

CONFIGURABLE ROASSAL LAYOUTS IN PDM

Design and Examples

Agenda

Main requirements

How we are using Roassal in the application

Design overview

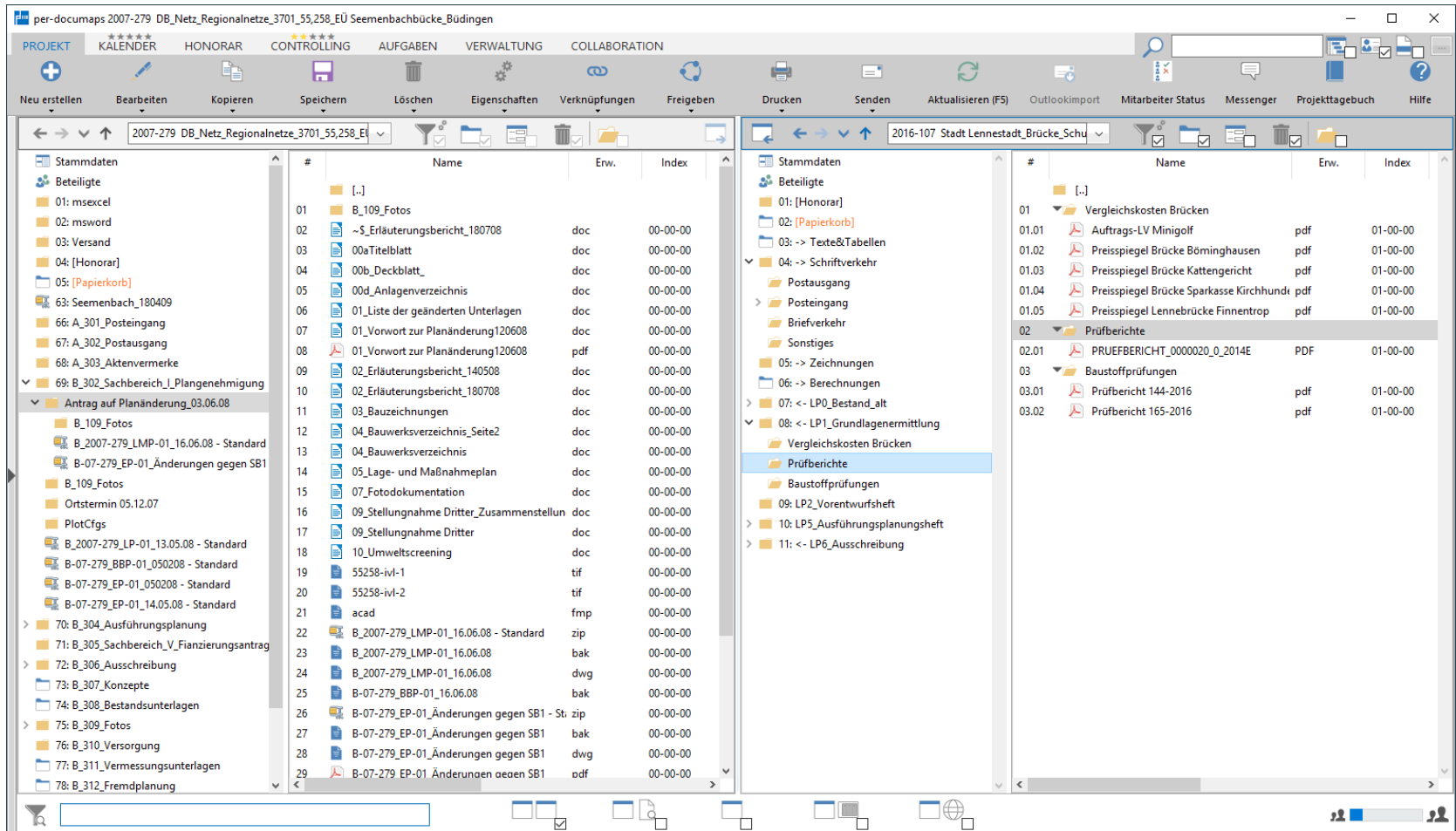
Core solutions

Dealing with GTK and events

Main requirements

- Different general views of data hierarchies
- Personal focus views
- Generic way to integrate complex data structures
- Extending the application based on existing patterns

Legacy application



The screenshot displays a legacy application interface with two project folders open. The left folder is '2007-279 DB_Netz_Regionalnetze_3701_55,258_EU Seemenbachbücke_Büdingen' and the right folder is '2016-107 Stadt Lennestadt_Brücke_Schu'. Both folders show a tree view of subfolders and a central table listing documents with columns for ID, Name, Extension, and Index.

#	Name	Erw.	Index
01	[..]		
01	B_109_Fotos		
02	~\$_Erläuterungsbericht_180708	doc	00-00-00
03	00aTitelblatt	doc	00-00-00
04	00b_Deckblatt_	doc	00-00-00
05	00d_Anlagenverzeichnis	doc	00-00-00
06	01_Liste der geänderten Unterlagen	doc	00-00-00
07	01_Vorwort zur Planänderung120608	doc	00-00-00
08	01_Vorwort zur Planänderung120608	pdf	00-00-00
09	02_Erläuterungsbericht_140508	doc	00-00-00
10	02_Erläuterungsbericht_180708	doc	00-00-00
11	03_Bauzeichnungen	doc	00-00-00
12	04_Bauwerksverzeichnis_Seite2	doc	00-00-00
13	04_Bauwerksverzeichnis	doc	00-00-00
14	05_Lage- und Maßnahmeplan	doc	00-00-00
15	07_Fotodokumentation	doc	00-00-00
16	09_Stellungnahme Dritter_Zusammenstellun	doc	00-00-00
17	09_Stellungnahme Dritter	doc	00-00-00
18	10_Umweltscreening	doc	00-00-00
19	55258-ivl-1	tif	00-00-00
20	55258-ivl-2	tif	00-00-00
21	acad	fmp	00-00-00
22	B_2007-279_LMP-01_16.06.08 - Standard	zip	00-00-00
23	B_2007-279_LMP-01_16.06.08	bak	00-00-00
24	B_2007-279_LMP-01_16.06.08	dwg	00-00-00
25	B-07-279_BBP-01_16.06.08	bak	00-00-00
26	B-07-279_EP-01_Änderungen gegen SB1 - St	zip	00-00-00
27	B-07-279_EP-01_Änderungen gegen SB1	bak	00-00-00
28	B-07-279_EP-01_Änderungen gegen SB1	dwg	00-00-00
29	B-07-279_EP-01_Änderungen oeen SB1	pdf	00-00-00

First new approach in 2019

Project **2017-212**

LP1

Sonstige

- Unterschrift Thomas Orth

Lageplän

- Lageplan Bf. Morsbach
- Lageplan Änderungen

Zeichnungen

Ing_LP3_

- LP-01
- Stempel
- LP-01
- LP-01
- LP-01
- LP-01
- LP-01.1
- LP-01
- LP-01.2
- LP-01.3
- LP-01.3

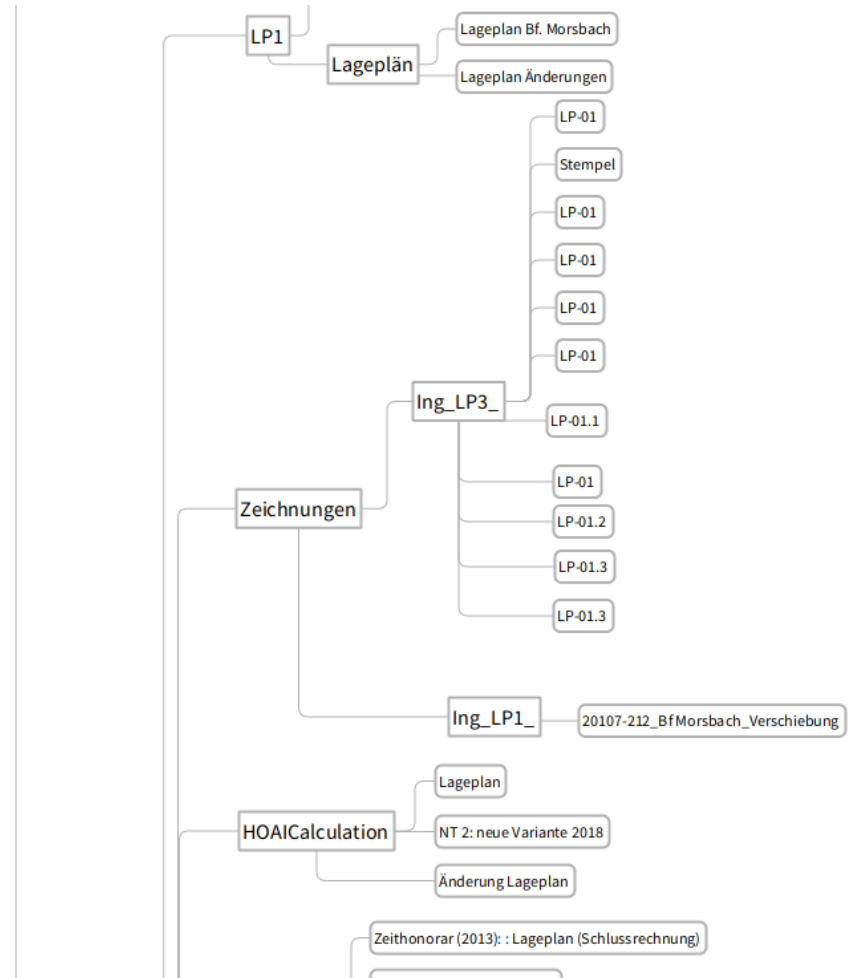
Ing_LP1_

- 20107-212_Bf Morsbach_Verschiebung

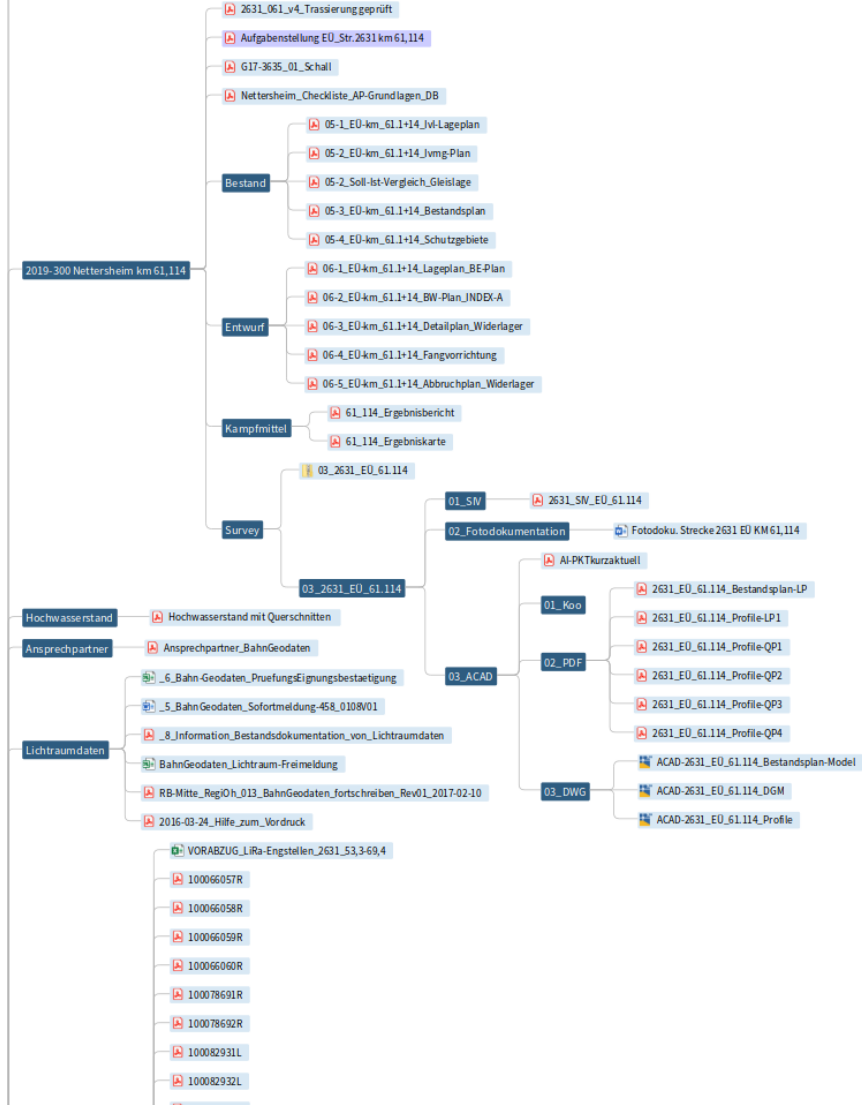
HOAICalculation

- Lageplan
- NT 2: neue Variante 2018
- Änderung Lageplan

Honorar





Label	Last edited	Date	Status	Size
2019-300 Nettersheim km 61,114				
2631_061_v4_Trassierung geprüft	MKuboth	18 Nov 2019	Reli.ased	394.9 KB
Aufgabenstellung_EU_Str.2631 km 61,114	MKuboth	18 Nov 2019	Reli.ased	638.1 KB
G17-3G35_01_Schall	MKuboth	18 Nov 2019	Reli.ased	7.3 MB
Nettersheim_Checkliste_AP-Grundlagen_DB	MKuboth	18 Nov 2019	Reli.ased	101.5 KB
Bestand				
05-1_EU-km_61.1+14_M-Lageplan	MKuboth	18 Nov 2019	Reli.ased	517.0 KB
05-2_EU-km_61.1+14_hmg-Plan	MKuboth	18 Nov 2019	Reli.ased	456.7 KB
05-2_Soll-Ist-Vergleich_Gleislage	MKuboth	18 Nov 2019	Reli.ased	277.5 KB
05-3_EU-km_61.1+14_Bestandsplan	MKuboth	18 Nov 2019	Reli.ased	3.2 MB
05-4_EU-km_61.1+14_Schutzgebiete	MKuboth	18 Nov 2019	Reli.ased	5.3 MB
Entwurf				
06-1_EU-km_61.1+14_Lageplan_BE-Plan	MKuboth	18 Nov 2019	Reli.ased	2 MB
06-2_EU-km_61.1+14_BW-Plan_INDEX-A	MKuboth	18 Nov 2019	Reli.ased	2 MB
06-3_EU-km_61.1+14_Detailplan_Widerla...	MKuboth	18 Nov 2019	Reli.ased	432.8 KB
06-4_EU-km_61.1+14_Fangvorrichtung	MKuboth	18 Nov 2019	Reli.ased	1.9 MB
06-5_EU-km_61.1+14_Abrbruchplan_Wide...	MKuboth	18 Nov 2019	Reli.ased	587.3 KB
Kampfmittel				
61_114_Ergebnisbericht	MKuboth	18 Nov 2019	Reli.ased	1.5 MB
61_114_Ergebniskarte	MKuboth	18 Nov 2019	Reli.ased	1.8 MB
Survey				
03_2631_EU_61.114	MKuboth	18 Nov 2019	Reli.ased	9.4 MB
03_2631_EU_61.114				
01_SIV				
2631_SW_EU_61.114	MKuboth	18 Nov 2019	Reli.ased	277.5 KB
02_Fotodokumentation				
Fotodoku. Strecke 2631 EU KM...	MKuboth	18 Nov 2019	Reli.ased	6.7 MB
03_ACAD				
AI-PKTkurzaktuell	MKuboth	18 Nov 2019	Reli.ased	46.8 KB
01_Koo				
02_PDF				
03_DWG				
2631_EU_61.114_Bestand_...	MKuboth	18 Nov 2019	Reli.ased	1 MB
2631_EU_61.114_Profil...	MKuboth	18 Nov 2019	Reli.ased	101.7 KB
2631_EU_61.114_Profil...	MKuboth	18 Nov 2019	Reli.ased	109.9 KB
2631_EU_61.114_Profil...	MKuboth	18 Nov 2019	Reli.ased	110.3 KB
2631_EU_61.114_Profil...	MKuboth	18 Nov 2019	Reli.ased	114.7 KB
2631_EU_61.114_Profil...	MKuboth	18 Nov 2019	Reli.ased	109.8 KB
ACAD-2631_EU_61.114_B...	MKuboth	18 Nov 2019	Reli.ased	713.7 KB
ACAD-2631_EU_61.114_D...	MKuboth	18 Nov 2019	Reli.ased	215.5 KB
ACAD-2631_EU_61.114_P...	MKuboth	18 Nov 2019	Reli.ased	186.2 KB
Hochwasserstand				
Hochwasserstand mit Querschnitten	SSivalingam	25 Nov 2019	Reli.ased	222.1 KB
Ansprechpartner				
Ansprechpartner_BahnGeodaten	SSivalingam	27 Nov 2019	Reli.ased	7.4 KB
Lichtraumdaten				
_6_Bahn-Geodaten_PruefungsEignungsbesta...	SSivalingam	27 Nov 2019	Reli.ased	134.7 KB
_5_BahnGeodaten_Sofortmeldung-458_0108V...	SSivalingam	27 Nov 2019	Reli.ased	75.8 KB



2019-130 Einleitungsantrag §§8-10 WHG Jäger

[-] Fees

Label	Last edited	Date	Status	Size
 Zeithonorar (2013):: Einleitantrag nach Aufwand (Schlussrechnung)	AKönig	08 Sep 2020	Released	321.5 KB
 Projektbuchhaltung2021_01	SStingl	19 Feb 2021	Released	7.5 MB

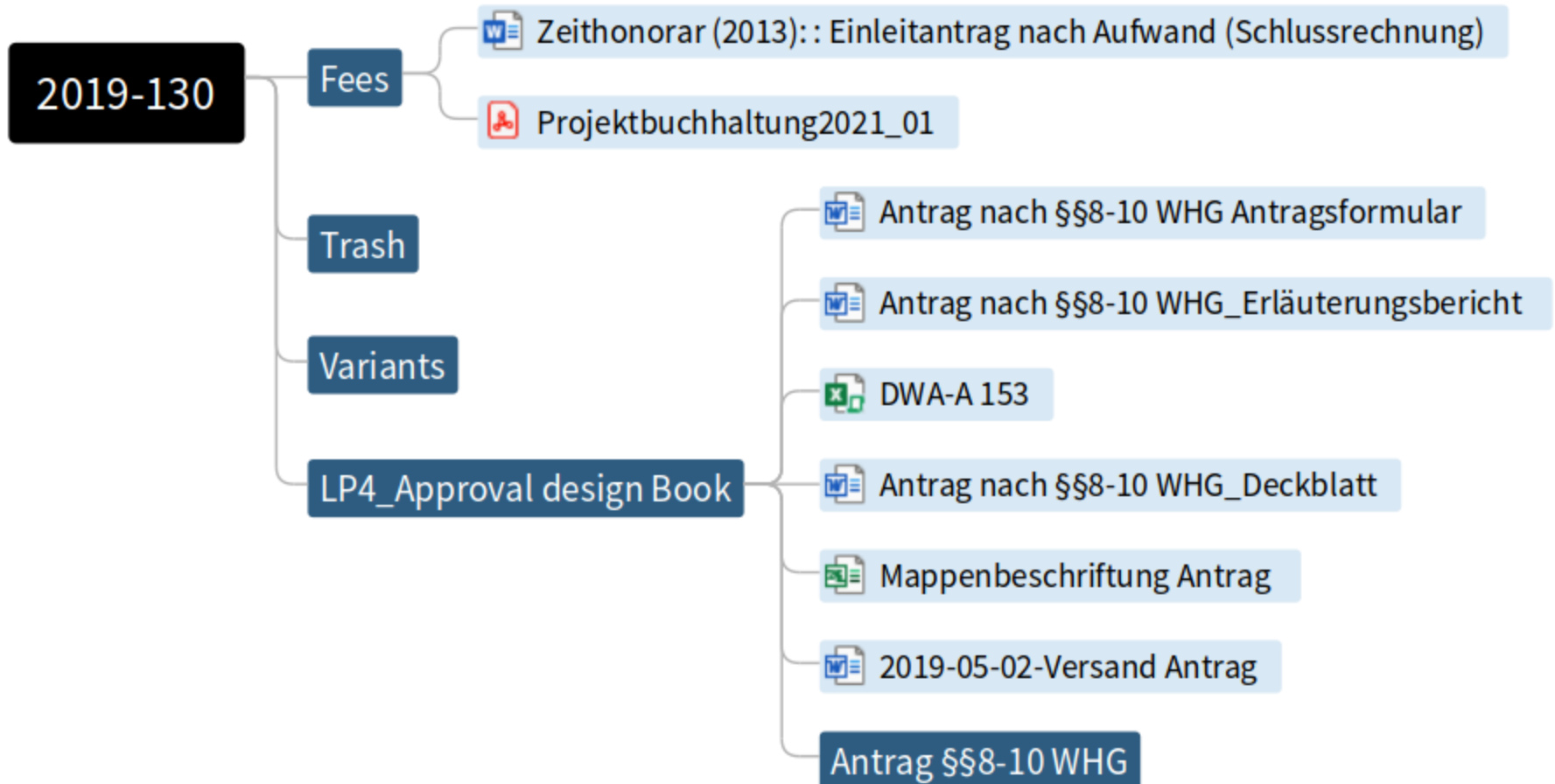
[-] Trash


[-] Variants

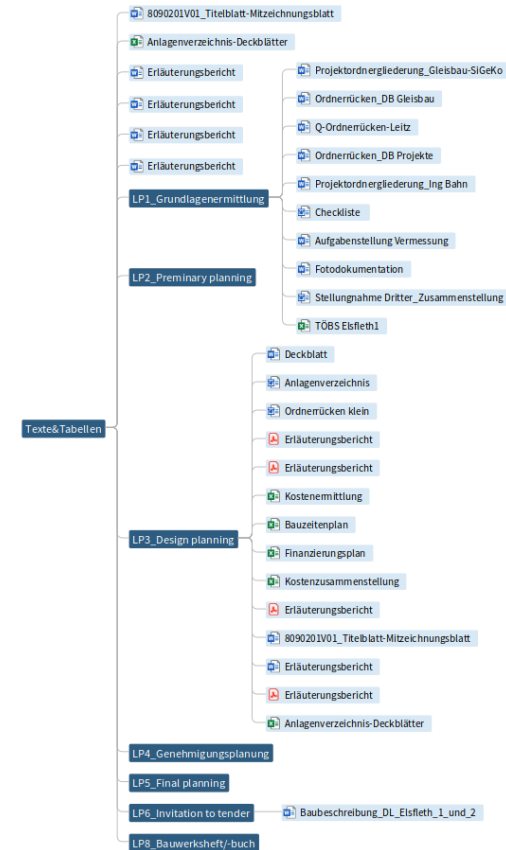
[-] LP4_Approval design Book

Label	Last edited	Date	Status	Size
 Antrag nach §§8-10 WHG Antragsformular	AMetje	29 Apr 2019	Recently used	134.7 KB
 Antrag nach §§8-10 WHG_Erläuterungsbericht	AMetje	29 Apr 2019	Recently used	694.3 KB
 DWA-A 153	AMetje	29 Apr 2019	Recently used	2.4 MB
 Antrag nach §§8-10 WHG_Deckblatt	AMetje	29 Apr 2019	Recently used	125.0 KB
 Mappenbeschriftung Antrag	AMetje	30 Apr 2019	Recently used	49.7 KB
 2019-05-02-Versand Antrag	AMetje	02 May 2019	Recently used	610.3 KB

[-] — Antrag §§8-10 WHG —



	Bestandslageplan_OOWV_km_15,131.pdf				2.3 MB
	WG: Vorabzug Lageplan und Querschnitt	AKorel	27 Apr 2020	Imported	36.4 KB
	AW: Vorabzug Lageplan und Querschnitt	AKorel	27 Apr 2020	Imported	3 MB
	Lageplan_IB_Schmidt_km_15,131.pdf				245.6 KB
	Querschnitt_IB_Schmidt_km_15,131.pdf				400 KB
	Bestandslageplan_OOWV_km_15,131.pdf				2.3 MB
	Frage zum Zufluss	AKorel	25 Jun 2020	Imported	41.0 KB
	AW: Frage zum Zufluss	AKorel	25 Jun 2020	Imported	81.9 KB
	Auszug_Grtabenverlauf.PNG				39.4 KB



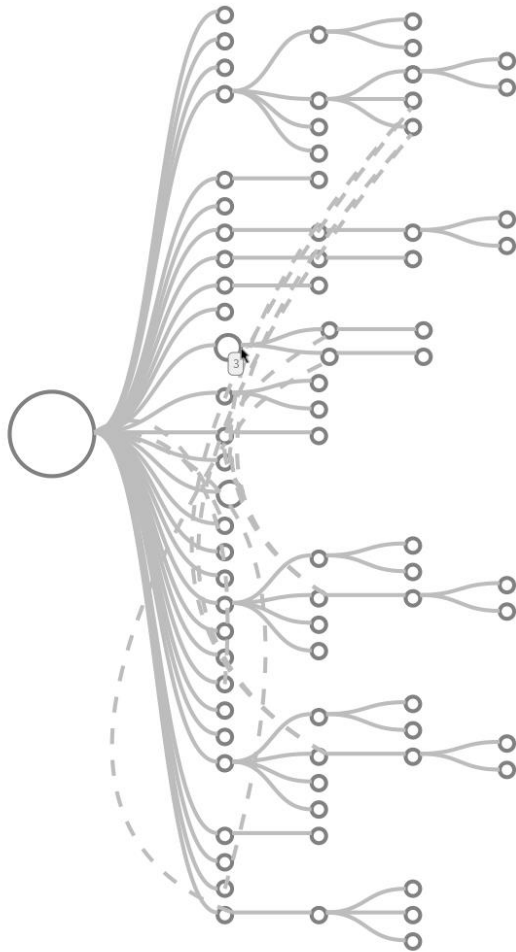
- Zeichnungen**
-  Label
 -  UK, LP, LMP, GEP, LBP
 -  EP BWP-01
 -  Querschnitt für OOWV

Last edited	Date	Status	Size
P.Richter	08 Jan 2020	Revision created	843.6 KB
N.Matthäus	06 Apr 2020	Revision created	939.6 KB
AKorel	27 Apr 2020	Revision created	635.1 KB

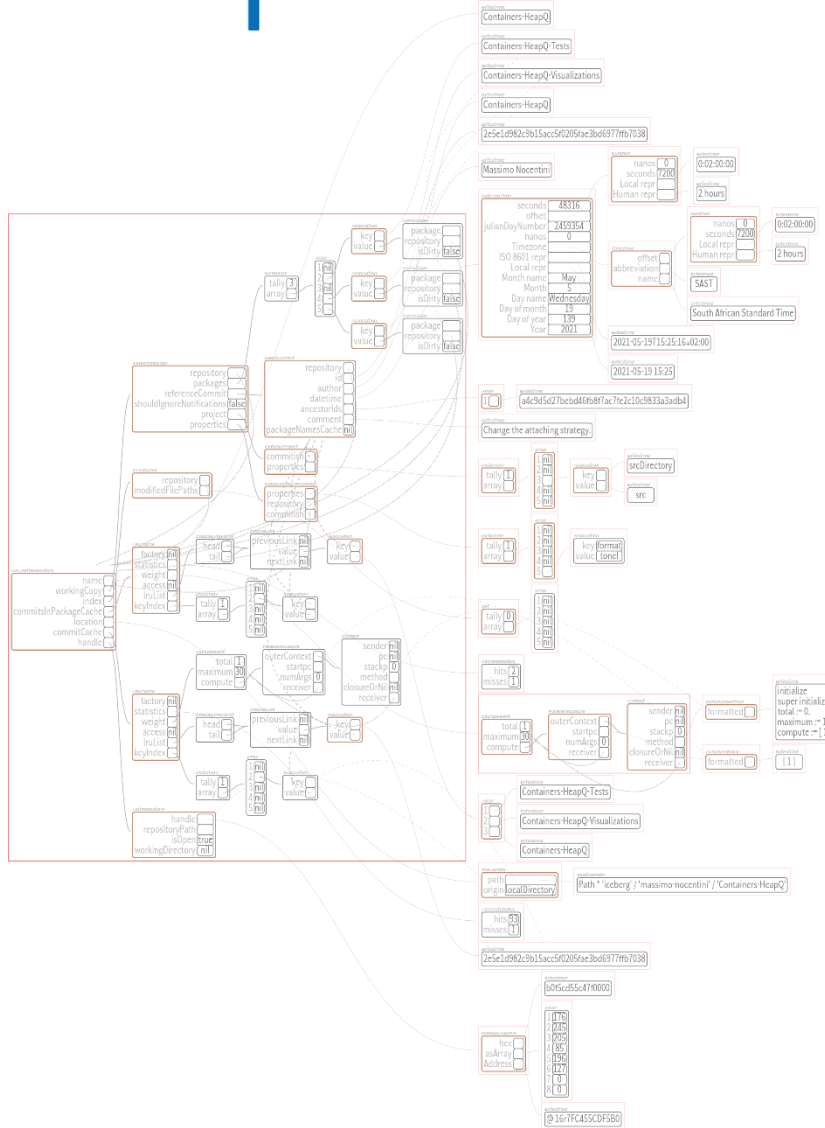




Zooming out extremely allows to display filtering results als overlays of matching nodes in normal size



Tree nodes may be reduced to abstract shapes representing a simple attribute, e.g. children count



Arbitrary structured and connected information nodes may be included as subareas in a „topological tree layout“.

For that, we introduced reflective data containers for our main types of ApplicationItem.

Main objects involved

Roassal Shapes

PDM Shapes (introducing a special grouping concept)

Arrangers processing configured „Shape View Definitions“
for Application Items of a canvas representing a „Board“

Application Items representing „nodes“ of the Board hierarchy
created on mapped database objects

Database objects contained in a „Root Data“ container
where one container may be used by many Boards

Core solutions

- Control layout details and general behaviour by „Shape View Definitions“
- Use reflective typed containers and slot definitions to avoid arranger objects to have knowledge about data and types
- Details of appearance and formatting are soft coded in CSS format

CSS lookup internally is detecting variants:

```
.historyTime {
    conditionalLimit: "";
    textFormat: ".[date-large] ?[dd_MMM_yyyy] #[ ] .[date-small] ?[hh:mm]";
}

.historyTime {
    conditionalLimit: "[%=current(d,0)]";
    textFormat-de-: ".[date-small] #[heute ] .[date-large] ?[hh:mm]";
    textFormat-en-: ".[date-small] #[today ] .[date-large] ?[hh:mm]";
}
```

Shape setup

Over all ApplItems:

- resolve hierarchy configuration roots

For each ApplItem:

- assign style classes and configs
- create ShapeGroups and Shapes (e.g. „entity“ and „children“)
- assign Arrangers to ShapeGroups (using conditional configs)

Over all ShapeGroups:

- collect extent predictions (min, max, opt) top down
- compute final extents bottom up
- adapt shapes to assigned extents
- update shape positions

Interview with Juan Linietsky

Translated quotation from German computer magazine c't, issue July 6th, 2019:

Q: How do you prevent the software from bloating?

Linietsky: By rewriting. After each project implemented with Godot, Ariel Manzur (co-author of Godot) and I looked at the code - and rewrote it. We did that three, four, maybe five times. Therefore, the current state is now really good. ... Sometimes we talk for several months before we implement something new. I think, that is also the reason why Godot is so small and efficient.