

Online Model Browsing (KLighDning)

Project Overview

Responsible:

- [Unknown User \(uru\)](#)

Demo Videos:

- [Browsing a models repository with KLighDning](#)
- [Collaboratively browsing model diagrams](#)

The **KLighDning** project aims at providing a flexible infrastructure to browse arbitrary models. It combines the **KLighD** technology with web technologies, such as websockets and SVG, to present transiently synthesized diagrams of the models within a webbrowser. KLighDnings focus is *browsing* model diagrams for documentation purposes, not *editing* of the models. As part of the documentation idea, basic collaboration facilities are included. Users can join so-called *rooms* in which the browsing process is synchronized for all participants, for instance, panning, zooming, and expanding of compound nodes.



Play around with our prototype at <http://layout.rtsys.informatik.uni-kiel.de:20443>

Details

Supported Models

KLighDning leverages the transient views approach to synthesize diagrams for (purely textual) models. Our implementation **KLighD** employs the notion of *d iagram syntheses*, which basically are model transformations from an arbitrary source model format to the **KGraph** format (structural description), where each graph element can be equipped with **KRendering** elements for styling. See the corresponding wiki pages for further information.

As part of the KIELER Project we currently support following diagram sytheses.

Diagram Type	Short ID	Feature ID
KGraph Text Format	kgraph	de.cau.cs.kieler.kgraph.feature.feature.group
Ptolemy's MoML	ptolemy	de.cau.cs.kieler.ptview.feature.feature.group
Ecore Class Diagram	klighd.examples	de.cau.cs.kieler.klighd.examples.feature.feature.group

Transient Static Links

Permanent links are another facet of the documentation purpose. A user can browse a model to a point where he potentially finds a bug. In order to supplement the bug report a *PermaLink* can be retrieved that holds the current viewport and expansion status of the user. The link can be attached to the report and upon opening the link, the diagram is opened as specified by the link.

PermaLink

`http://[SERVER]/[MODEL_PATH]?perma=[EXPANSION]&transform=[VIEWPORT_MATRIX]`

Collaboration

Rooms serve as a basis for collaboratively browsing a model. Users can join a common room in which all browsing activity, i.e., zooming, panning, expanding, is synchronized. One user can explain the model to another, or ask questions about certain details.

Videos

Basic Functionality

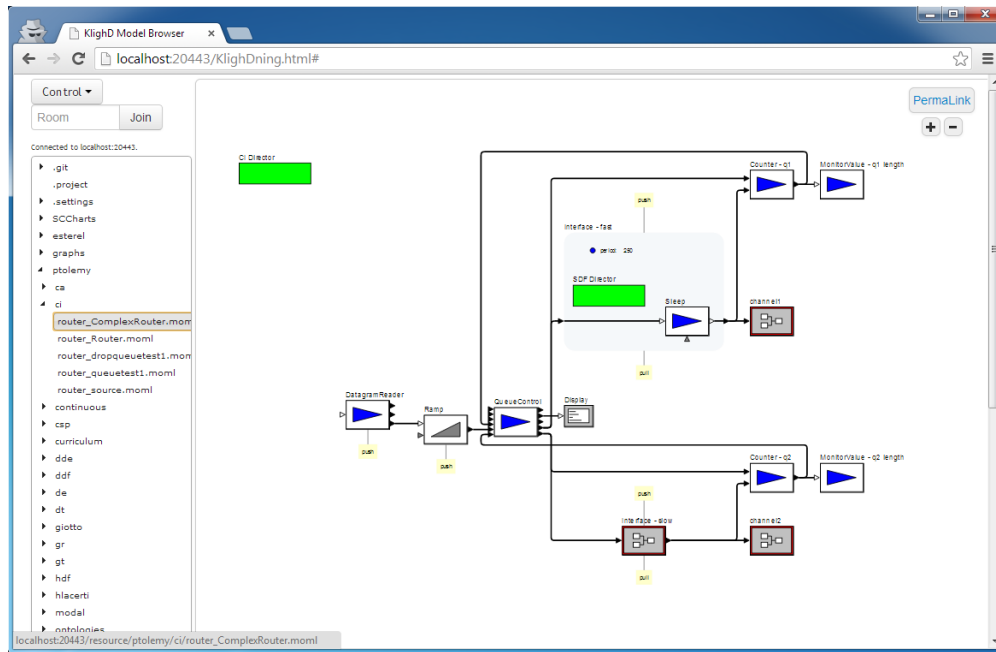
Your browser does not support the HTML5 video element

Collaboration

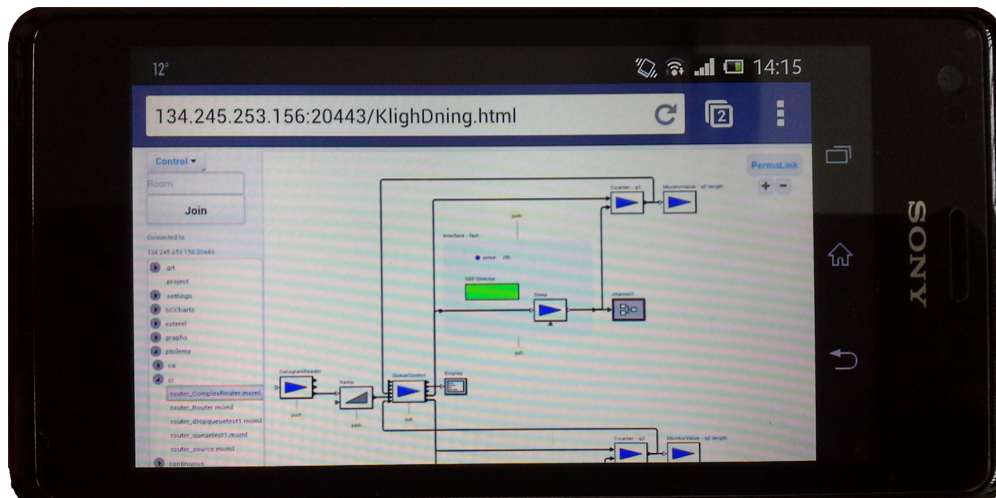
Your browser does not support the HTML5 video element

Examples

Desktop Webbrowser



Smartphone



Quick Start

- Download a release or nightly build of the KLightDning product.
- Use the `install_kieler_features.sh` or `install_features.sh` script to add the desired diagram syntheses.
- Start the server using the `start.sh` script.

Following a small exemplary deploy script for KLightDning is shown that downloads the current nightly build, extracts it, installs the `kgraph` and `klighd` examples diagram syntheses, and starts the server.

Exemplary Deploy Script for KLighDning

```
#!/bin/bash
#
# Deploy the KLighDning product and install some features
#

# location of the klighdning product
HOST="http://rtsys.informatik.uni-kiel.de"
SERVER_PATH="/~kieler/files/nightly/klighdning/"
PLATFORM="linux.gtk.x86_64"
FILE="klighdning_nightly_*-${PLATFORM}.zip"

# features to be installed into the klighdning instance
FEATURES="kgraph,klighd.examples"

# local models repository
MODELS_REPO="/home/layout/models"

echo "#####"
echo "##### Deploying KLighDning #####"
echo ""
echo "Downloading ... "
echo "  archive: ${FILE}"
echo "  host:      ${HOST}${SERVER_PATH}"

wget -r -nd -P tmp -A "${FILE}" -I $SERVER_PATH "${HOST}${SERVER_PATH}" 2>/dev/null

echo "Unzipping ..."
cd tmp
unzip -q *.zip
cd ..
mv tmp/klighdning .
rm -rf tmp

echo "Make the scripts executable ..."
chmod u+x klighdning/*.sh

echo "Installing features ..."
cd klighdning
./install_kieler_features.sh "$FEATURES"

echo "Starting KLighDning ..."
./start.sh "$MODELS_REPO"

cd ..
```

Example