RailML-Viewer, current state

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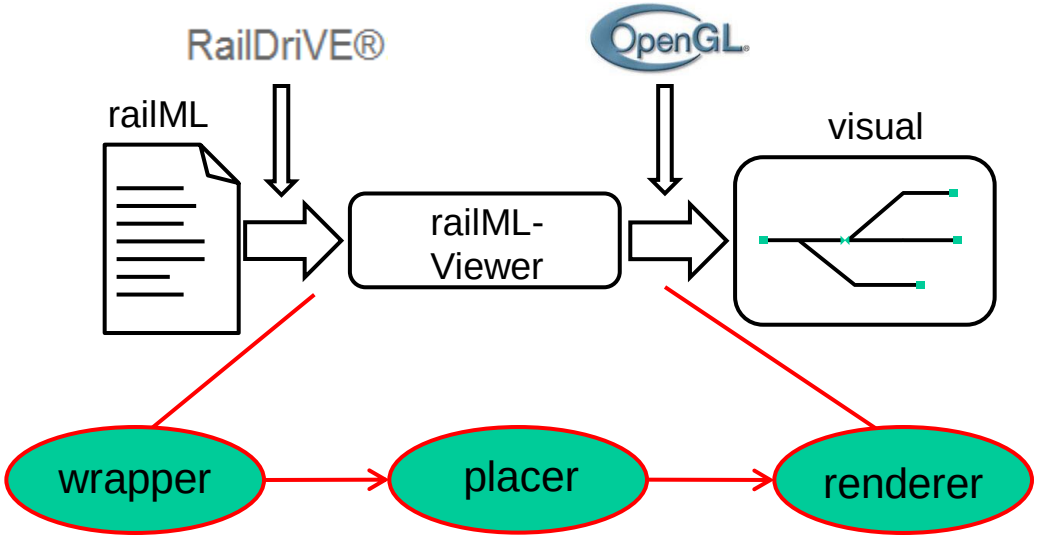
Last Time

- A concept for the RailML-Viewer

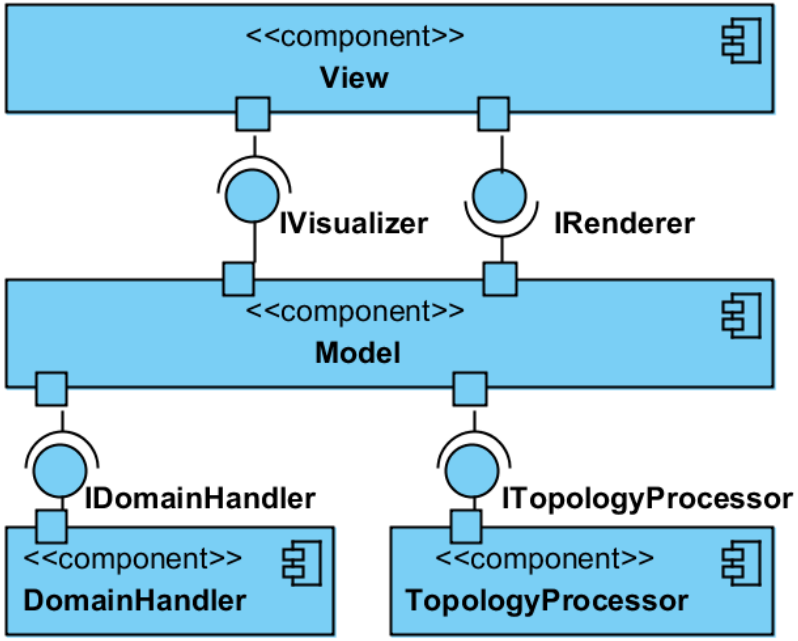


Today

- Software Design
- Implementation Aspects
- Future Challenges
- Quick Demo

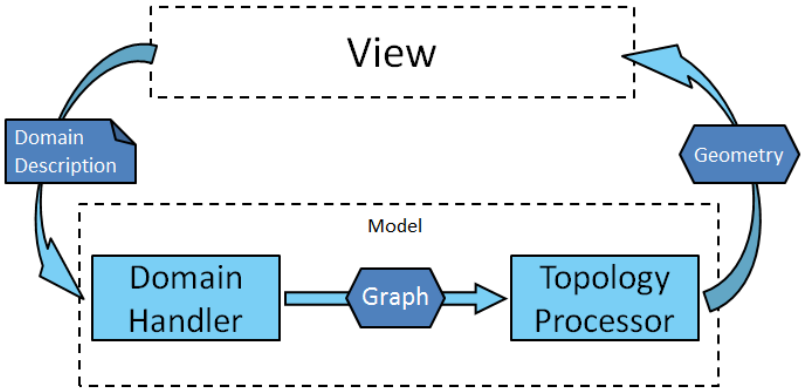
Architecture defines a clear separation of concerns

- Communication between View & Model accomplishes user interaction
- Model defines template methods for processing requests
- DomainHandler implements access to internal representation of RailML
- TopologyProcessor implements graph drawing algorithms



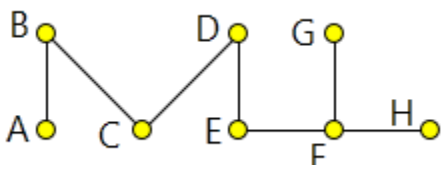
Conceptual Dataflow follows a generic visualisation process

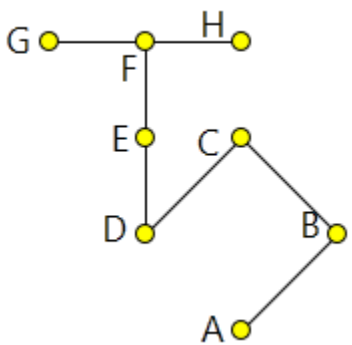
- import RailML file into internal representation
- populate a graph structure from internal model
- assign a positioning to the graph elements (graph drawing)
- build a geometry from the positioned graph



Double Vertex Graphs help achieve a more detailed topology

- Plain topology is not enough





- Standard graph drawing algorithms can be applied to achieve this.

- An Annotated Graph model is provided for general purpose processing.

- A Double Vertex Graph model (as introduced by M. Montigel, ETH Zürich 1992) is provided to map information from RailML more concisely.

Next steps focus on functionality

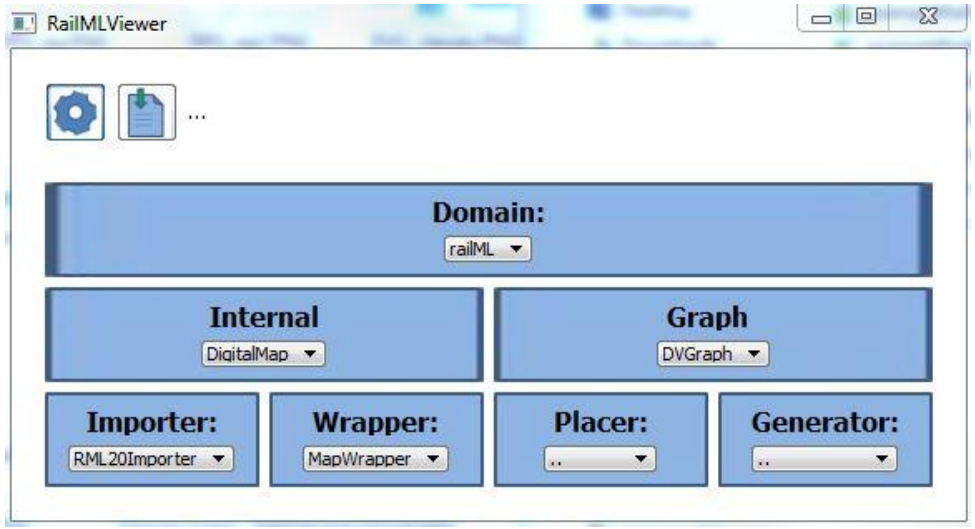
- Phase 1: support the most common modeling styles
  - provide plugins, the user has to decide
- Phase 2: allow users to inspect visualized elements
  - this is also a first step towards editing functionality
- Phase 3: improve the positioning and edge rendering
  - stay true to length information
  - apply methods that are not grid oriented
  - include geometric information if given

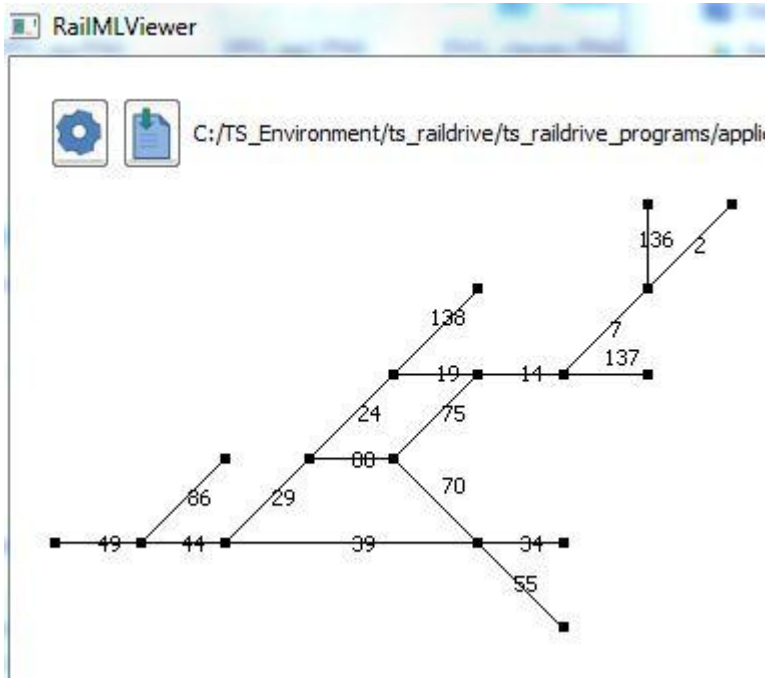
Future Challenges

- Phase 4: consolidate placing approaches
  - make plugins work together
  - from last conference: macroscopic view on zoom out
- Phase 5: provide editing functionality

Quick Demo

- Configure the Viewer
- Double Vertex Graph visual
- Tracks, Switches, Track IDs





Thanks for your attention

Any questions?

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