Chair for Algorithms
and Data Structures
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Efficient Route Planning
SS 2011

http://ad-wiki.informatik.uni-freiburg.de/teaching

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Exercise Sheet 7

Submit until Friday, Juli 22 at 2:00pm

Exercise 1 (6 points)

Extend your graph class by a method *parseFromGtfsFiles* that reads the GTFS files *stop_times.txt*, *frequencies.txt*, etc. in a given directory and constructs the corresponding *time-expanded* transit network as explained in the lecture (with arrival, departure, and transfer nodes).

Follow the advice given in the lecture, unless you know or find out better. In that case, let us all know via the forum please. Also, don't be shy to ask if you have any questions.

It suffices to construct the transit network for a single day of the week, for example, Monday. To that end, consider only those trip ids which have a service id that contains that day of the week (this information is contained in the files *trips.txt* and *calendar.txt*, respectively).

Of course, you have to write a test that reads a set of (very) small example GTFS files, and checks that the constructed graph is correct. Otherwise, the probability that your method is (even only half-way) correct is zero.

Exercise 2 (3 points)

Run all the algorithms you have implemented so far on a transit network of a GTFS feed of your choice. See http://code.google.com/p/googletransitdatafeed/wiki/PublicFeeds for a list of public feeds. If some of your implementations of the various algorithms do not work (yet or anymore) that is ok, but try to run at least ordinary Dijkstra and A* with the straightline heuristic.

As usual, report your results on a table that will be posted on the Wiki.

Exercise 3 (1 point)

Don't forget your *feedback-exercise-sheet-7.txt*, we really want to know how you are doing!