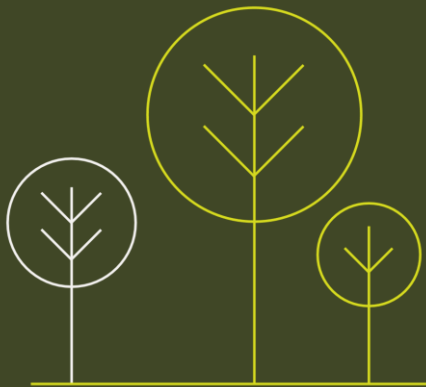


Sulejówek

How can we
count every
tree's value?



Hack
the
c/imate.

 **PFR**
Polski Fundusz Rozwoju

NORDIC
EDGE


Iceland
Liechtenstein
Norway grants

What challenge is the city facing?

In the city of Sulejówek, over the last five years, **1716 trees have been cut down** and this trend is on the rise (from 312 trees in 2018 to 436 in 2022). Those cut trees are irretrievably lost to the environment. It's important to solve this problem because some of these cuttings were unnecessary and could have been avoided with proper knowledge and willingness.

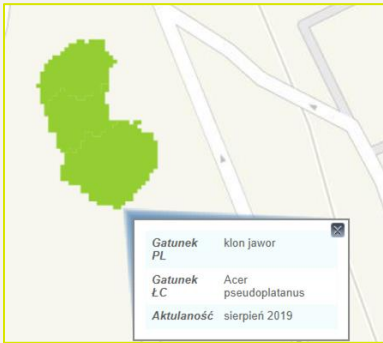
Let's split this challenge into pieces for better understanding:

How can we count ...provide a method (f.e. algorithm) to count, estimate, assess, compare, quantify...
every tree's ...literally EVERY detectable tree based on an open access data (like cloud of points from laser scanning)...
value? ...using metrics, indicators, comparisons that speak to people (think about your neighbour, uncle, granny, local developer)...

...to CONVINC them about real influence of trees in securing their current and future comfort of living.

Target Audience

Future user information:



Metrics of your choice as attributes assigned to virtual object representing each tree (f.e. .shp point layer) possible to publish as an open data via city's Spatial Information System.

Those information will be provided to users via two channels:

- indirectly - through clerk (Ela) who leads tree-cutting permission procedure,
- directly - through city's Spatial Information System for anyone interested.

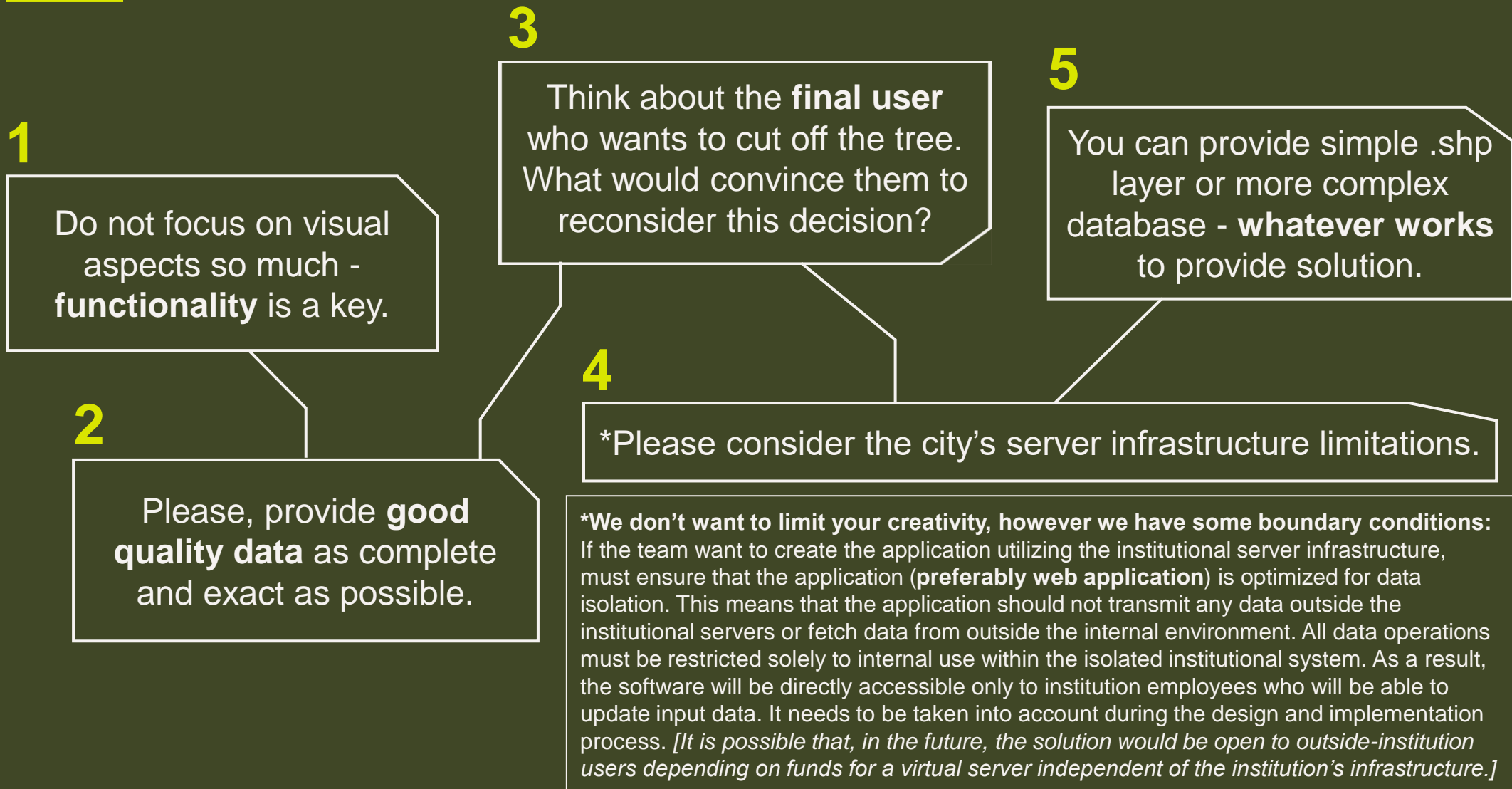
Future users:



Private landowners who submit tree-cutting approval applications at the municipal office (appx. 350 per year).

Our Persona is a middle-aged woman, her motivations are various. She wants to address tree-related issues on her land, such as: property safety, the inconvenience of tree maintenance, and preparing the land for sale. On the other hand she wants to have a good quality of life. She is also worried about her children's future.

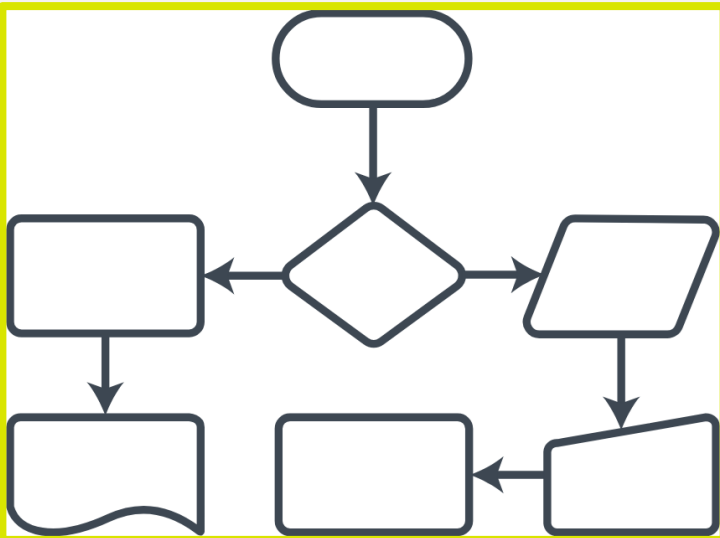
Expected Project Outcome



Shared Resources and Data



geoportal.gov.pl



- **ortophotomaps in RGB and CIR** - open access data, accessible via:
 - [mapy.geoportal.gov.pl](https://dane.gov.pl/pl/dataset/2026/resource/26779,ortofotomapa-wg-aktualnosci-api/table) (Zawartość mapy -> Dane do pobrania -> Ortofotomapa wg aktualności -> 2022 - arkusze) **or** via API <https://dane.gov.pl/pl/dataset/2026/resource/26779,ortofotomapa-wg-aktualnosci-api/table> [Space resolution: 0.25m, format: georeferenced .tiff];
- **cloud of points from laser scanning** - open access data, accessible via:
 - [mapy.geoportal.gov.pl](https://dane.gov.pl/pl/dataset/2029/resource/30664,skorowidze-lidar-pl-evrf2007-nh-usuga-pobierania-wfs-api/table) (Dane do pobrania -> Dane pomiarowe NMT -> LIDAR PL-KRON89-NH -> 2018) **or** API <https://dane.gov.pl/pl/dataset/2029/resource/30664,skorowidze-lidar-pl-evrf2007-nh-usuga-pobierania-wfs-api/table> [Space resolution: 4 points/m2, format: LAS],
 - [mapy.geoportal.gov.pl](https://dane.gov.pl/pl/dataset/2029/resource/30663,skorowidze-lidar-pl-kron86-nh-usuga-pobierania-wfs-api/table) (Dane do pobrania -> Dane pomiarowe NMT -> LIDAR PL-EVRF2007-NH -> 2020 i starsze) **or** API <https://dane.gov.pl/pl/dataset/2029/resource/30663,skorowidze-lidar-pl-kron86-nh-usuga-pobierania-wfs-api/table> [Space resolution: 12 points/m2, format: LAS];
- **Numerical Terrain Model** - open access data, accessible via:
 - [mapy.geoportal.gov.pl](https://dane.gov.pl/pl/dataset/2027,numeryczny-model-terenu-nmt/resource/27089,nmt-evrf2007-usuga-pobierania-api/table) (Dane do pobrania -> Numeryczny Model Terenu -> NMT PL-EVRF2007-NH -> 2020 i starsze) **or** API <https://dane.gov.pl/pl/dataset/2027,numeryczny-model-terenu-nmt/resource/27089,nmt-evrf2007-usuga-pobierania-api/table> [Space resolution: 1 m, format: ARC/INFO ASCII GRID];
- **procedure chart for getting tree-cutting permit** - decision tree chart (format: .pdf), expertise knowledge during hackathon, [format: human speech;)].

City Mentors



Agata Pelka
GIS Specialist,
Spatial Planner

I'm keen on data-driven decision-making and the processes behind it.



Ela Retkowska
Environmental Protection
Specialist

I would like to acquire a useful tool for convincing residents of the real value of trees.