LABELING STREETS IN INTERACTIVE MAPS USING EMBEDDED LABELS

Nadine Schwartges, Alexander Wolff, Jan-Henrik Haunert

1University of Würzburg, Germany
2University of Osnabrück, Germany

We present the first algorithm that

★ embeds labels into streets,
★ while avoiding intersections and strong bends,
★ computes overlap-free labelings,
★ and reacts to user interactions in real time.

The corresponding optimization problem (label-number maximization) is NP-hard even for one frame.

Algorithm

in each frame...

... try to label each unlabeled street

... and correct label orientations

Frame Rate [FPS]

Results

GPS monitor

lamut.informatik.uni-wuerzburg.de/dynalinelab.html