Local Emotions
- using social media to understand human-environment interaction in cities

PerCom'18 EmotionAware-workshop
Future cities? Smart cities?

Change is already happening: Air quality, traffic management, smart grids, etc.
How do people feel about their surroundings?
Emotional mapping - the human component to city design


AGI
- ambient geographical information


How to gather and map emotional data?
APIs of social media sites.

Twitter was chosen, because of it’s simplicity.
Sentiment analysis only works in English (for now).

Google Cloud Translate offers multiple languages.

Accuracy stays good, despite the translation.
VADER-library for Python.
- Rule-based lexicon
- Optimized for social media
- 96% accuracy

Demographics Prediction.
- Demographics API of Ai-Applied
- 68% accuracy on gender, 58% on age
- Some colloquiums are always age related
- Further analysis through Twitter user-data, like first names
Parsing to a common format allows for visualization.

Visualization is done with Leaflet- and Heatmap.js-libraries.

Everything works in a common browsers.
Visualization yields a comprehensive view on plenty of data simultaneously. It also gives us points to tie the data into an real-live experiences.
Visualization can show us stories, we would otherwise miss.
The multiplicity of human stories.
The multiplicity of human stories.

How different we are in the end.
The multiplicity of human stories.

How different we are in the end.
Festivals, Youtube and George R.R. Martin

Visualization of positive moods in the Helsinki area on a summer weekend.
Less activity and more spread out.

Visualization of positive moods in the Helsinki area during the weekdays.
Suvilahti, a former powerplant.
There are limitations.
Data is sparse and exact coordinates are rare.

Social media usage does not correspond with real demographics.

Data is not open. And should it even be?
However, the method is usable even with very limited resources and shows data that would be missed otherwise.

It’s meant to be used in addition to other means, i.e. *pointing-to-the-right direction*. 
Emotions are reactions to environment.
This is a way those emotions could be seen.
And the future smart cities should react to them.
Questions?

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