comm-unity – Connecting Commuters

Project duration:
09. 2020 - 04. 2023

Involved staff:
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Contracting party: Carployee GmbH

Project Lead:
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Role Z_GIS:
Scientific partner

Webseite:
https://mobilitylab.zgis.at/portfolio/community

Initial situation:

Carployee is a leading provider for a B2B solution that facilitates the organization of carpooling employees. Commuters are being motivated to pool their cars via Carployee's carpooling app, which includes the matching and an incentive system with gamification components. Currently, the matching considers only commutes by car and pick-up locations at home addresses. In order to increase the potential of carpooling and to make the app more attractive, the functionality and flexibility of the app is going to be extended within a research cooperation between Carployee, Z_GIS and Seibl IT. The major challenge of this project is the complexity of the optimization problem, which can be solved only heuristically.

Project goals:

- Matching of commuters for sub-routes and considering intermodal commuting routes respectively.
- Optimization of the current carpooling algorithm, with special regard to the spatial environment.
- Promotion of sustainable commuting and reduction of car trips.

Expected results:

- Prototypical application.

Contribution Z_GIS:

- Processing of spatial data and routing optimization.
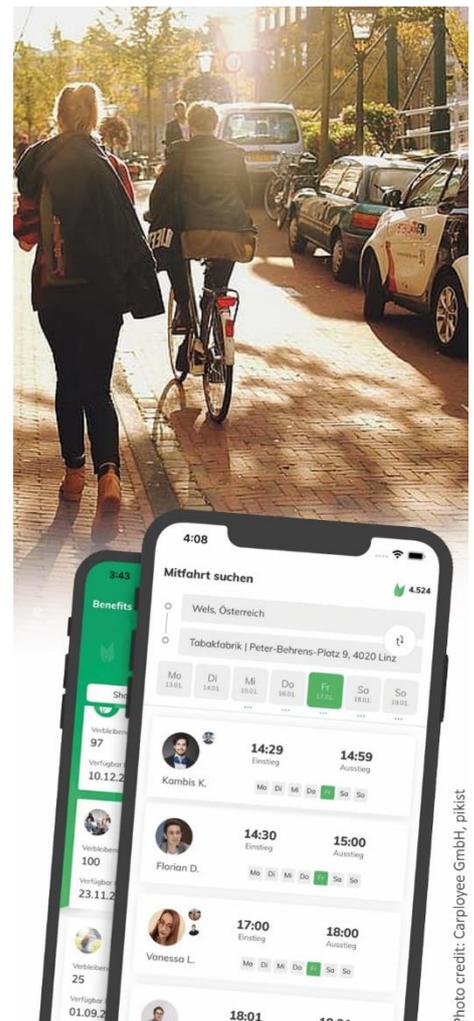- Spatial heuristics for solving NP-hard optimization problems.

Photo credit: Carployee GmbH, pikist