

String Charter 3: A Web App for Visual Transport Schedules

Group 3: Martin Rabensteiner and Stephan Robinig

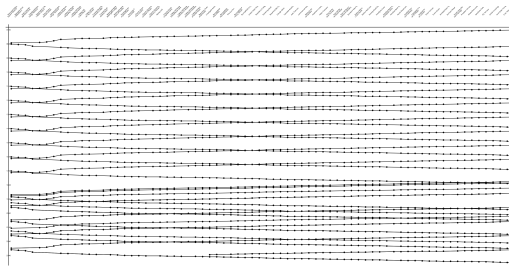
25 June 2025

Information Visualisation SS 2025

Copyright 2025 by the author(s), except as otherwise noted.
This work is placed under a Creative Commons Attribution 4.0 International (CC BY 4.0) licence.

String Charts

- Representation of time (x-axis) and route (y-axis).
- Transportation data.

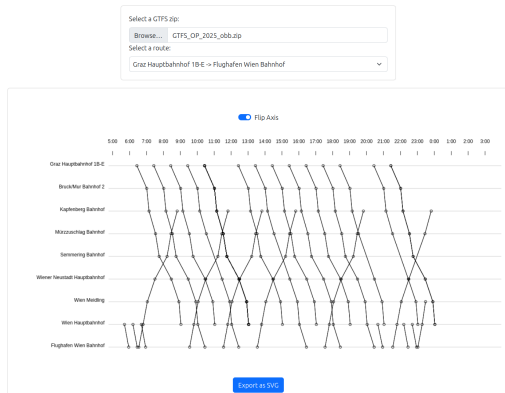


Source: Application export by Stephan Robinig

Further reading: <https://courses.isds.tugraz.at/ivis/surveys/ss2025/ivis-ss2025-g3-survey-string-charts-slides.pdf>

String Charter 2

- IVIS Project from SS2023.
- Tech Stack: Tauri, TypeScript, static page.



Source: Screenshot captured by Martin Rabensteiner

Further reading: <https://courses.isds.tugraz.at/ivis/projects/ss2023/ivis-ss2023-g2-project-string-charter2.pdf>

Showcase Video: https://youtu.be/zKAK69_i9TA

String Charter 3

Further Development of String Charter 2:

- Updated Tech Stack.
- Enhanced (Web-App) UI.
- Bugfixes.
- New features.
- Better documentation.
- GitHub Pages: <https://stofflr.github.io/String-Charter-3/>

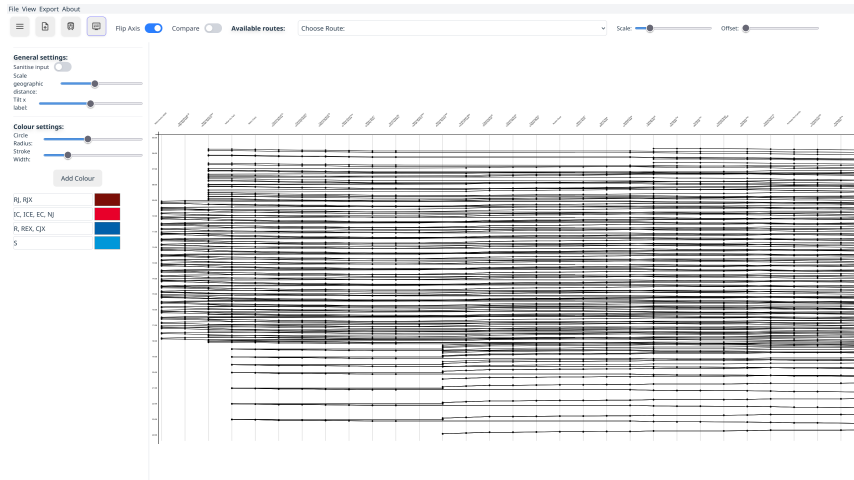
Tech Stack Enhancements

- Package Manger: NPM → Yarn
- Backend: Tauri 1 → Tauri 2
- Frontend: *None/Static* → Vue
- CSS: Bootstrap → Tailwind

New Features

- Better GTFS support.
- Represent geographic distance between stops.
- Flexible chart.
- Chart parameters (line width, color, ...).
- More interactive highlighting (train, stops, guidelines).
- Route comparison (MBTA Viz).

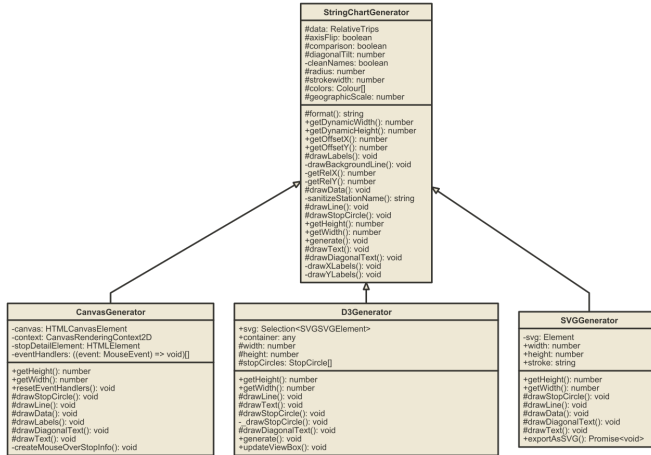
Live demo



GitHub Repo: <https://github.com/Stoff1R/String-Charter-3>

Showcase Video: <https://youtu.be/y5Kty8LcoGg> Source: Application Screenshot by Stephan Robinig

Chart Generation



Source: Created by Stephan Robinig

Application Structure

App
<code>#allReferences :Ref</code> <code>#d3Gen : D3Generator</code> <code>#SVGGen : SVGGenerator</code>
<code>+fetchDataFile(): void</code> <code>+toggleSelection(): void</code> <code>+routeUpdate(): Promise<void></code> <code>+clearRouteFilter(): void</code> <code>+handleGtfsUpload(): Promise<void></code> <code>+updateViewBox(): void</code> <code>+generateStringGraph(): void</code>

Source: Created by Stephan Robinig

Future work

- File system save dialogue.

Native support only with HTTPS.

Browser support limited.

- Selection for stations and hours (Double Edge Slider)
- GitHub workflow for Tauri build.
- Static time axis on zooming.

Questions?

