

Public transit schedule and route planner application for mobile devices

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Abstract

In this paper we introduce a public transit schedule and route planner application for urban public transportation. The application was developed for the Android Operation System. It works offline and does not need a permanent internet connection.

While transport agencies usually make their schedules available online, browsing them outdoors is not always possible, or requires too much effort on a small screen of a mobile phone. The solutions of this problem are the GTFS databases, which describe the urban public transportation systems. The developers can create applications which use the GTFS databases. However, these databases are not applicable for fast processing needed for route planning on mobile devices with limited resources. Therefore we created a data structure from the GTFS database which is easier to manage, smaller and faster to process. The Android application uses this data structure.

The application lists the departure times, journey times and the stops of the lines. It can display the lines on the map. It shows the stops nearby with the line passing through. The user can choose one or more stops and can view the line passing through the stops.

The main function of the application is the route planner. It plans at least one route from a starting-point to a destination. Before the route planning the user can set parameters which are taken into account by the route planner.

Keywords: mobile application, public transit, GTFS database, route planner