

Simulated Railroad Framework, <http://simulrr.sourceforge.net>  
Synopsis: [000\\_Synopsis](#)

This file valid for step 0033.10  
Issue Date: 2017-03-17

Unbound Models (\*not yet implemented\* - planned for steps 0033.11 + 0033.12)  
=====

## 1 Synopsis

-----

Unbound models are an advanced concept of the SRR/SMUOS Framework. It's not sufficient to use the SMUOS Framework, if you like to have unbound models. You need (an) extension(s) of the SMUOS Framework that support(s) unbound models.

Extensions of the SMUOS Framework may choose to support so-called "universal object classes" (UOCs). Each UOC may provide for

- SSC parameters (parameters of the SSC Extension that are accessible via the console interface) - please refer to [014\\_ConsoleInterface](#) for details
- a new class of unbound models (rail vehicles, trains, helicopters, ...)

This paper exemplifies the concept of unbound models and describes them from the point of view of the "Train Manager Extension" (TME) of the SMUOS Framework.

## 2 Purpose

-----

Unbound models

- can be created/deleted on demand during the runtime of the scene
- are still positioned relative to a module (as all other models are)
- may change their being attached to a module (handover)
- are identified by a "universal object class name" (UOC name) and by an "object ID" (the UOC name is defined by the SMUOS extension)
- being attached to this or that module may change, but the "universal object class" of an unbound model never changes during lifetime

### 2.1 Glossary

-----

A model type can be "registered" at the SRR/SMUOS Framework, hence making known the URL(s), the categories and the UOC name of a model type via a "modelTypeId".

A model type can be instantiated more than once, hence "creating" unbound models of one "model type" with the same "UOC name", the same "modelTypeId", but with different "objIds".

Whether a model is "created" or not, is a global property, which is stored in the "existence state" of the UOC. In case of the TME, we call the existence state "train/vehicle state (tvState)".

When an unbound model is globally "created", then it will become "loaded" in each scene instance. Being "loaded" or "unloaded" is a local property.

An unbound model is "assigned" to a module, which is a global property. Changing the being assigned to a module is called "global handover".

When the module of an unbound model exists in a scene instance, then the "positioning" MIDAS Objects will try to get "positioned", which is a local property.

When an unbound model is "positioned" in a scene instance, then it gets "attached" to the "current module", and hence it gets "visible" locally.

## 2.2 Registration of a Model Type

---

In SrrTrains v0.01, dynamic models are loaded from external files. The files are referenced by a (set of) URL(s) and they contain the instance of a prototype defining the model. The dynamic model is loaded using the ECMAScript browser method `Browser.createVrmlFromURL()`.

Hence following information must be made known to the SRR/SMUOS Framework for each model type:

- UOC Name
- modelTypeId
- URLs (one for each view)
- categories

The UOC name is necessary to find the responsible SSC Extension for the model type.

The model type is identified within an SrrTrains layout / SMS by:  
UOC Name + modelTypeId

Different scene instances may provide different views to their users. Hence each model type can be loaded from different URLs, depending on the view of the actual scene instance.

The categories will be used to filter model types when displaying to the user lists of model types.

## 2.3 Creating an Unbound Model

---

tbd

## 2.4 Void

---

tbd

## 2.5 Recycling an Unbound Model

---

tbd

## 2.6 Deleting an Unbound Model

---

tbd

## 2.7 Beaming an Unbound Model

---

tbd

### 3 External View

-----

tbd

### 4 Internal View

-----

tbd

### 5 Additional Info

-----

tbd