

Applications for organization of rail transport often contain visualization of traffic situations, referred to as train timetable diagrams. The goal of this thesis is to create a library that simplifies the development of such applications by providing graphical component which allows developers to implement their own custom train timetable diagrams.

The component, developed for .NET platform, utilizes 2D graphics library SkiaSharp for drawing and can be integrated into various GUI frameworks. The library features interactive rendered content of train timetable diagrams – for example, zooming in on specific areas of the content or clicking on visualized elements. The library also offers an easily extendable implementation of the basic train timetable diagram.

As an example of our library utilization, we also developed a WPF application intended for viewing train timetable diagrams of Czech railways.