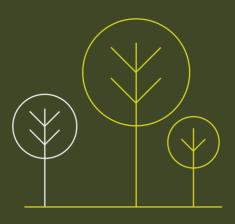
Sulejówek How can we count every tree's value?





Hack the c/imate.







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







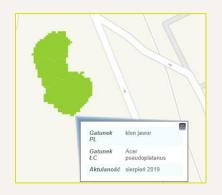






Target Audience

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.

1

Do not focus on visual aspects so much - **functionality** is a key.

2

Please, provide **good quality data** as complete
and exact as possible.

3

Think about the **final user** who wants to cut off the tree. What would convince them to reconsider this decision?

5

You can provide simple .shp layer or more complex database - whatever works to provide solution.

4

*Please consider the city's server infrastructure limitations.

*We don't want to limit your creativity, however we have some boundary conditions: If the team want to create the application utilizing the institutional server infrastructure, must ensure that the application (preferably web application) is optimized for data isolation. This means that the application should not transmit any data outside the institutional servers or fetch data from outside the internal environment. All data operations must be restricted solely to internal use within the isolated institutional system. As a result, the software will be directly accessible only to institution employees who will be able to update input data. It needs to be taken into account during the design and implementation process. [It is possible that, in the future, the solution would be open to outside-institution users depending on funds for a virtual server independent of the institution's infrastructure.]



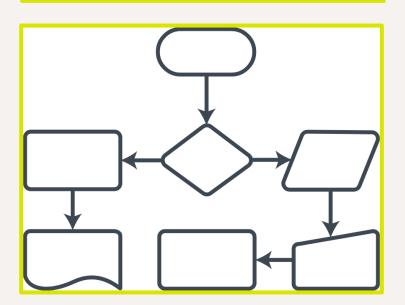




Shared Resources and Data



geoportal.gov.pl



- ortophotomaps in RGB and CIR open access data, accessible via:
 - mapy.geoportal.gov.pl (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 (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 (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 (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;)].

Hack the c/imate.



NORDIC EDGE



City Mentors



Agata Pełka
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.



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