

Empowering Citizens through Computational Literacy



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Data literacy

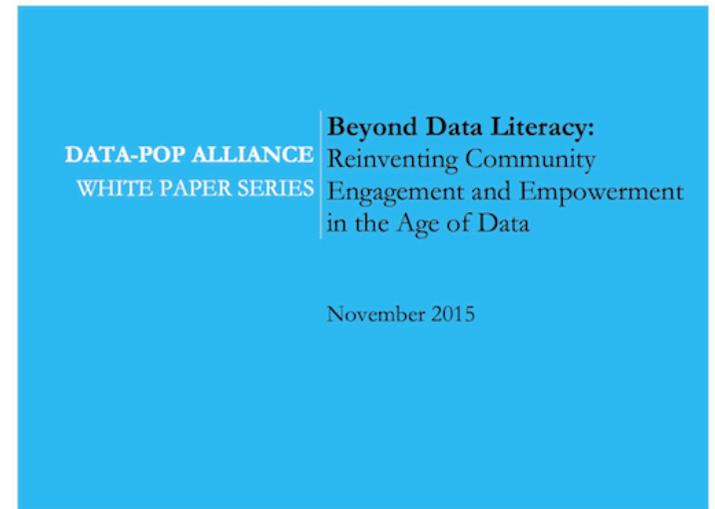
can help

(Citizen)
Participatory
governance



DATA LITERACY

“the desire and ability to constructively engage in society through or about data.”



Citizen-generated data (CGD)

Input to Public Sector

Development of algorithmic governance (Lee et al., 2019)





EXAMPLE: HUSH CITY
(WITH GOOD HELP FROM ANTONELLA RADICCHI, LEAD OF
HUSH CITY MOBILE LAB, TU BERLIN)



HUSH CITY APP

"MAP THE QUIETNESS AROUND YOU"



1)
RECORD
THE SOUND



2)
CALCULATE ITS
NOISE LEVELS



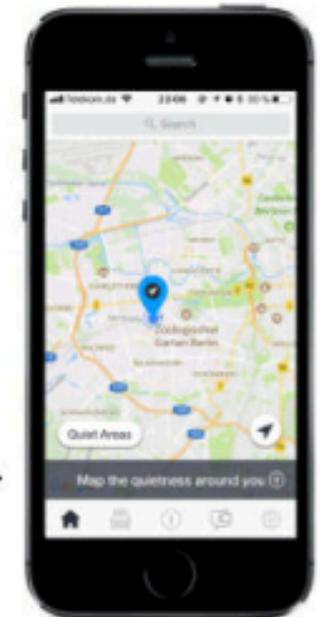
3)
TAKE A PIC
OF THE AREA



4)
REPLY TO THE
QUESTIONNAIRE



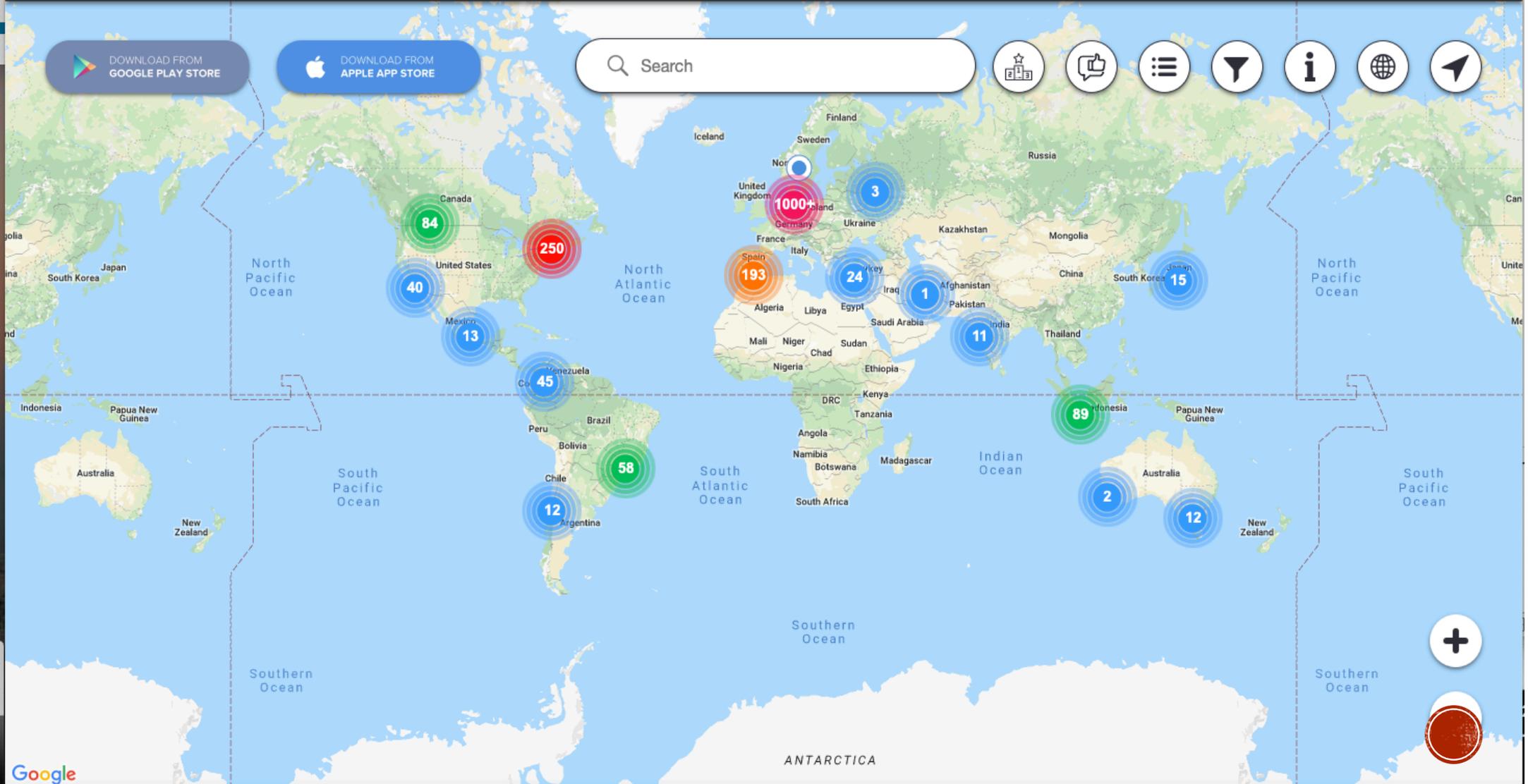
5)
SHARE THE
DATASET!





DOWNLOAD FROM
GOOGLE PLAY STORE

DOWNLOAD FROM
APPLE APP STORE



HUSH CITY CGD

- Crowd-identified quiet areas:
- Total: 2492:
 - 2492 audio files
 - 2492 sound measurements
 - 2492 pictures
 - 49.840 entries to the questionnaire
- (Source: Antonella Radicchi, 2019-10-01)



CRITERIA FOR PAIRWISE COMPARISON

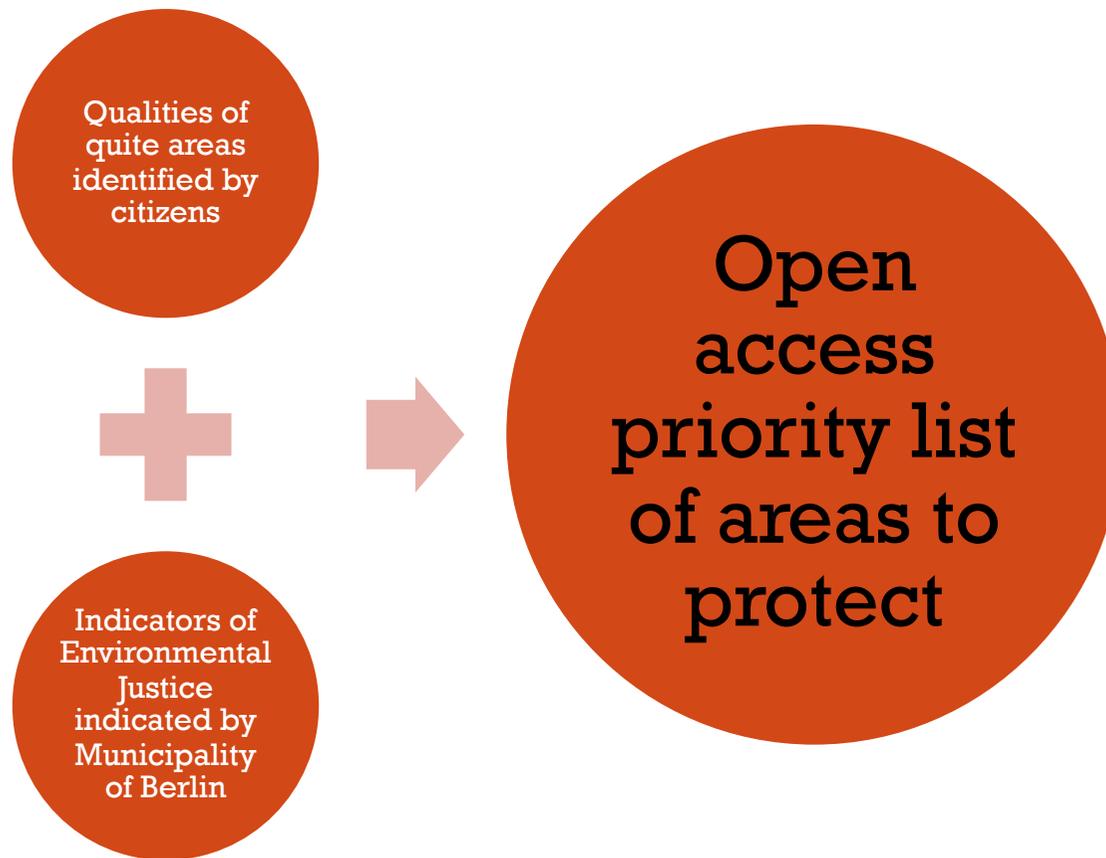
Hush City – Berlin Everyday Quiet Areas – 16 qualities (Radicchi, under review)

	Spatial Justice (e.g., accessibility)	Acoustics (e.g., presence of natural sounds)	Comfort (e.g., options for sitting)	Aesthetics (e.g., experience of visual quality)
Noise Pollution				
Air Pollution				
Green Spaces				
Thermal Load				
Social Issues				

Atlas of Environmental Justice – Municipality of Berlin (index from 0 to 5)



A FAIR ALGORITHMIC MATCHING SYSTEM

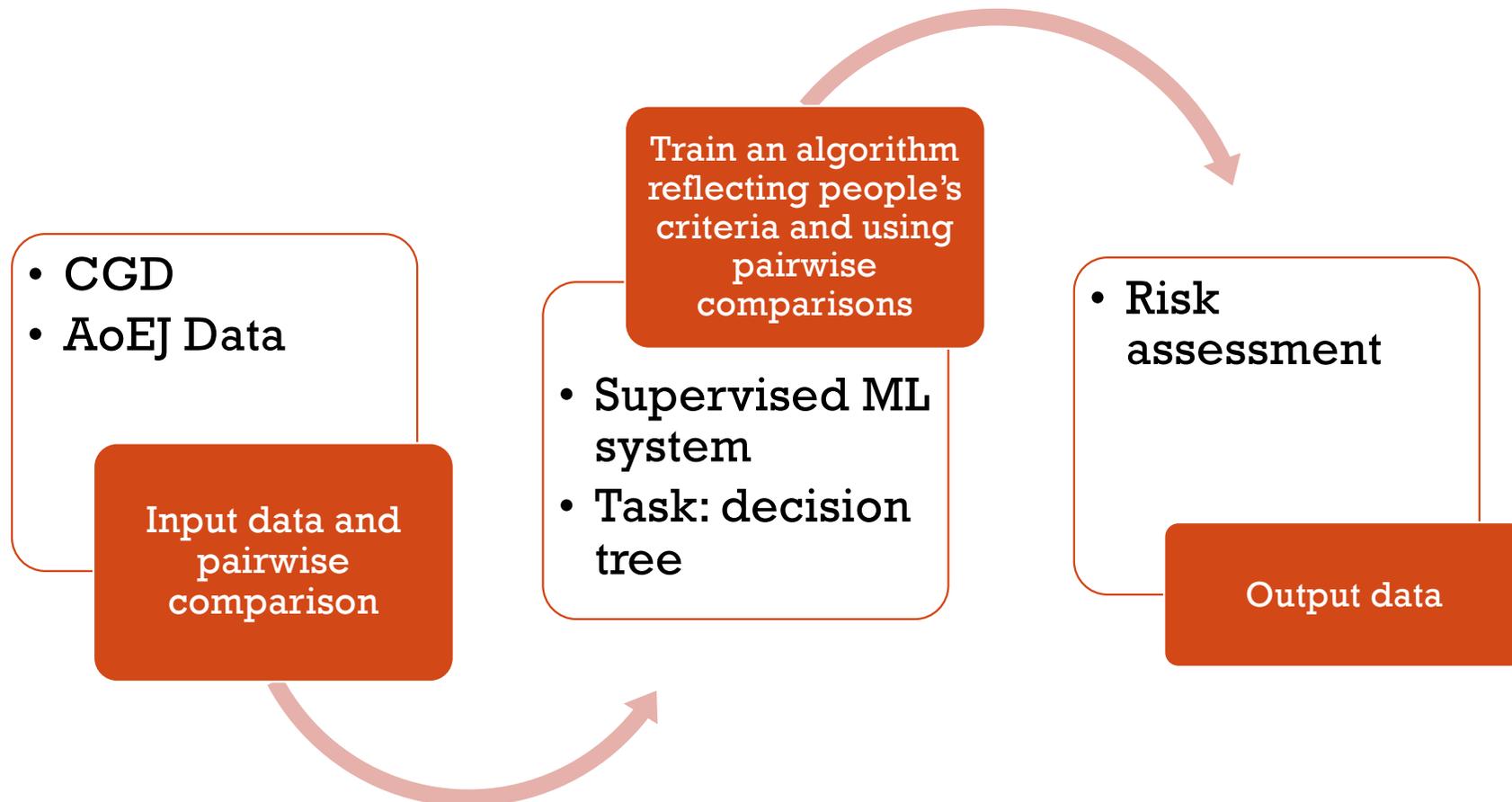


EXAMPLE

Hush City – Berlin Everyday Quiet Areas	Hush City – Berlin Everyday Quiet Areas Spatial typology	City of Berlin Environmental Justice Index – Integrated environmental load incl. social problems
Area no. 158	Alley with cafeterias	Fourfold level
Area no. 1284	Playground	Threefold level
Area no. 1293	Open space in a residential area	Twofold level



A FAIR ALGORITHMIC MATCHING SYSTEM



REFERENCES

- Lee, M. K., Kusbit, D., Kahng, A., Kim, J. T., Yuan, X., Chan, A., Noothigattu, R., See, D., Lee, S., Psomas, C. A., & Procaccia, A. (2019). WeBuildAI: Participatory Framework for Algorithmic Governance. In *Proceedings of the ACM : Human-Computer Interaction: Volume 3 Issue CSCW, November 2019. (CSCW 2019)*. ACM, NY.
- Letouzé, E., Noonan, A., Bhargava, R., Deahl, E., Sangokoya, D., & Shoup, N. (2015, September). *Beyond Data Literacy: Reinventing Community Engagement and Empowerment in the Age of Data*. Data-Pop Alliance. Available at: <https://www.media.mit.edu/publications/beyond-data-literacy-reinventing-community-engagement-and-empowerment-in-the-age-of-data/>
- Radicchi, A. (under review). *Everyday quiet areas as essential infrastructures of Healthy Cities. Beyond the Berlin case*. Cities & Health Journal, Routledge.

