News of railML-Common parts

24th railML.org – meeting

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railML.org

Paris, September 18th, 2013
General introduction
- Implementation process
- Development cycle
- Documentation
- Coordinators meetings

General concepts
- Identities
- References
- Code lists

Selected topics from sub-schemas
- Stop posts, platform edges and service sections
- Some infrastructure objects
- Geographical localizations
- MathML integration for rollingstock formulas
How to use and implement railML?

1. Inform yourself

2. Download official release

3. Register yourself
   coordination@railml.org

4. Benefit from a railML Training

5. Successfully implement railML interface

6. Supplementary schema for special needs

7. Read Documentation

8. Questions?
   [nntp://news.railml.org/](nntp://news.railml.org/)
How to develop new features in railML?

Development cycle:

1. Download latest
2. Check your requests
3. Discuss with others
4. Conclusions of discussion
5. Announce changes
6. Check again

- Subversion Repository: http://svn.railml.org/
- Wiki Documentation: http://wiki.railml.org/
- Trac Ticket System: http://svn.railml.org/

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Documentation in the wiki and on the web site

http://wiki.railml.org/

▶ General wiki pages with FAQ character
▶ Each XML element is documented on a single wiki page with its XML attributes and some sample code
▶ Links to the appropriate wiki page are located inside the XML schemas

http://www.railml.org/index.php/dokumentation.html

▶ The latest official railML-schema version is illustrated on HTML web sites, created by automatic XML schema documentation tools
Small coordinators meetings in Dresden

- Feature enhancements for railML release 2.2 clarified
- Transparent results: directly passed to Trac tickets
- Boosted mainly the infrastructure-development
- Further discussion and results: see railML forum posts

*Official Release of railML 2.2 was published on June 11th, 2013*
Identities with xs:ID

- Base type tGenericID used for attribute id of type xs:ID
- XML Validators check for unique attributes of xs:ID inside an XML File
- XML Validators check for not more than one attribute of xs:ID inside an XML Element
- XML Validators check for lexical constraints (NCName): starting with a Letter or '_', no whitespaces

<ocp id="ocp80BL"…
<formation id="fCNL"…
<train id="t1242"…
References with xs:IDREF

- Base type tGenericRef used for attribute ref of type xs:IDREF
- XML Validators check for presence of equivalent xs:ID inside the XML File
- XML Validators check for lexical constraints (NCName): starting with a Letter or '-', no whitespaces

```xml
<ocpRef ref="ocp80BL"/>
<formationRef ref="fCNL"/>
<trainRef ref="t1242"/>
```
XML code lists instead of XML Schema enumerations

- `TrainProtectionSystems.xml` separated for systems “at track” and systems “on vehicle”
- `Registers.xml` organization-specific registers for operation or control points (ocps), e.g. RL100
- `InfrastructureManagerCodes.xml` abbreviation of mostly European infrastructure managers
Current strategy for XML code list files

- The lists are provided as a minimum starting point. They should be reviewed and enhanced by the railML-communities experiences.
- Each topic is defined in a separate file.
- Code list files are located in the same folder as the railML-schema files.
- XML schemas for these lists are provided at a separate folder (codelist-schemas).
Overview over stop posts, platform edges and service sections in infrastructure and timetable

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Some infrastructure objects

railML Infrastructure

+ locally controlled area
+ line
+ tracks
+ radii
+ operation or control points
+ speed aspects
+ gradients
+ gauge
+ axle counters
+ tunnels
+ speed aspects
+ track circuits
+ conditions
+ electrification
+ bridges
+ signals
+ balises
+ ...

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Localization of operation or control points

Linear mileage, incl. overlapping and missing stations

Coordinates with reference system, e.g. WGS84 for GPS

Standardized code, RU- or IM-specific, country-specific or global, e.g. TSI-TAP

Numerical Country code (2N)
Railway location number (5N)
Check digit (1N)

Source: TAP TSI, Annex B 9
Sample: Train resistance

\[17,456N + 5,677N \frac{s}{m} \times v + 1,234N \left(\frac{s}{m}\right)^2 \times v^2\]

- MathML provides both content and presentation mode.
- MathML presentation mode is widely available in web browsers and document generation (publishing domain).
- MathML content mode seems to be less widespread than the presentation mode.
- For integration of MathML formulas into railML elements, the content mode should be preferred.

Any experiences are warmly welcomed.
Thank you for your attention.