

Software needs of a volunteer operated heritage railway

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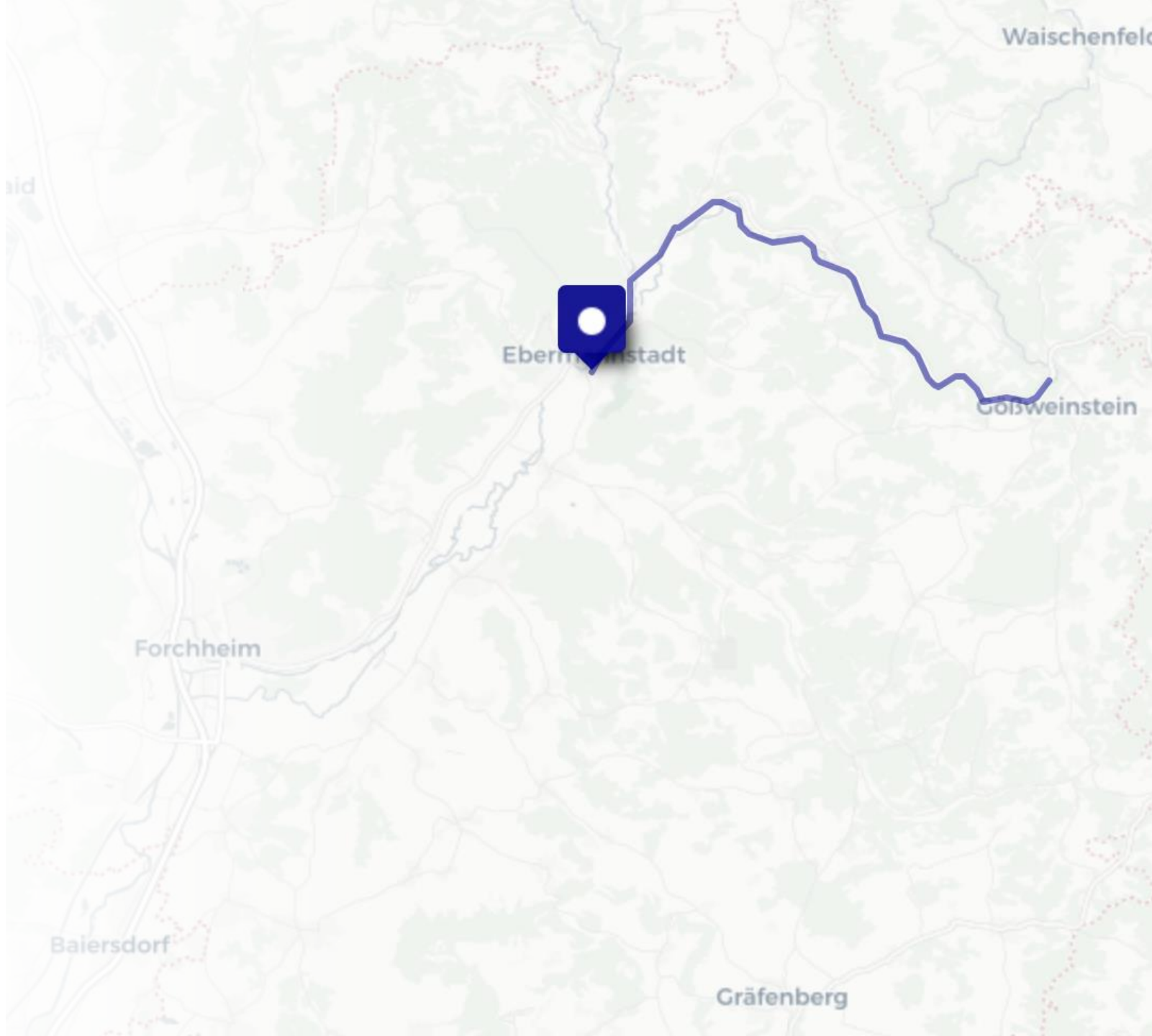
<https://www.dampfbahn.net>



Who are we...

Dampfbahn Fränkische Schweiz:

- own 16km line close to Nuremberg
- nearly 30.000 passengers per year
- about 400 members, around 40 actively working on the railway
- running steam and diesel every Sunday from May to October
- completely volunteer run, full FV-NE operation rules apply.
- in close contact with local initiatives on improved public transport and autonomous trains, occasionally testbed for universities.





Goal of the talk

- Put heritage lines on the radar for the FOSS railway world
- Heritage lines as experimentation area before going big
- Initiate Networking and experience exchange



Museum railways in Europe

- More than 100 in Germany, most organized via VDMT
- More than 100 in UK, most organized via HRA
- Around 50 in Austria, most organized via ÖMT
- Around 20 in France, 10 in Belgium ...
- European organization: FEDECRAIL

We like trains, but are bad with computers

- Some members have IT experience, no programmers
- Most are 50+, and do not follow actively SW development
- Generally only little computer knowledge, nearly no FOSS experience

What do heritage railways do?

Ordinary Railway Things

- We sell tickets for train rides
- We operate trains on own lines and on main lines
- We operate and repair railway infrastructure (tracks, crossings, signaling,...)
- We operate and repair rolling stock
- We run works and sheds

Plus the non-profit stuff:

- We manage archives
- We manage memberships of our organizations
- We manage donations and fundings
- ...



SW support needed

We still run railways like 1950. But:

- Decreasing number of active members
- Higher safety requirements
- Higher expectations from customers
- Growing regulatory and administrative effort





Example: Selling Tickets

- Existing: fahrkartendrucker.de – old and works, but no active development, technologically stuck in 90ies, commercial
- Existing: event ticketing SW like pretix.de – not made for railway needs, can only cover partial use case, but powerful and modern.
- General: hundreds of bachelor and master thesis exist on rail fare systems, but no working FOSS solution found...

Example: Running trains

- Time tables: model train SW like jTrainGraph and Fpedit work well, but work of single programmers...
- Safety mechanisms of 1950ies: work reliably, but additional features like real time location of engines etc. would help – BUT: regulated environment! And ETCS is around the corner...
- Passenger information and „story telling“ done by conductors via direct talking to people or via horrible speakers in train. Trend to „Event“-like experiences .





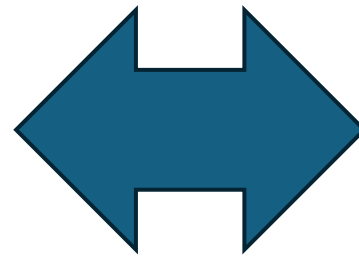
Example: Manage rolling stock / infrastructure

- Tracking of documentations and certifications mostly via Excel, sometimes badly self-programmed databases
- Lot of manual work required to get status of rolling stock/infrastructure
- Reports in various formats from paper to MS Word, sometimes involving manual copying of information by LEA/EBA into their databases....
- But also: handing a readable PDF to LEA/EBA via Nextcloud link had very positive feedback – heritage line better than professional railways!



Knowledge

- Stating the problem
- Finding the right solution
- Being able to apply the solution



Software

- Fit for purpose
- Discoverability
- Ease of use, ease of administration



Chaos meets Museumsbahn

- Idea started at the CCCs Gulasch Programmier-Nacht 2023: connect heritage railway with railway interested Nerds
- Workshop at Chaos Communication Camp 2023
- Talk at FireShonks 2023
- Talk at FOSDEM (this one...)
- Talk at VDMT Spring Meeting March '24
- Community starts to form...
- Profit!



Why should you bother?

- Museum railway as learning ground
- Museum railway as experimentation area
- Museum railway as test bed



How to help

- **Discord** to chat and connect:
<https://discord.gg/ADJFadsEHB>
- <https://chaosbahn.net> – **Wiki** as main entry point
- Establish **knowledge base** on github:
<https://github.com/museumsbahn-it-community/museumsbahn-knowledgebase>
- Networking with heritage line associations (VDMT in germany, HRA in UK, ...)

Thank you!

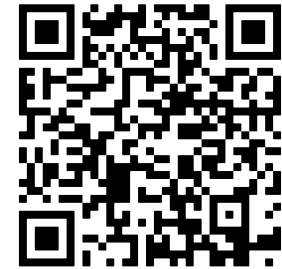
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Join us on Discord!



<https://discord.gg/ADJFadsEHB>



<https://github.com/museumsbahn-it-community/museumsbahn-knowledgebase>