Explorative Routing

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Long-distance cross-country train trips are

- slow
- expensive
- complicated

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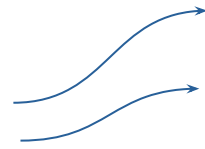
We can't do (much) about these two...

- slow
- expensive
- complicated

... but there are enough people that want to take such trips regardless...
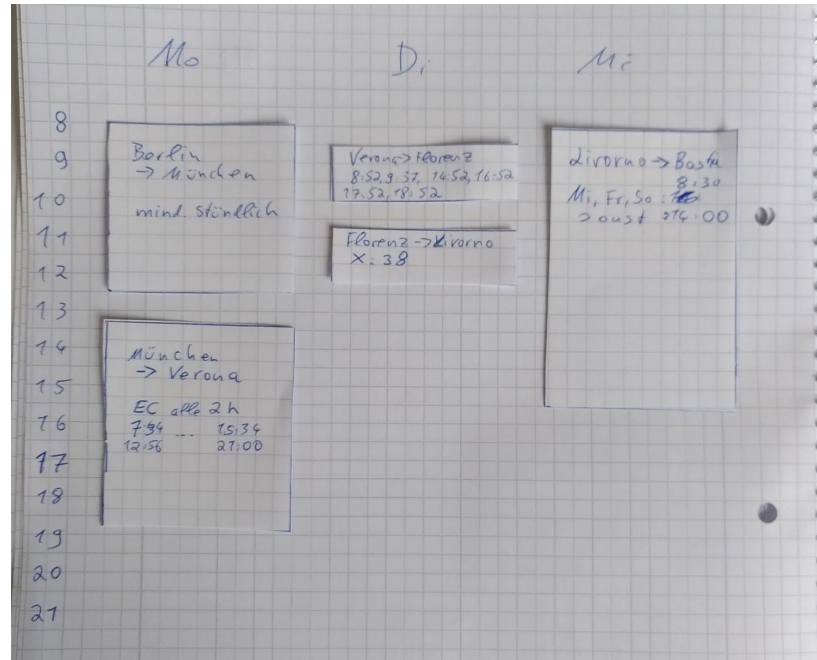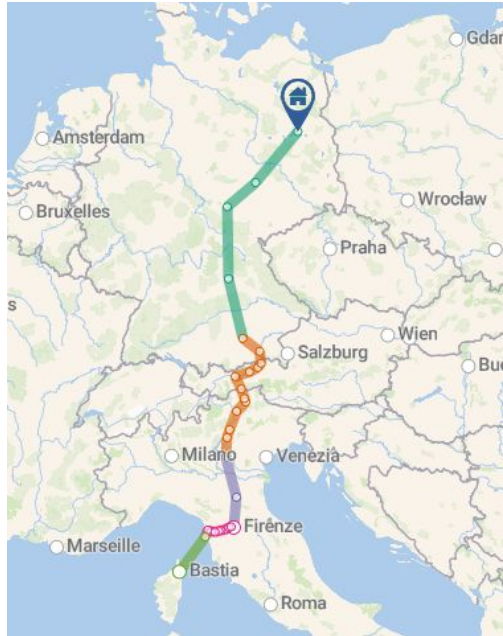
Long-distance cross-country train trips are

- slow
- expensive
- **complicated**

We can't do (much) about these two...

... but there are enough people that want to take such trips anyway...

... but we are losing them here.

Planning a trip from Berlin to Corsica (Oct 23)

Planning a trip (in particular vacations) should

- be fun
- allow exploring ideas / possibilities
- inspire daydreaming

Different criteria than for local/short-distance trips

- Oh, Zürich is on the way, I could visit my friend who lives there!
- Never been to Vienna, could be fun spending a few hours if I am changing trains there anyway.
- Looks like it is only a small detour to get to the mountains...
- A slow morning in Rome with coffee on the piazza before my next train leaves sounds great!

- I / the kids / the dog need more breaks.
- I want to take some time to explore things on the way.
- I don't want to arrive too late. Or have to depend on the last train of the day.
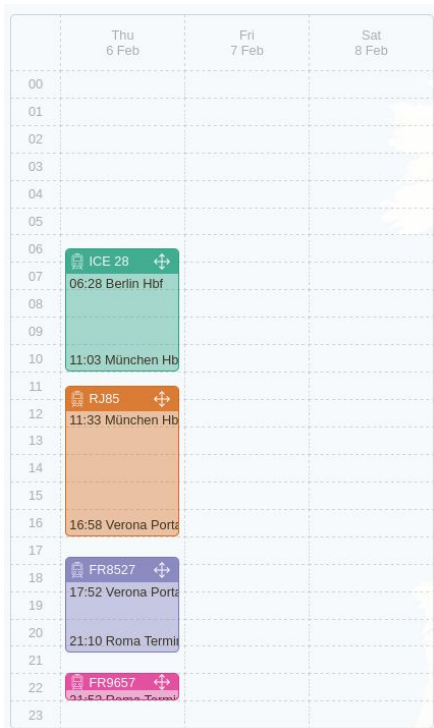- And I need enough buffer!

These criteria are

- different for everyone
- not fully formed when starting the planning
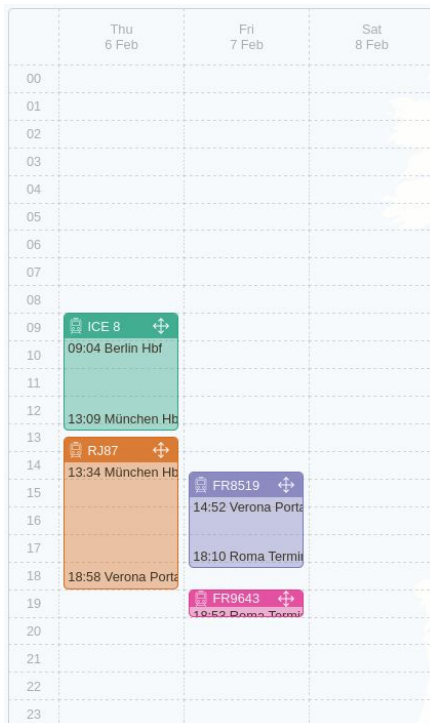- often more of an intuition than a true criteria

Berlin→Napoli, 4 different versions
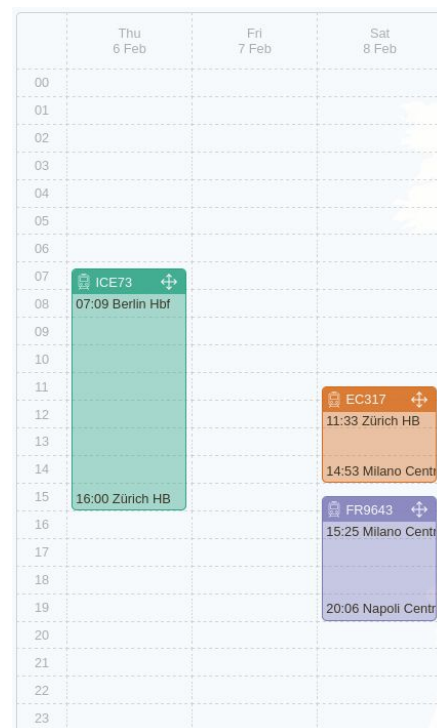
via Verona, all in one (busy) day

	Thu 6 Feb	Fri 7 Feb	Sat 8 Feb
00			
01			
02			
03			
04			
05			
06	🚆 ICE 28 ✛ 06:28 Berlin Hbf		
07			
08			
09			
10	11:03 München Hb		
11	🚆 RJ85 ✛ 11:33 München Hb		
12			
13			
14			
15			
16	16:58 Verona Porta		
17	🚆 FR8527 ✛ 17:52 Verona Porta		
18			
19			
20	21:10 Roma Termi		
21			
22	🚆 FR9657 ✛ 21:52 Roma Termi		
23			

more relaxed, with time to explore Verona

	Thu 6 Feb	Fri 7 Feb	Sat 8 Feb
00			
09	🚆 ICE 8 ✛ 09:04 Berlin Hbf		
12	13:09 München Hb		
13	🚆 RJ87 ✛ 13:34 München Hb		
15		🚆 FR8519 ✛ 14:52 Verona Porta	
17		18:10 Roma Termi	
18	18:58 Verona Porta		
19		🚆 FR9643 ✛ 18:52 Roma Termi	

via Zürich (to visit that friend)

	Thu 6 Feb	Fri 7 Feb	Sat 8 Feb
07	🚆 ICE73 ✛ 07:09 Berlin Hbf		
08		🚆 EC311 ✛ 08:33 Zürich HB	
11		11:53 Milano Centr	
13		🚆 FR9631 ✛ 13:00 Milano Centr	
15	16:00 Zürich HB		
17		17:33 Napoli Centr	

spending some more time with the friend

	Thu 6 Feb	Fri 7 Feb	Sat 8 Feb
07	🚆 ICE73 ✛ 07:09 Berlin Hbf		
11			🚆 EC317 ✛ 11:33 Zürich HB
14			14:53 Milano Centr
15	16:00 Zürich HB		🚆 FR9643 ✛ 15:25 Milano Centr
20			20:06 Napoli Centr

Exploration is hard / no fun in
standard user interfaces for journey planning.

*Every change, every idea requires trial-and-erroring how to change my search
query in just the right way + all that waiting for the new routing results.*

Trans Europe Planner

- https://trans-europe-planner.eu/

- how could a more adaptive, explorative journey planner look like?
- (so far) deliberately very little focus on data (more on that later)
- supported by

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Time exploration

Geographical exploration

Geographical exploration (current status)

London

Reachable with 2 transfers

👁 Show routes

Context info about possible destinations

MapLibre | © Stadia Maps © OpenMapTiles © OpenStreetMap

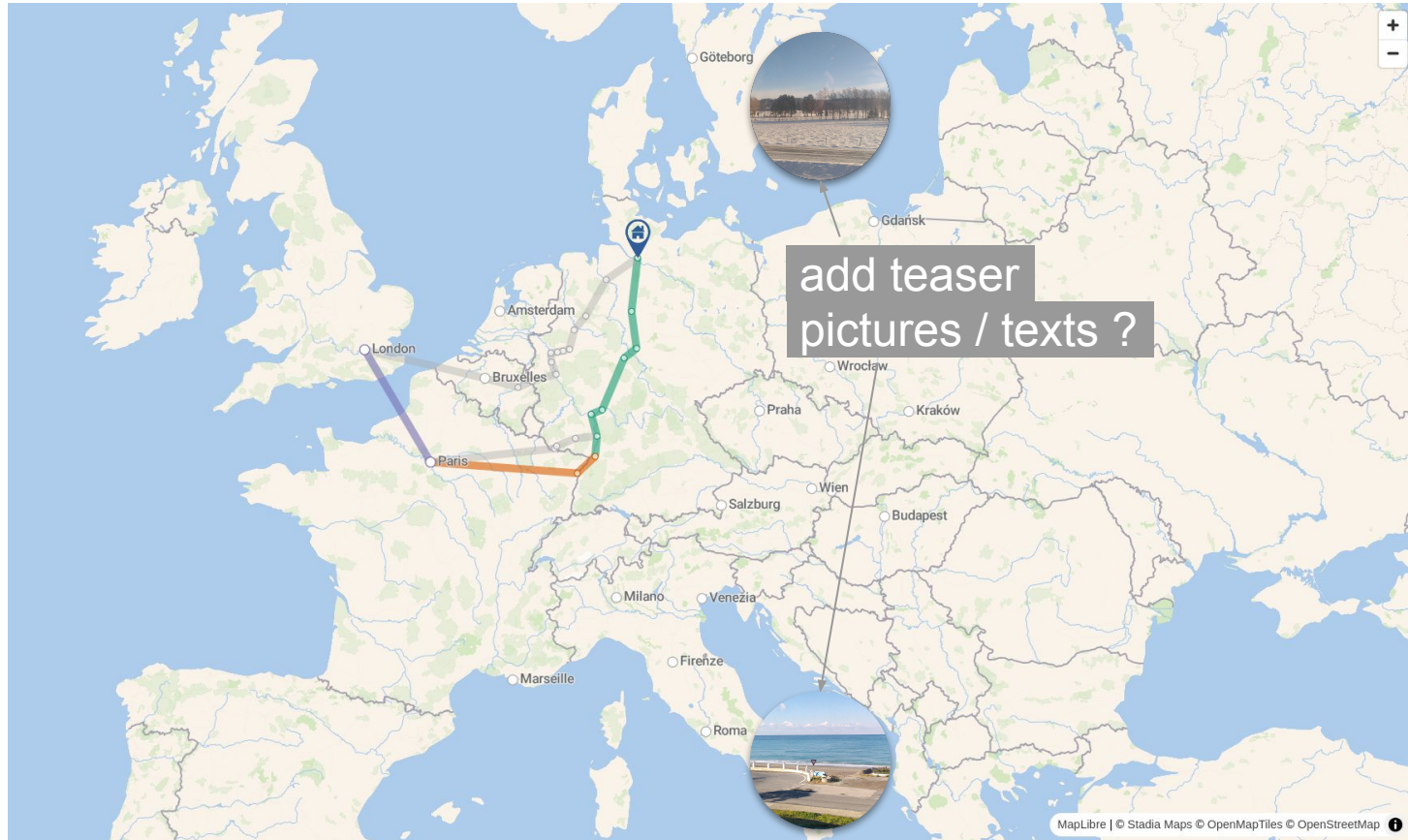# Geographical exploration (current status)

Use map to select/ switch route

Geographical exploration (todo/ideas)

route through X
(by dragging?)

Geographical exploration (todo/ideas)
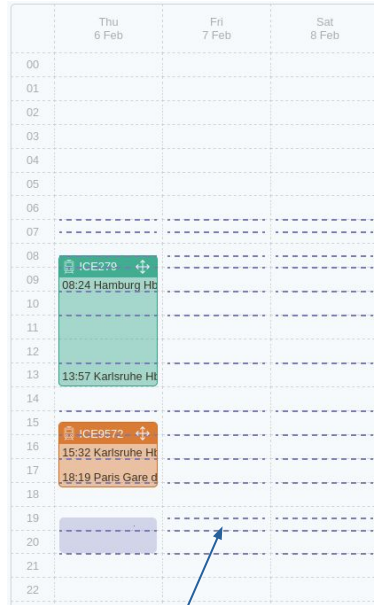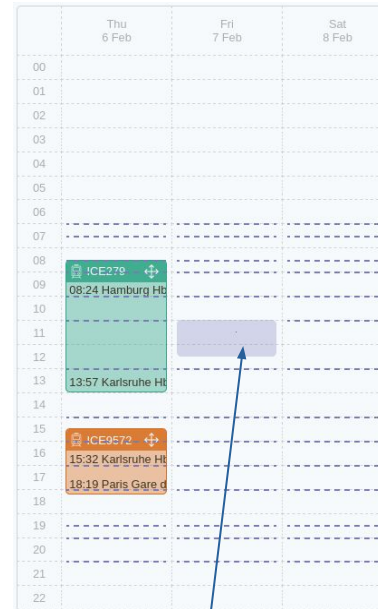

add teaser pictures / texts ?
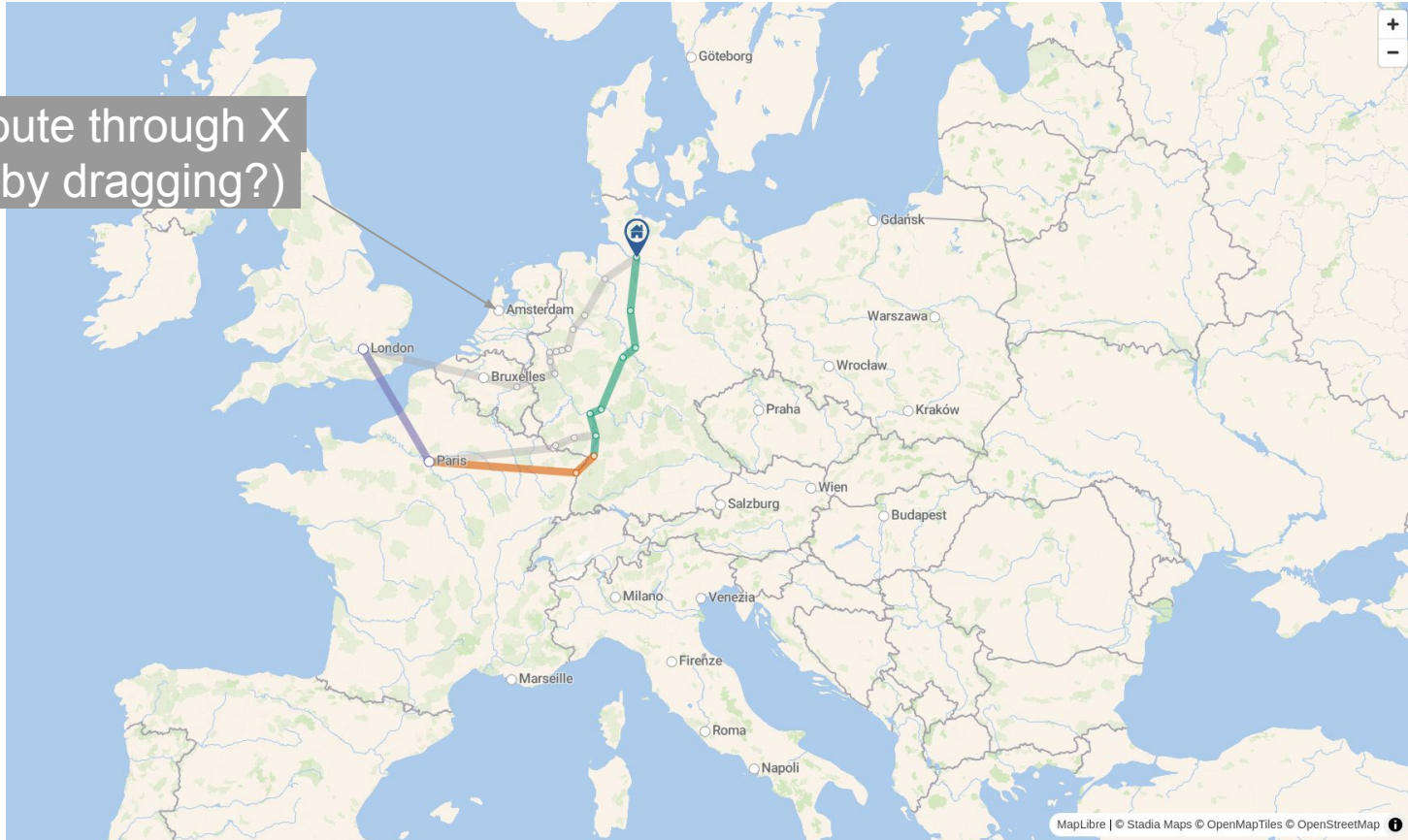
Time exploration (current status)

Grab

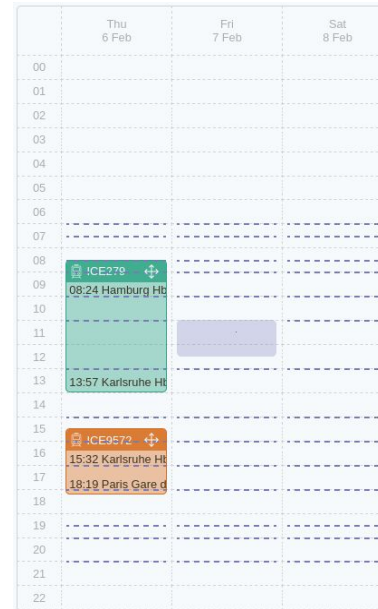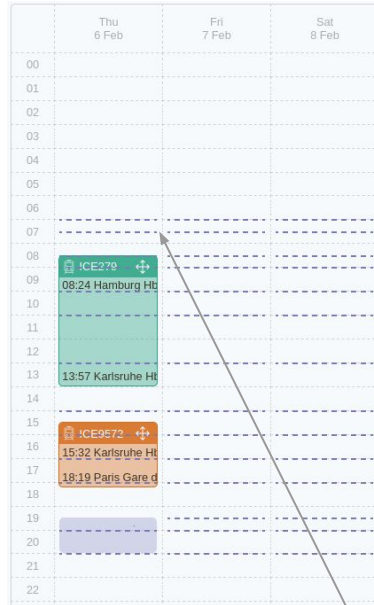Start dragging, each purple line = alternative connection from Paris to London
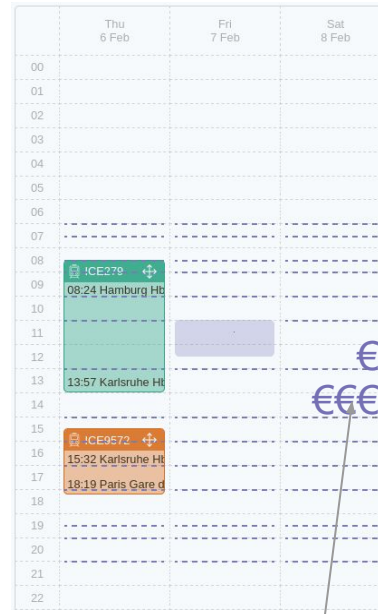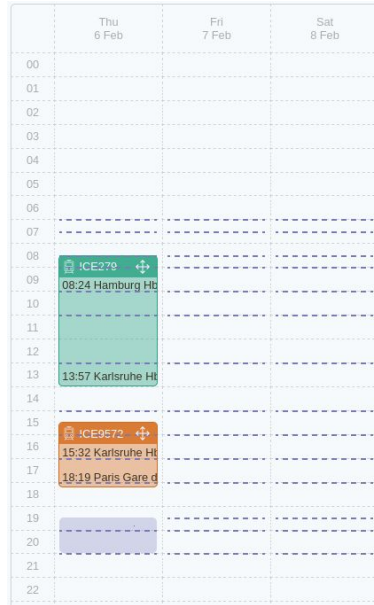
Preview

Drop

Time exploration (todo/ideas)

Forbid/warn about illegal moves

Time exploration (todo)

Context info?

What is "routing" in such a system?

1. Find "paths" from A→B (i.e. list of cities in which switching trains), can be pre-calculated offline.

2. For specific travel date, "fill" with connection data to get initial itinerary (might not be possible on that date).

3. Let user do the rest.

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2. For specific travel date, "fill" with connection data to get initial itinerary (might not be possible on that date).

    Currently: Find earliest possible connection for first segment, then earliest for second, ... After all segments assigned, try shifting to later in the day until first train after 8am, avoid adding travel days.

3. Let user do the rest.

What data is needed?

- **All** the raw connection data everywhere :-(

Currently: I pulled data for Germany + select connections once and am pretending those are still valid and every train runs every day lol

Is there a way to make use of existing efforts / open routing APIs etc? Not sure how they could best fit into my approach. Please reach out!

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https://trans-europe-planner.eu/

https://github.com/krasch/trans-europe-planner/
https://fosstodon.org/@trans_europe_planner