



TIMETABLE INFORMATION SYSTEM

The algorithm behind travel planning

In order to provide travel planning within web apps or mobile apps, these apps need access to prepared data from timetables. HAFAS.engine provides the data base for this. The system converts data from the transport providers' timetables to one uniform format, then transforms the data, and calculates ideal connections.

Travelers can indicate various preferences while searching for routes in their travel app. Should connections with as few changes as possible be preferred? Is it important to reach a destination as environmentally friendly as possible, or does the price of the trip play a vital role? Taking the selected criteria into consideration, HAFAS.engine generates ideal individual route suggestions. These routes are not solely limited to buses or trains. All available means of transportation can be included: scooters, ferries, bikes, car sharing, taxis etc. HAFAS.engine calculates multimodal travel chains effortlessly.

NEUTRAL SEARCH ALGORITHM

The HAFAS search always remains neutral and objective. A general preference of specific transport companies or connections is precluded.

CONSISTENT DATA BASE

By using a converter, data from all transport providers is transformed into a uniform format. Every common file format can be converted into HAFAS raw data this way. It then serves as a basis for the subsequent search. The data i.a. contains the following information:

- » Coordinates and name of the station
- » Walking time between stations
- » Transfer times
- » Journey data
 - » Number of the train, bus, line
 - » Route with departure and arrival times
 - » Ancillary attributes, operating days etc.

SYSTEM REQUIREMENTS

For incoming route requests, the HAFAS search does not access databases containing pre-calculated connections. Instead, it calculates routes whenever a request occurs. The system thus consumes relatively little hardware capacity while still remaining performant.



FINDING CONNECTIONS WITH HAFAS

Preferred means of transportation can be selected in the options of the travel app. HAFAS.engine then calculates and suggests routes according to these selections. The environmental sustainability as well as real-time data for the respective route will be displayed. This way, travelers are able to make perfectly informed choices regarding their travel plan.



THE ALGORITHM

The amount of potential connections taking one from A to B is almost endless. HAFAS.engine selects ideal routes for its users, depending on their individual preferences (fastest, cheapest, most sustainable or most convenient route). HAFAS.engine calculates up to 100 million connections daily.

