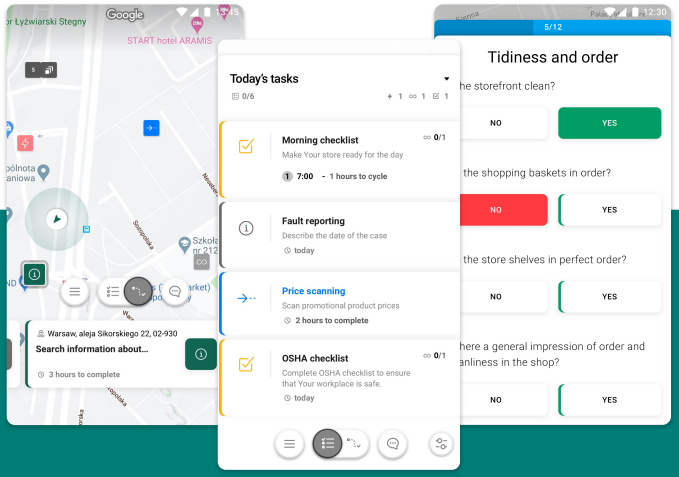
ROUTE AND TIME OPTIMISATION

TakeTask

Together with scientists from Poland and USA within the project co-financed by the National Centre for Research and Development we were the first to develop heuristics and create a tool (software) for solving problems of the Multi-depot technician routing problem with task stacking class.



Route optimisation based on:

- Locations of start and end points (users can start routes from different locations)
- Distances between locations
- Time required to complete the route
- Availability of users
- Type of tasks to be performed - a definite advantage in the case of a team with different competences and an extensive scope of work

Characteristics

The model considers all of the following features when optimising routes and task assignments:

- Multiple task execution locations
- Multiple start locations
- Multi-day time horizon
- Multiple task types per location
- Multiple task types assigned to users
- Considering users' knowledge of task execution locations
- Optimisation of costs of contractual penalties for delays or failure to complete tasks (possibility to postpone tasks to the next day if there are not enough users)

Time optimisation

It includes the possibility of assigning individual values to specific characteristics for task types, locations and users:

- Time needed to perform a given activity
- Time needed to reach location (does not include real-time traffic)
- Preparation time on site (e.g. registration, preparation)
- Time after completion (e.g. cleaning, packing)
- User experience at the location
- User experience at the task

Additional possibilities

The route optimisation model is integrated with TakeTask system for assigning, executing and verifying large-scale tasks across multiple locations simultaneously for any industry. Users can quickly create and distribute tasks, as well as report on their completion and receive real-time feedback.

Features

- GPS location
- Timestamps
- Signature capture
- Built-in OCR
- SMS and voice bot
- EAN and QR code scanner
- Dynamic content
- Pictures, videos, sound recordings
- Integrated image recognition

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