

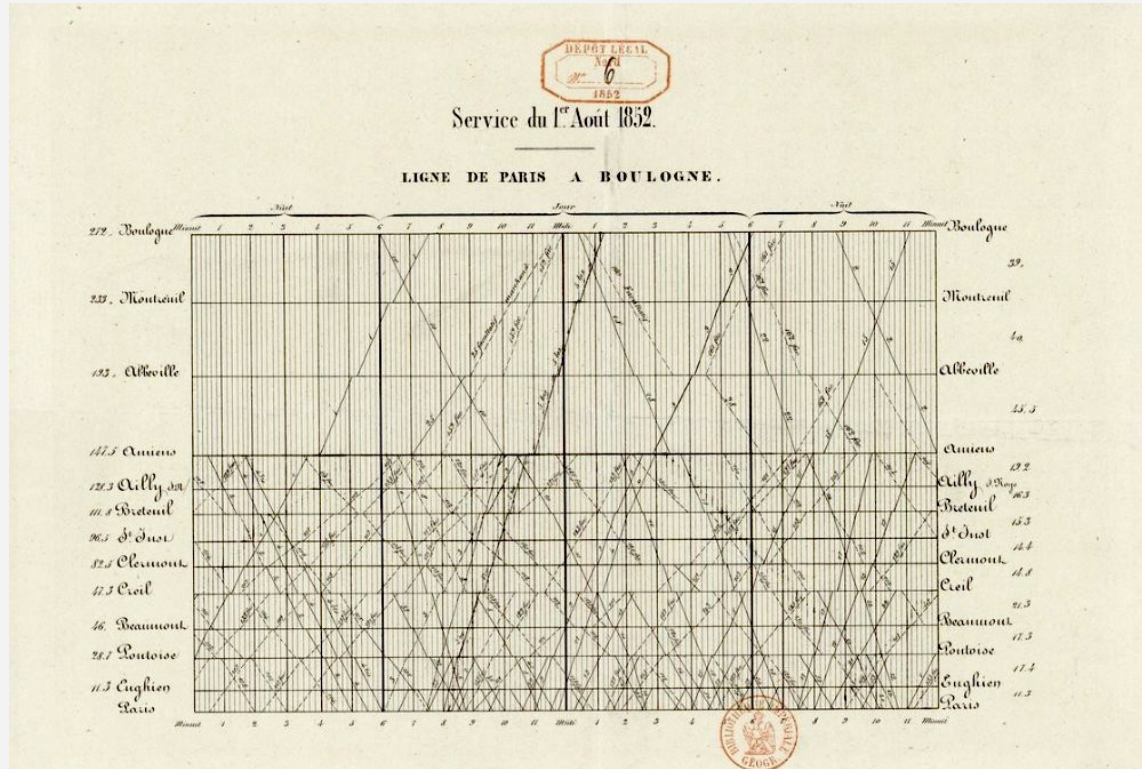
Interactive Train Schedules with String Charter

Group 3

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24.06.2020

Ibry Train Schedule



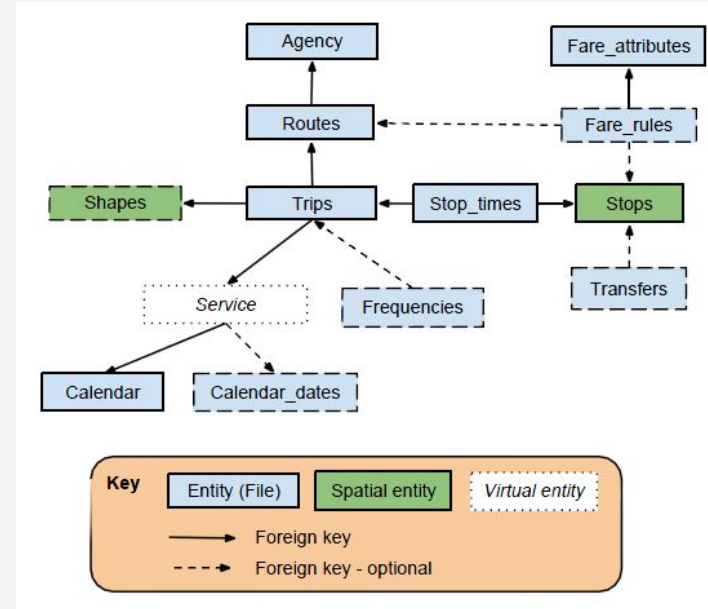
- Invented by Charles Ibry in 1840s
- Graphic train schedule based on a line grid
- Also known as a string chart

Tools

- Python (with libraries)
- TypeScript
- D3.js
- Electron

Data

- GTFS (General Transit Feed Specification) format.
- Series of text files, written in CSV file format, collected in a ZIP file.
- Each file contains particular transit information: stops, routes, trips, and other schedule data.



Data Preprocessing

Python script for:

- Downloading the data
- Loading the data
- Merging the data
- Cleaning the data
- Saving the CSV file for further use

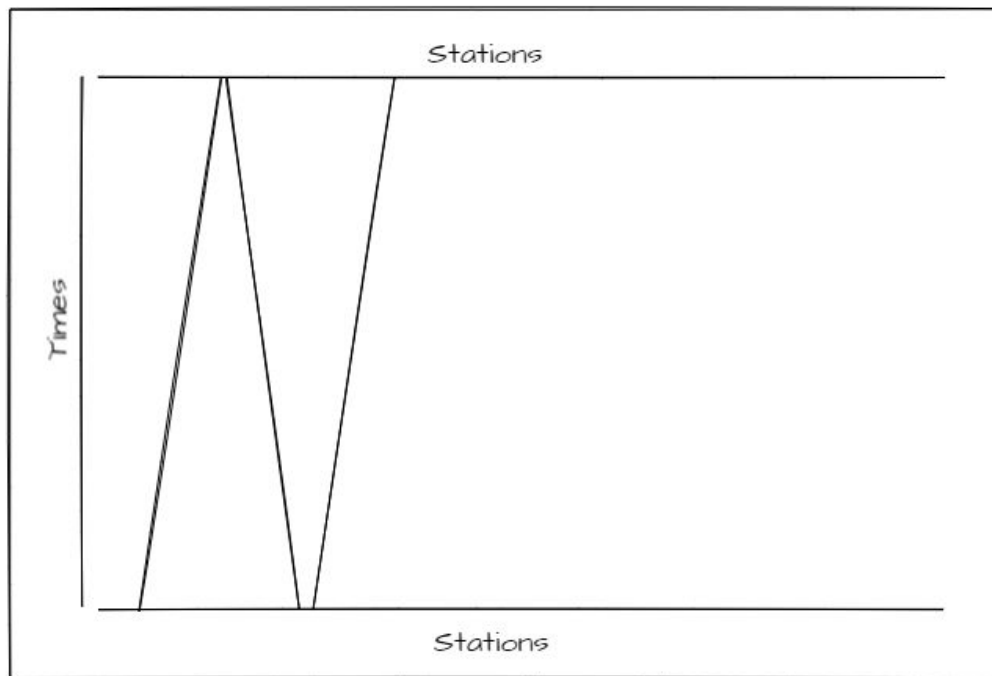
Data Frame for Graz - Vienna

trip_id	direction	trip_short_name	Graz Hbf	Bruck/Mur Bahnhof	Kapfenberg Bahnhof	Mürzzuschlag Bahnhof	Semmering Bahnhof	Wr.Neustadt Hbf	Wien Meidling Bahnhof	Wien Hbf	
0	14	1	RJ 1255	20:33:00	19:58:00	19:52:00	19:30:00	19:15:00	18:32:00	18:05:00	17:58:00
1	96	0	EC 158	11:26:00	12:03:00	12:11:00	12:33:00	-	13:32:00	13:57:00	14:02:00
2	114	1	RJ 551	08:33:00	07:58:00	07:52:00	07:30:00	-	06:32:00	06:05:00	05:58:00
3	115	1	RJ 553	09:33:00	08:58:00	08:52:00	08:30:00	-	07:32:00	07:05:00	06:58:00
4	116	0	RJ 554	07:26:00	08:03:00	08:11:00	08:33:00	08:47:00	09:32:00	09:57:00	10:12:00
5	183	0	RJ 558	09:26:00	10:03:00	10:11:00	10:33:00	-	11:32:00	11:57:00	12:12:00
6	202	1	RJ 559	12:33:00	11:58:00	11:52:00	11:30:00	11:15:00	10:32:00	10:05:00	09:58:00
7	43	1	RJ 653	14:33:00	13:58:00	13:52:00	13:30:00	13:15:00	12:32:00	12:05:00	11:58:00
8	70	0	RJ 656	13:26:00	14:03:00	14:11:00	14:33:00	-	15:32:00	15:57:00	16:12:00
9	76	1	RJ 657	16:33:00	15:58:00	15:52:00	15:30:00	-	14:32:00	14:05:00	13:58:00
10	123	0	RJ 750	15:26:00	16:03:00	16:11:00	16:33:00	16:47:00	17:32:00	17:57:00	18:12:00
11	149	0	RJ 754	17:26:00	18:03:00	18:11:00	18:33:00	18:47:00	19:32:00	19:57:00	20:12:00
12	152	1	RJ 755	20:33:00	19:58:00	19:52:00	19:30:00	19:15:00	18:32:00	18:05:00	17:58:00

Features

- Import from CSV
- Filter by direction
- Filter by time
- Coloring
- Information on hover
- Export as SVG

Train schedule visualization - Mockup



Select days

Select direction

Time

From: To:

Flip axes

Export SVG

Interactive Ibry Train Schedule

Weekdays ▾

Graz - Vienna ▾

Time from:

Time to:

Color pallete:

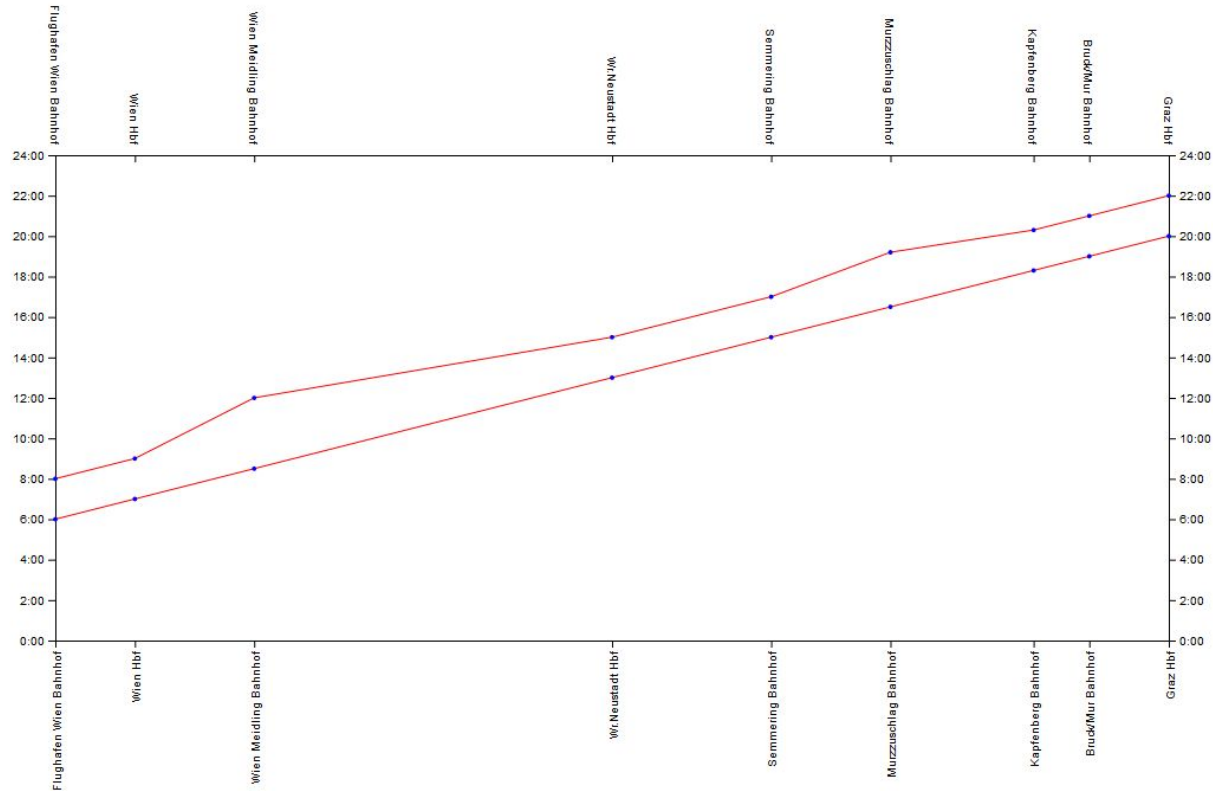


Export SVG

Graph would go here

Interactive Ibry Train Schedule

Weekdays Graz - Vienna Time from: Time to: [Flip Chart](#) Color palette: [Export to SVG](#)



String Charter

Import CSV:

Graz Hbf - Wien Hbf.csv



Time:

to

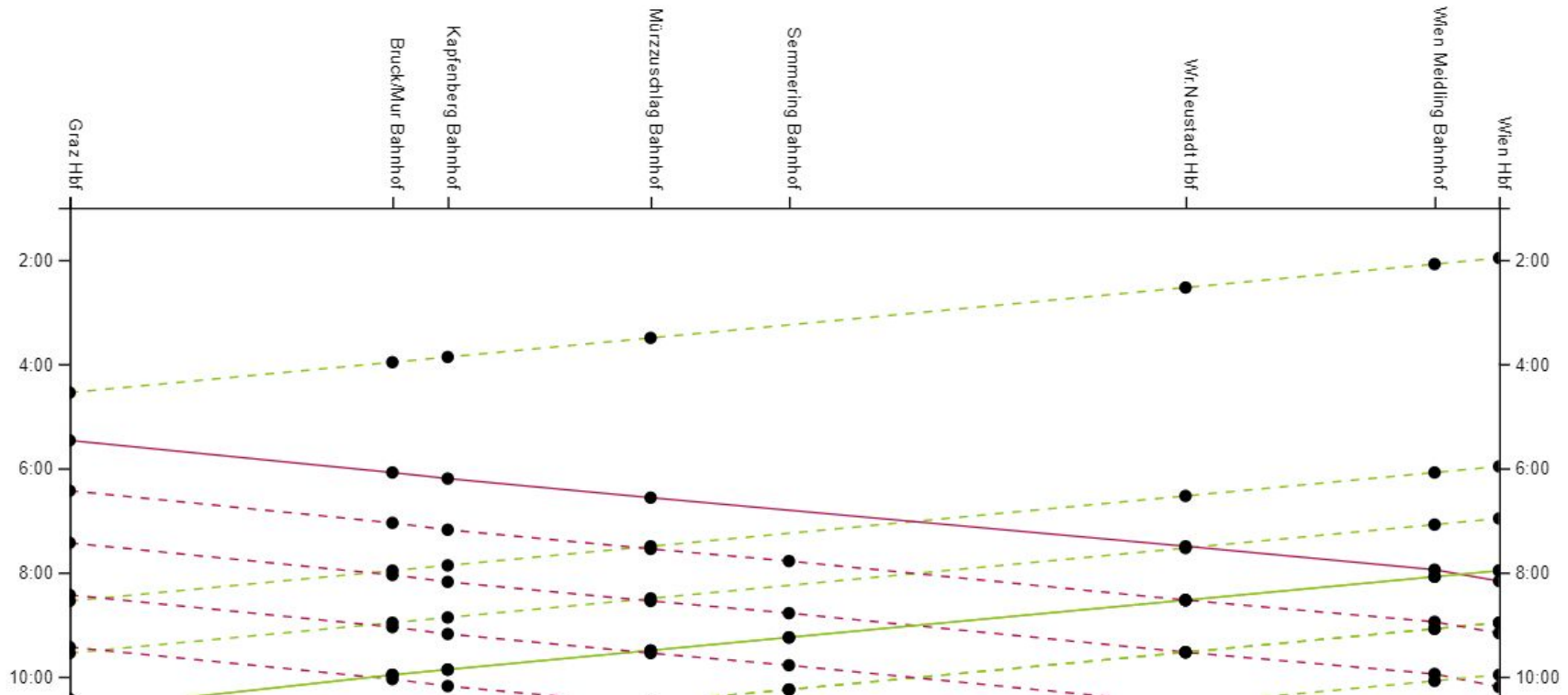
Line colour:



Second colour:



--- Railjets
— Others



Demo

Showcase video: <https://youtu.be/Oly9NtSucrU>

Thank you for your attention

Questions?