Visualizing Eye Movement Data of Web Maps
The ET2Spatial & ET2GIS & ET2QGIS Tools
Data gathering

- Zoom
- Pan
- Gaze
Data processing

**Traditional Approach**
Separate videos for each participant

P01

P02

**Output of ET2Spatial Tool**
Georeferenced data in GIS
Our solution

Eye-tracking data
- SMI eye-tracker
- TOBII (tobii2spatial)

User Interaction data
- Google Maps API v2
- MapTrack (Ruzicka, 2012)

ET2Spatial
- analyzing ET data of interactive web maps
- conversion from screen to map coordinates

GEOJSON  SHP  CSV

ET2GIS  GIS Software  ET2QGIS
Overlay possibilities

• can be overlaid on any of your maps
ET2GIS Toolbox

- read data from ET2Spatial
- easy data import
- standard ET data visualizations known from other software
  - Heatmap, Scanpaths, etc.
- unusual ET data visualizations
  - Zoom Level Clustering, Space Time Cube, etc.
- English manual with a description of each tool with pictures
Import data
Scanpaths
Area of Interest Intersect
Kernel Density
Space Time Cube & Lines
Zoom Level Clustering
ET2QGIS

- plugin to QGIS
- same functionality
- similar solution
- benefit - all in one window
Where we are...

Tool for analyzing dynamic eye-tracking and user interaction data (zoom, pan, gaze)

- available for everyone
- for SMI & Tobii eye-tracker devices
- based on Google Maps API v2
- data analysis in ArcGIS Pro and QGIS
...and where we intend to be

- video demonstration of other options for interaction with the web map (https://atlas.mapy.cz)
...and where we intend to be

- Develop an object-oriented analysis of eye-tracking data that reflects the nature of the map,
- by combining eye movements with the user behaviour, the way environment is interact can be revealed.
- Connecting all those human interactions like gaze, mouse clicking, loud expressions.
Thank you for attention

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You can find all our tools at

eyetracking.upol.cz/tools

This presentation was supported by project "Identification of barriers in the process of communication of spatial socio-demographic information,, [23-06187S] of the Czech Science Foundation.