

# Intelligent Ridesharing Service for e-Tourism Application

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## Abstract

Intelligent ridesharing service provides possibilities of shared use of cars by several tourists and drivers through their mobile devices in a region and allows the tourists to find the reasonably priced transportation means in the regions with a lack of convenient public transport connections. Ridesharing is a shared use of a car by the driver and one or more passengers, usually for commuting. Dynamic ridesharing assumes a special implementation of a ridesharing service that enables a dynamic formation of carpools depending on the current situation.

The problem of finding a matching path between the driver and the passenger in the ridesharing service is of exponential complexity. Therefore, two heuristics reducing the task dimension have been developed and implemented in the service. The goal of the first heuristic is to reduce the amount of possible drivers. The goal of the second heuristic is to reduce the amount of possible meeting points. These heuristics help to reduce the time of search in more than 1.5 times. Also, a speedup is achieved through using possibilities of multi-core processors via implementing separate threads for independent parts of the searching process.

**Index Terms:** Ridesharing, e-Tourism, Logistic service.