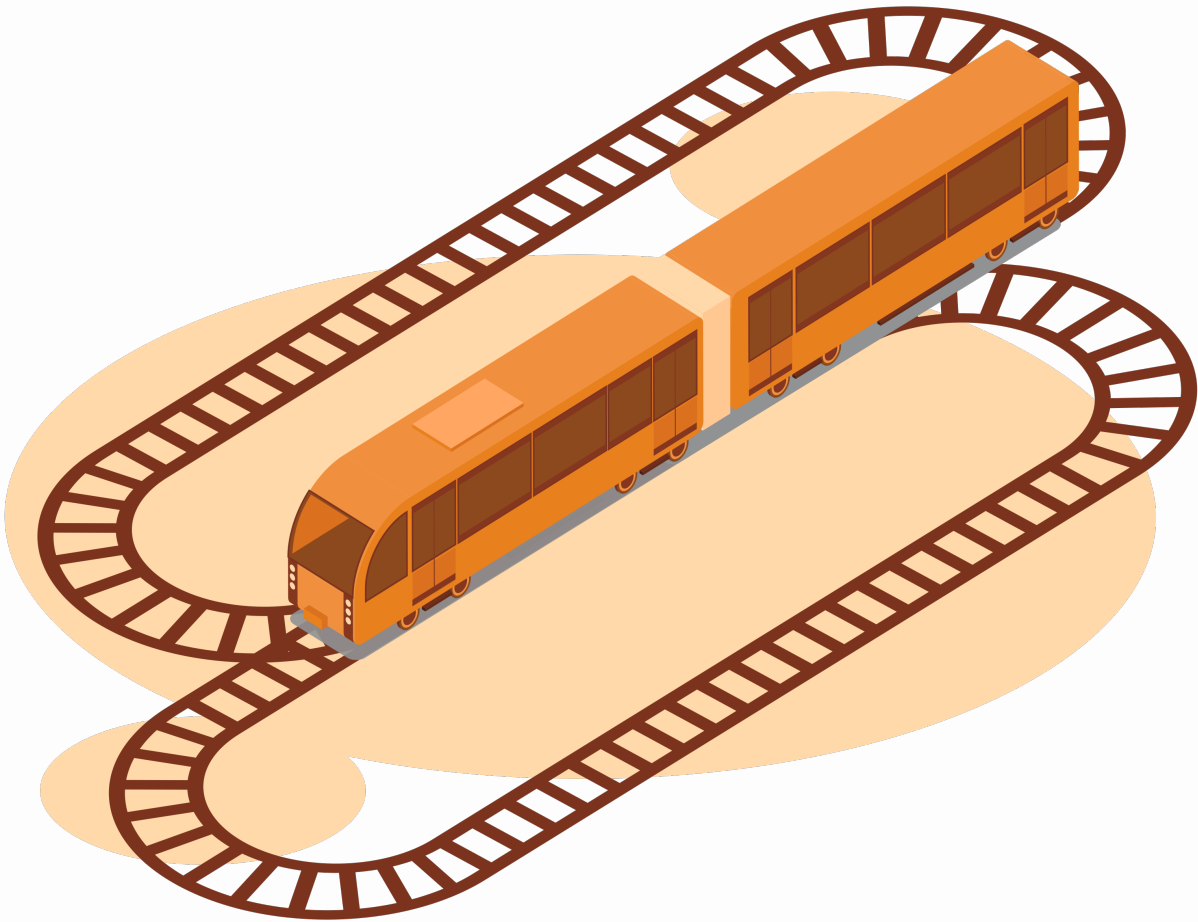


SIMULATOR OF THE RAIL INTERLOCKING DEVICES

Datasheet

Project objective

Create a tool for testing functional characteristics of interlocking solutions in an office environment, as well as for evaluation of the interlocking logic performance. The need for this tool was due to complex and time-consuming on-site commissioning processes. These processes can be simplified if executed during testing offsite.



Result

Simulator is used for the simulation and testing of the application logic for the wayside controller-based signal interlocking. The Simulator operates with applications for real wayside interlocking controllers that allows for imitating the behavior of every field device within various signaling scenarios without access to physical equipment. It resulted in acceleration of commissioning activities while signaling failure have been reduced after commissioning.

Scope of work

- ❖ Develop the tool imitating interlocking wayside controllers' behavior within various signaling scenarios
- ❖ Provide its operation with applications for real wayside interlocking controllers that execute interlocking operations on rail locations
- ❖ Provide visual control of the simulation process through communication with the Control Client
- ❖ Add support of multiple field devices (gates, switches, platform screen doors, auxiliary control evaluators, trip stops, signals, track circuits, AF902) with constant additions per request
- ❖ Include support for different customer-specific proprietary and open-source communication links (PEER, SafeP, Genisys Master, MicroLok Master, Modbus, DigiSafe) with constant updates per request
- ❖ Add support for an option to configure graphical representations for displaying relays, that is to set pictures for each of the relay types
- ❖ Implement filtering feature to display the status of each field device and bit individually to provide selective observation for each group of data
- ❖ Display the log messages
- ❖ Provide simultaneous view of the visualized schemas and bits tables for the user's convenience

Activities

- | | |
|---|---------------------------|
| ❖ Writing technical documentation | ❖ Requirements definition |
| ❖ Product testing | ❖ Architecture design |
| ❖ User manuals and video tutorials creation | ❖ Software development |
| ❖ Support activities | ❖ UI development |

About the project

Technologies

- ✚ C/C++
- ✚ Qt
- ✚ XML
- ✚ PowerShell
- ✚ RegExp
- ✚ JavaScript
- ✚ VB
- ✚ GitLab
- ✚ SQLite
- ✚ Python
- ✚ Inno Setup tool and scripts



Project size

- ✚ 1 Technical Coordinator
- ✚ 5 Software Engineers
- ✚ 2 QA Engineers
- ✚ 1 Project Manager
- ✚ 1 Graphic Designer
- ✚ 1 Technical Writer

Duration



67+ months
from May 2017

Platform

Windows