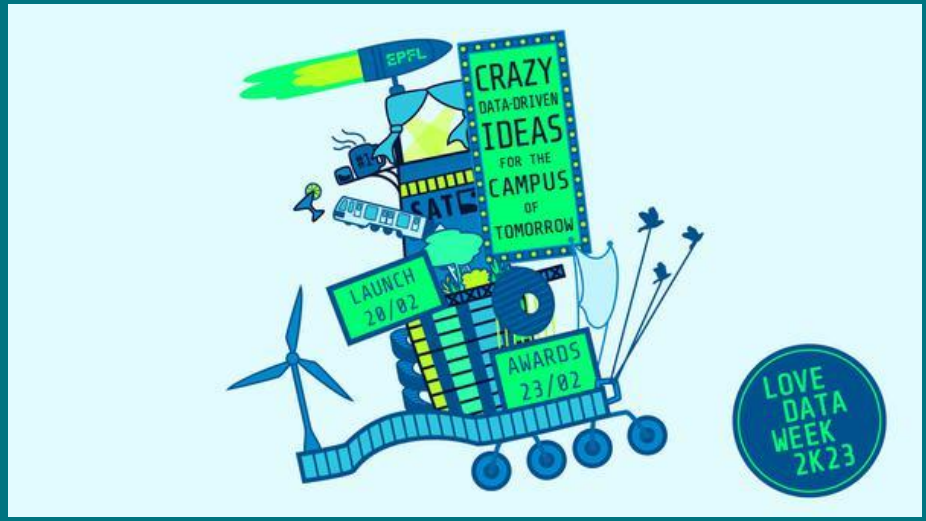
&
EPFL Library
Researh Data team

February 20, 2023

École polytechnique fédérale de Lausanne



EPFL Library's 1st Data Ideathon

What is an ideathon?

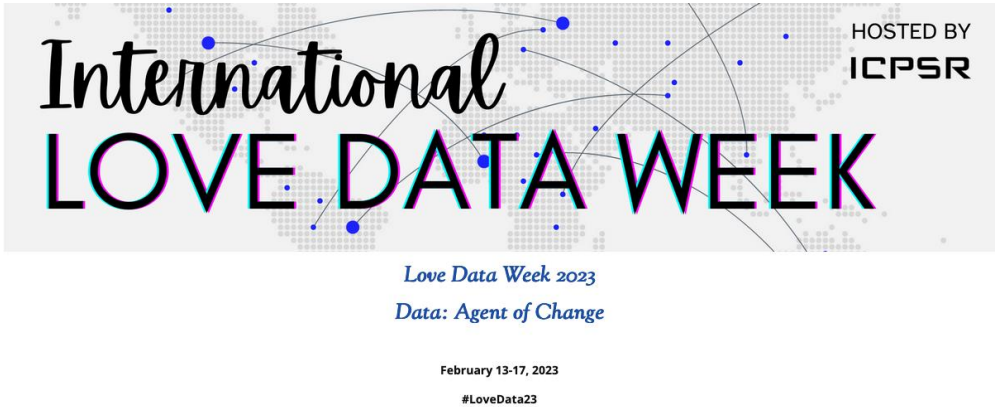
- A brainstorming event where individuals from different backgrounds, skills and interests converge to diagnose predefined problems, identify the best opportunities and ideate the most viable solution.

In other words:

- Usually short & intensive
- Participants work in teams
- All teams must develop ideas to address designated issues

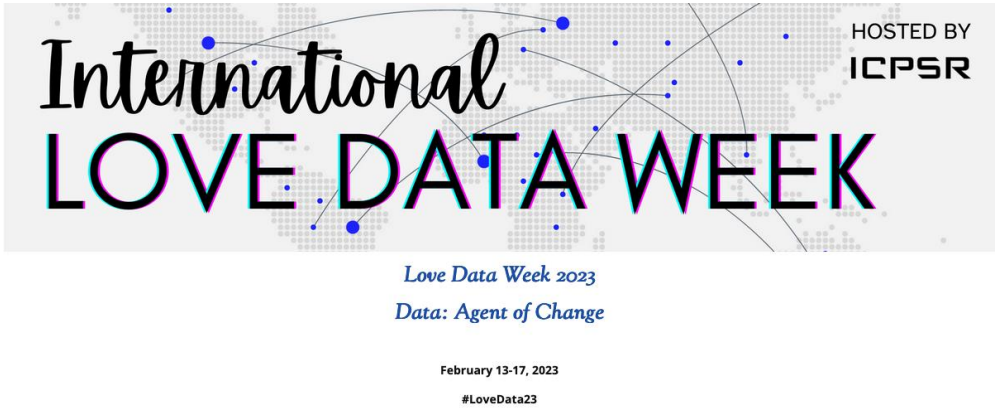
Image CC-BY Pixel True https://iconscout.com/illustration/idea-2103476

EPFL Library's data ideathon: concept



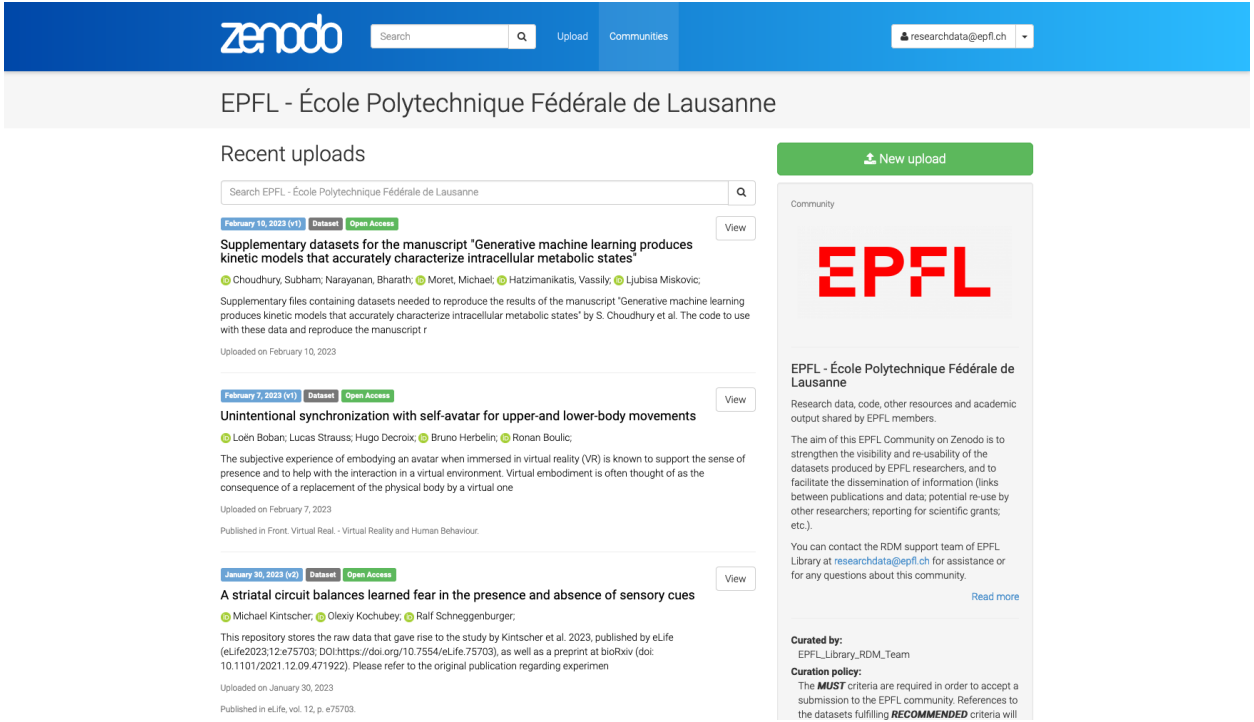
- How would you use EPFL's data (scientific, technical, administrative… you name it) to promote change? Which crazy ideas of yours could shape the campus of tomorrow?
- Not an official call for projects. No official connection with the Solutions for Sustainability (S4S) Initiative. We're here to have fun, but seriously good ideas are welcome as well!

EPFL Library's data ideathon: how to participate



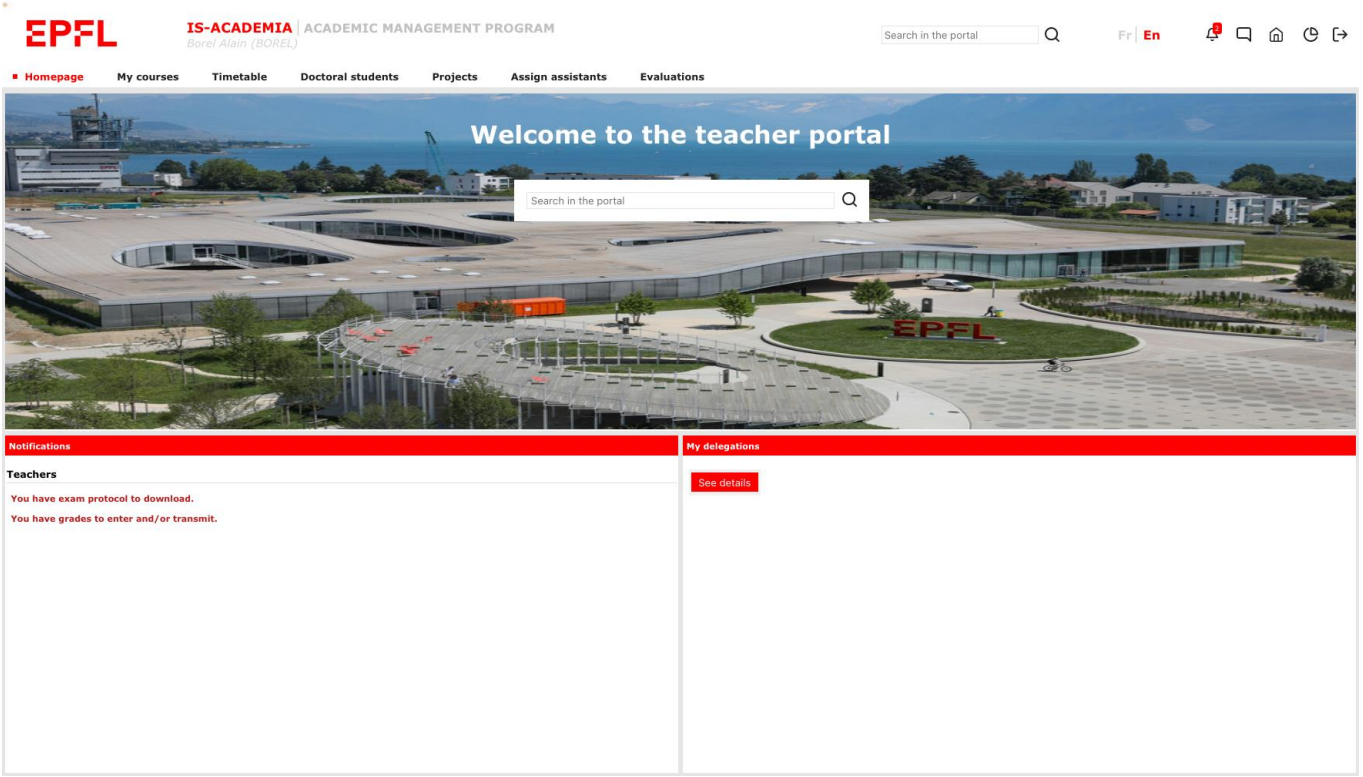
- Team up with 1 to 3 other enthusiatic people
- Imagine ideas based on data that you know, suppose or would like to exist at EPFL
- Prepare your pitch for the final event on Thursday, in the format of your choice: text, slides, images, illustrations, short videoclips, prototypes, theatrical performances, etc. (**actual implementation of the idea is NOT required**)
- Be creative! Mix the data sources! Think outside the box!

Q: Data? What data? A: It's everywhere



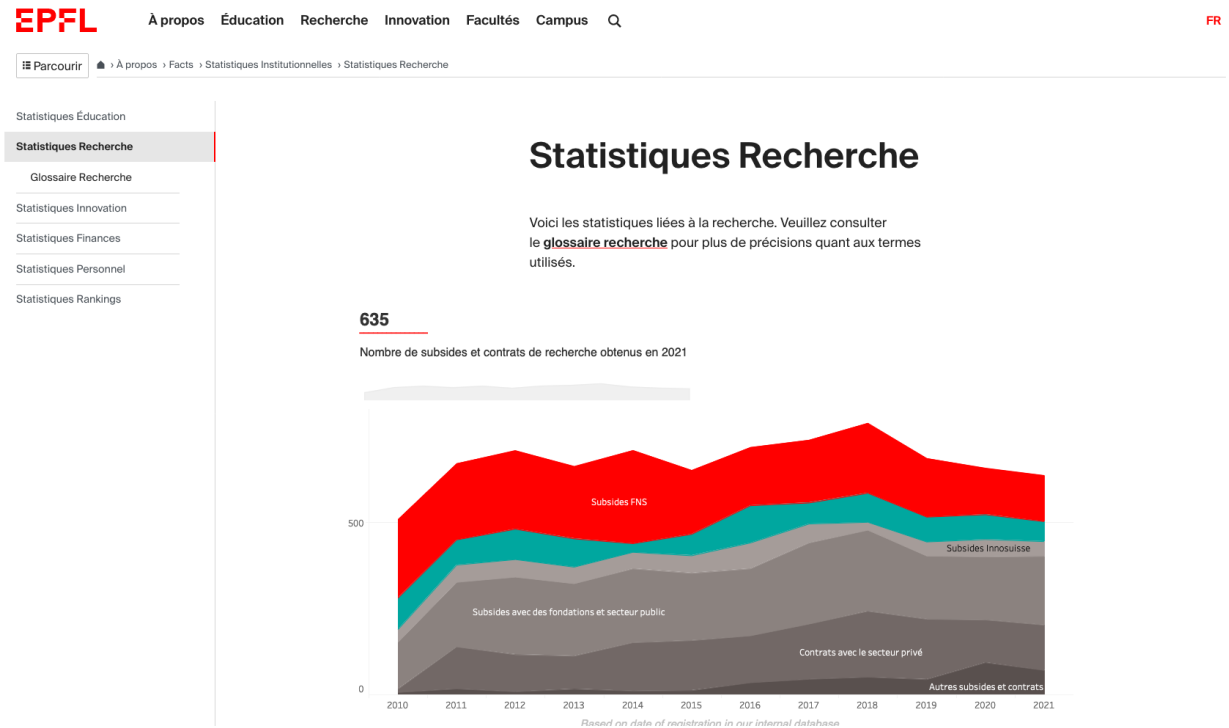
- Scientific data, for example datasets uploaded to Zenodo or other repositories

Data? What data?



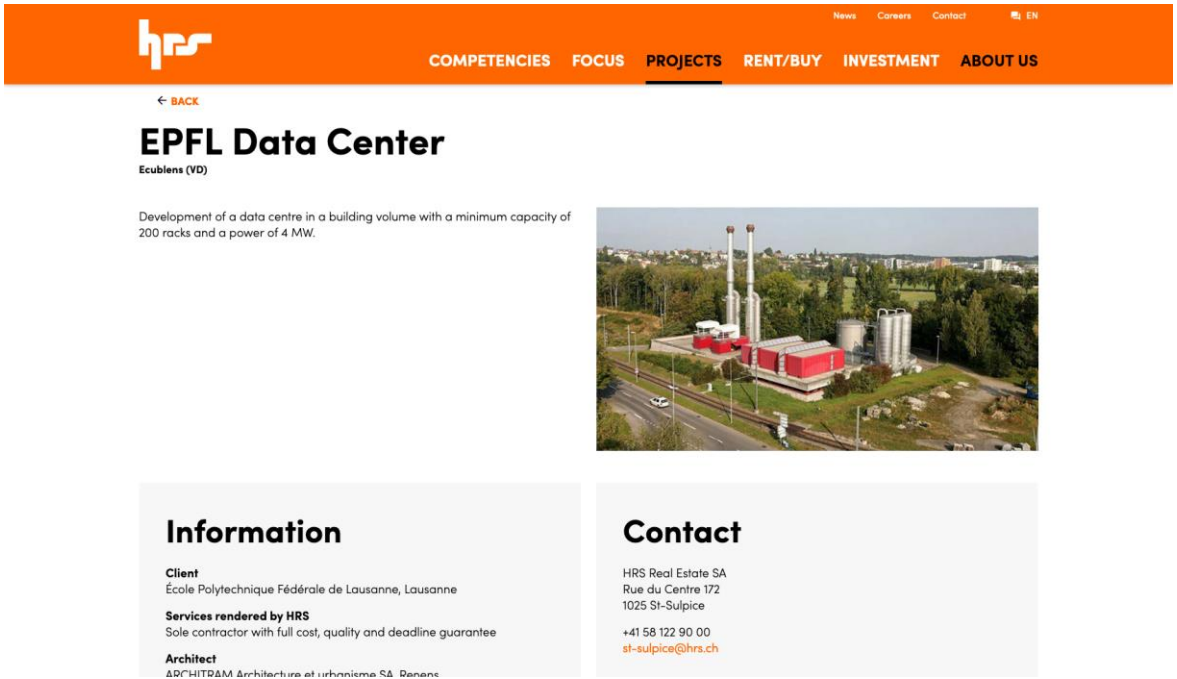
- IS-Academia: information about students, courses, etc.

Data? What data?



- Statistics, reports, surveys…

Data? What data?



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EPFL Data Center

Ecublens (VD)

Development of a data centre in a building volume with a minimum capacity of 200 racks and a power of 4 MW.

Information

Client
École Polytechnique Fédérale de Lausanne, Lausanne

Services rendered by HRS
Sole contractor with full cost, quality and deadline guarantee

Architect
ARCHITRAM Architecture et urbanisme SA, Renens

Contact

HRS Real Estate SA
Rue du Centre 172
1025 St-Sulpice

+41 58 122 90 00
st-sulpice@hrs.ch

- Suggests operational data (power, water…), maybe also supercomputing

Idea example 1: Carbon footprint of EPFL publications

Data sources

- we know EPFL collects data to measure its carbon footprint https://www.epfl.ch/about/sustainability/our-climate-your-campus-faq-en/#faq-item-55ff42dfff9d5d91ea780dac4d87f889
- we know EPFL produces scientific publications and records them by faculty, institute, laboratory: https://infoscience.epfl.ch/collections/?c=Infoscience%2FResearch
- we know EPFL laboratories can be located in buildings https://search.epfl.ch/?filter=unit&q=EPFL

The idea

- Hypothesis 1: CO2 footprint data can be calculated at the level of a building (possible at least for power consumption)
- Hypothesis 2: producing scientific publications is EPFL's main activity (wrong, but let's pretend just for fun)
- Hypothesis 3: each lab only produces CO2 within its own lab (probably wrong quite often)

- By combining the 3 data sources, one could produce a map displaying the average footprint of 1 publication by building.

Evaluation

- originality: average
- feasibility: probably OK
- presentation quality: weak in the current format 😅
- relevance: low (unlikely hypotheses + no clear outcome, sustainability-wise; should we just close the buildings with the highest per-publication footprint?)

Idea example 2: Daily commute optimizer

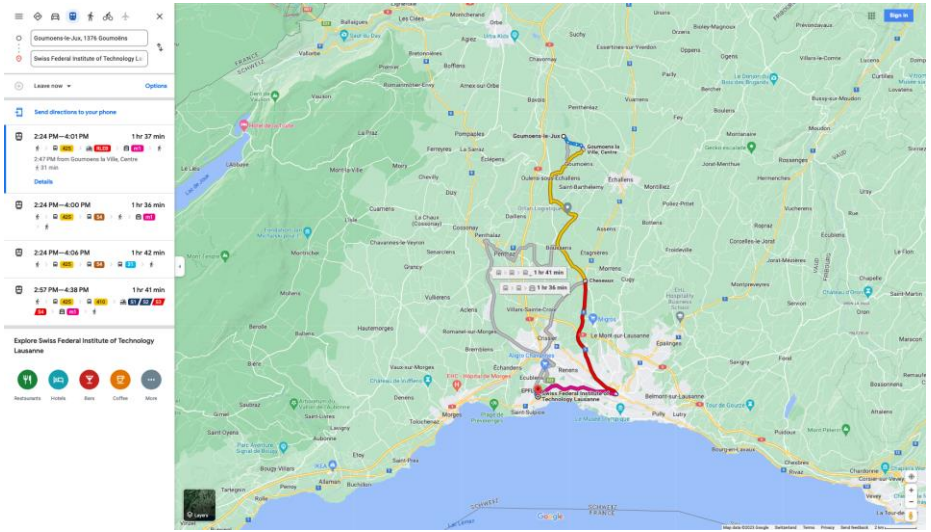
Data sources

- we know EPFL collects staff and student statistics https://www.epfl.ch/about/overview/fr/statistiques-institutionnelles/statistiques-personnel/ and https://www.epfl.ch/about/overview/fr/statistiques-institutionnelles/statistiques-education/ ; individual data include the permanent residence (and work place for staff; which campus is probably sufficient)
- we know EPFL performs yearly mobility surveys https://www.epfl.ch/campus/mobility/mobilite/mobility-survey/
- we know that several online solutions to calculate itineraries are available, some of them offer an API

The idea

- Hypothesis 1: we are allowed to obtain matching lists of residence and work/study places (personal names are not necessary, but still tricky due to privacy laws: precision should not be too high: work/study campus and postal number of residence, maybe?)
- Hypothesis 2: we are allowed to know how many days per year each person would travel to his/her destination campus

Using the API, one could obtain the yearly commute distance and time for each person, ideally for all possible travel options which would allow cost/carbon footprint/etc. estimations. A minimal average over all EPFL members could be compared with the results of the usual surveys.



Evaluation

- originality: not high, perhaps already done?
- feasibility: permissions will be a problem unless some work is delegated to someone who is already allowed to access the data
- presentation quality: too wordy but at least we have a picture!
- relevance: good?

How to join

- Teams of 2-4 participants
- Open to all EPFL (at least 1 team member; open to students, researchers, admin & technical staff). The Library staff and their families are excluded
- Register your group (names & e-mail addresses) by mail to researchdata@epfl.ch until Wed. Feb. 22 at noon (Lausanne time)

How to win

- Send us a title on behalf of your group until Feb. 23, 9:00 AM
- Present your team's idea in 3 minutes during the ceremony on Thursday, Feb. 23, 12:00-14:00 (in French or English)
- Our jury will evaluate the ideas based on presentation, originality, feasibility, relevance to the themes… and pure fun
- 3 winning projects will receive rewards worth 500, 300 and 200 CHF (REKA vouchers https://reka.ch/en)

Have fun!

Surprize us!

We look forward to your presentations on Thursday

Do not forget: sign up for Thursday, too

(if you want to participate or if you only want to join as a spectator)