

Simulated Railroad Framework, <http://simulrr.sourceforge.net>

This file valid for step 0033.10

Issue Date: 2017-03-17

Concepts' Descriptions

=====

These are the Concepts' Descriptions that are written for the Simulated Railroad Framework Project.

1 Synopsis of the Concepts' Descriptions

The Concepts' Descriptions are a service of the sourceforge project "simulrr" (<http://sourceforge.net/projects/simulrr>).

They describe following concepts,

- a) the concepts of SrrTrains (Simulated Railroad Trains) -
how to realize do-it-yourself-virtual-multiplayer-model-railroads - and
- b) the concepts of Simple Multiuser Scenes (SMS) -
how to realize interoperable and re-usable models, modules and frames
for multiuser capable interactive, animated, simulated VR/AR scenes.

Additionally, the Concepts' Descriptions serve as documentation for the following software products,

- a) the Simulated Railroad Framework (SRR Framework) -
experimental X3D prototypes for do-it-yourself-virtual-multiplayer-model-railroads, as provided by the sourceforge project "simulrr" - and
- b) the SMUOS Framework -
experimental X3D prototypes for Simple Multiuser Online Scenes, as
provided by the sourceforge project "smuos"
(<http://sourceforge.net/projects/smuos>).

2 Purpose of the Concepts' Descriptions

The Concepts' Descriptions may help developers or users of the Simulated Railroad Framework (SRR Framework) or of the SMUOS Framework to develop or use the SRR Framework or the SMUOS Framework.

They should provide an introduction to the topics of Simple Multiuser Scenes (SMS) and of do-it-yourself-virtual-multiplayer-model-railroads (SrrTrains).

3 External View - How to Use the Concepts' Descriptions

The Concepts' Descriptions are held by following papers:

- Synopsis

[000_Synopsis](#).....this paper

- The Concepts

[001_Glossary](#).....overview of the concepts and some terms

[011_NamingRules](#).....using names in an SMS; the MMF paradigm

[012_Modules](#).....the frame and the modules

[013_ModelsAndObjects](#).....astral, bound and unbound objects

[014_ConsoleInterface](#).....influencing an SMS from a Command Line Interface

[015_Tracer](#).....debugging the software

[051_Extensibility](#).....extending the software (e.g. for road vehicles)

[052_UnboundModels](#). (DNF).....creating and deleting models at runtime

[053_Handover](#). (DNF).....unbound models changing modules dynamically

[054_MovingModules](#). (DNF).....including modules as parts of a model (eMMF)

[099_PerformanceConsiderations](#)...is performance an issue?

- The Software

[100_SrrFramework](#).....Overview about the SRR Framework

[101_SmsBase](#).....some Basics of the SMUOS Framework

[121_SimpleSceneController](#).....the Simple Scene Controller (Base)

[131_SrrControllerTm](#). (DNF).....the SRR Controller (Train Manager)

[201_ModuleCoordinator](#).....the Module Coordinator (Base)

[221_ModuleCoordinatorTm](#). (DNF)...the Module Coordinator (Train Manager)

[301_MidasObjects](#).....MIDAS Objects in general

[311_MidasBase](#).....MIDAS Base for standard objects

[312_MidasBaseNoState](#).....MIDAS Base for "no state" objects

[313_MidasBaseAnim](#).....MIDAS Base for "animated" objects

[351_AvatarContainer](#).. (basic)....the MIDAS Object "Avatar Container"

[352_BinarySwitch](#).. (basic)....the MIDAS Object "Binary Switch"

[353_KeyContainer](#).. (kmm)....the MIDAS Object "Key Container"

[354_CarriedKeysLock](#).. (kmm)....the MIDAS Object "Carried Keys Lock"

[355_CarouselDrive](#).. (basic)....the MIDAS Object "Carousel Drive"

[356_Beamer](#).. (bmm)....the MIDAS Object "Beamer"

[357_BeamerDestination](#).. (bmm)....the MIDAS Object "Beamer Destination"

[358_ContainedKeyLock](#).. (kmm)....the MIDAS Object "Contained Key Lock"

[359_Trigger](#).. (basic)....the MIDAS Object "Trigger"

[360_NwaySwitch](#).. (basic)....the MIDAS Object "N-Way Switch"

[401_TracksAndTurnouts](#).. (tmm)....SRR Objects for Tracks and Turnouts

[402_Trains](#).. (tmm). (DNF).....SRR Objects for Rail Vehicles and Trains

4 Internal View - How to Develop the Concepts' Descriptions

Each paper within the Concepts' Descriptions gets a three digit number between 000 and 999, where following system applies:

000	Synopsis of the Concepts' Descriptions
001 - 099	SrrTrains / SMS - the Concepts of the Experimental Software
001 - 010	Overview
011 - 049	Basic Concepts
050	reserved
051 - 099	Further Concepts
100 - 349	Experimental SMUOS Framework + Experimental SMUOS Extensions
100	Overview of the SRR Framework
101 - 110	Basics of the SMUOS Framework
111 - 119	Basics of the SRR Framework
120	reserved
121 - 130	Simple Scene Controller of the "smuos" Project
131 - 140	Simple Scene Controller Extensions of the "simulrr" Project
141 - 150	reserved
151 - 199	reserved for 3rd party Simple Scene Controller Extensions
200	reserved
201 - 220	Module Coordinator of the "smuos" Project
221 - 240	Module Coordinator Extensions of the "simulrr" Project
241 - 250	reserved
251 - 299	reserved for 3rd party Module Coordinator Extensions
300	reserved
301 - 349	MIDAS Base
350	Reserved
351 - 399	MIDAS Objects of the "smuos" Project
400	Reserved
401 - 499	MIDAS Objects of the "simulrr" Project (aka SRR Objects)
500	Reserved
501 - 999	Reserved for 3rd party software that is about SMS

5 Additional Information

5.1 Chapter Template

Most concept papers are structured according to following chapter template

1 Synopsis

Explains the place of the topic within the overall concept

2 Purpose

Explains the purpose of the topic

3 External View

Explains, how to *use* the topic

4 Internal View

Provides information that is necessary to *develop* the topic

5 Additional Info

Any additional information about the topic

5.2 A Note about the SMUOS Framework

In "step 0033.08" of the SrrTrains v0.01 project, the base module of the SRR Framework has been replaced by the SMUOS Framework (external).
Now the equation

SRR Framework = SMUOS Framework + Train Manager Extension

is valid and the project <http://simulrr.sourceforge.net> is dependent on the project <http://smuos.sourceforge.net>.

However, currently both sourceforge projects have got the same project admin :)

5.3 Copyright Notice

The Concepts' Descriptions (i.e., all files referenced by this synopsis paper) are licensed by an LGPL. The license is described in the file [license.html](#).