

Upload Marker Parameter from Revit to VREVAL Platform for Checkpoints, Information, Sound & Gates

Edited by M.Sc. Olaf Kammler, René Weiser contact: olaf.kammler@uni-weimar.de | InfAR - Bauhaus-Universität Weimar | 06/2021

1. ABOUT VREVAL MARKER

Family Types			×
Type name: Checkpoint		~	° 🛋 🏠
Search param Gate	Yarac		Formula Lock
Constraints			\$
Default Elevation	0,0	=	
Text			\$
marker_description (default)	Unique description for the marke	r. =	-
marker_name (default)	Unique name for the marker.	-	-
visibility_information	"visibility_options":	=	-
marker_visibility_options	inside_perimeter	=	-
Dimensions			\$
marker_height (default)	1200,0	=	-
marker_perimeter (default)	3000,0	=	-
marker_placement_distance (default)	1500,0	=	-
Visibility			*
visibility_human		-	-
visibility_perimeter_line		-	-
Identity Data			×
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How do I manage family types?	ОК	Cancel	Apply

Parameter	Value	Upload to VREVAL Platform
marker_ description	Revit 2D View visibility of perimeter circle	Yes
marker_ name	Unique description for the marker.	Yes
marker_height	Distance Floor to Marker Object (1200,00 [mm])	Yes
marker_perimeter	Visibility boarder (inside perimeter = marker visible)	Yes
marker_placement_ distance	Distance between Marker and Participant	Yes
visibility_human	Visible in Revit view	No
visibility_perimeter_ line	Visible in Revit view	No



The marker location is the origin point of the Revit Family. (blue x)

The participant will be placed in the location of the human figure. The human can be rotated around the marker.



1. ABOUT VREVAL MARKER

Markers need to be created and imported through third party software (currently available only with Autodesk Revit and Dynamo).

From third party software the following marker parameters will be uploaded to the VREVAL Platform Database:

(1) marker position

(2) participant distance to marker

(3) cad id

(4) translation between CAD and Game engine coordinate system

(5) Marker name

(6) Marker description,

- (7) Marker visibility range perimeter
- (8) marker height above ground and
- (9) visibility settings.

There are four Marker Types:

- Checkpoint
- Information
- Sound &
- Gate.

In order to upload the marker information to this project, an access token is needed. Access-tokens can be created at VREVAL Website and will remain valid for a limited amount of time.

1. PREPARE MARKERS IN REVIT

Step 1

Place the VREVAL Marker in your project environment.





Step 2

Choose the type of Marker.

Properties	
(ŧ	VREVAL_Marker Checkpoint
vreva	
C VREV	AL_Marker
Chec	kpoint
Gate	
Infor	nation
Soun	d
	Most Recently Used Types

- Checkpoint
- Information
- Sound
- Gate

Step 3

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Adjust the parameter of the marker.

VREVAL_Marker Checkpoint Generic Models (1) Constraints Level 00-Floor_OK Elevation from Level -1,9221 m Host Surface Offset from Host 0,0000 m Moves With Nearby Elements Text * marker_description In front of Billboard marker_name Street Dimensions marker_perimeter 3,0000 m marker_placement_distance 1,5000 m Volume 0,069 m ³ Identity Data Description Adjust Paramete Image Comments Mark Design Option Main Model Phase Created 1937 Phase Demolished None	Properties	×
Generic Models (1) Edit Type Constraints * Level 00-Floor_OK Elevation from Level -1,9221 m Host Surface Offset from Host 0,0000 m Moves With Nearby Flements * Text * marker_description In front of Billboard marker_name Street Dimensions * marker_perimeter 3,0000 m marker_placement_distance 1,5000 m Volume 0,069 m ³ Nocentry Data * Description Adjust Paramete Image * Comments * Mark * Design Option Main Model Phase Created 1937 Phase Demolished None	VREVAL_Marker Checkpoint	
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Phase Created 1937 Phase Demolished None	Phasing	*
Phase Demolished None	Phase Created	1937
· · · · · · · · · · · · · · · · · · ·	Phase Demolished	None

Step 4

Check, if your Marker is located at a host without offset.

If marker "hovers" above ground, "Pick New Host" to set marker at host. (surface, topography, floor, ...)



2. DYNAMO OR DYNAMO PLAYER

The upload of the VREVAL marker parameter and information can be done with a script in **Dynamo** or by running the **Dynamo Player**, if a script is already created. **2.1.** explains, how to use the Dynamo Player with a premade Dynamo Script or the downloaded Dynamo Script from the VREVAL Website.

(Download from: Project -> Marker -> Create new Marker)

2.2. explains the basic, how to create the upload script from scratch and upload the VREVAL marker parameter and information.



2.1. DYNAMO PLAYER

Step 1

Copy the unzipped VREVAL Package into the Dynamo Package folder.

Don't forget to unblock the Zip File before extracting.

Attributes:	Read-only Hidden	Advanced
Security:	This file came from another computer and might be blocked to help protect this computer.	Unblock
	OK Cancel	Apply

Don't forget to unblock the Zip File	> Roaming > Dynamo > Dynamo	Revit > 2.10 > packages >	~	Dynamo Package Folder	r Structure			
(right click at Zip File -> Properties)	Name	Änderungsdatum	Тур	E.g.: The package conter VREVAL is located in the	nt (Add-on) e folder VRE	VAL		
Attributes: Read-only Hidden Advanced Security: This file came from another computer and might be blocked to Unblock help protect this computer. Unblock OK Cancel Apply	Clockwork for Dynamo 2.x Crumple Genius Loci Spatial Analysis Dynamo 4.6.3 spring nodes VREVAL	04/06/2021 00:45 18/06/2021 07:27 04/06/2021 17:32 20/05/2021 19:12 04/06/2021 00:49 28/06/2021 10:01	Dateiord Dateiord Dateiord Dateiord Dateiord Dateiord	Th fo	ne Dynamo llowing stru	Packa ucture	age has the e.	
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%USERPROFILE%\AppData\Roaming\Dyna	The structure	Name	^	Änderungsdatum	Тур		Größe	
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2.1. DYNAMO PLAYER

Step 2

Step 3 Ruppetheh®dDipotamo Player.

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Step 4

Get Access-Token from VREVAL Website -> Project -> Marker and Create New Marker.

Access-Token is only valid for 24h.

Dynamo Player —	×	Dynamo Player	- ×	Dynamo Player 🛛 🗕 🗙
C () 1	∎ is C	?	< C ()
Filter	۹	Filter	Q	VREVAL Maker Upload
Ordner suchen X Select Folder to Upload		Export_Maker 115 DPlayer		VREVAL Access-Token :
 Desktop Dokumente Downloads 		Dynamo Player	_ ×	C Enable GetSurveyPoint = true :
> F Fusion 360 > Musik Ordner: Bilder		Filter	? Q	Enable GetProjectRotation = true :
Neuen Ordner erstellen OK Abbrechen		Export_Maker 115 DPlayer		VREVAL URL : https://database.architektur.uni-weimar.de/api/v1 Responce :

2.1. DYNAMO PLAYER

Step 5

Run the Dynamo Player.

If successful the data are written to VREVAL database, the following message is shown.



2.2. DYNAMO

Step 1

Copy the unzipped VREVAL Package into the Dynamo Package folder.

Don't forget to unblock the Zip File before extracting.

(right click at Zip File -> Properties)

Attributes:	Read-only Hidden Advanced
Security:	This file came from another computer and might be blocked to help protect this computer.
	OK Cancel Apply

The default package folder is

%USERPROFILE%\AppData\Roaming\Dyn amo\Dynamo Revit

And navigate to

\[DynamoVersion]\packages

Tip

Download the VREVAL Package from the VREVAL Website.

The package can be found *Project -> Marker -> Create new Marker.* Download the package Step 2 Open Dynamo in Revit

Create a **New** Home Workspace.

Change the Run Sequence from **Automatic** to **Manual.**

If on Automatic mode, Dynamo will run each time a change is made.



2.2. DYNAMO

Step 3

Insert Access-Token Get Access-Token from VREVAL Website -> Projects -> Markers => Craete Markers Access-Code will be invalide after 24h. VREVAL Access-Token 3afba7e8-820c-4834-9277dcd165129472.2| TqkY8bv4xeQkgRyplv0DRoM6od mfUIr5AuixAgnN VREVAL URL Export.ExportMarkersToVREVAL Markers > InvalidObjects Get VREVAL URL from VREVAL Website -> Projects -> Markers => Craete Markers AccessToken Responce SurveyPoint ാ VREVAL URL Renamed URL https://database.architektur.uniweimar.de/api/v1 ProjectRotationDeg 3 FamilyName > If internal Location changed -AUTO connect SurveyPoint and ProjectRotation to Export.ExportMarkersToVREVAL Coordinates.SurveyPoint Point AUTO Coordinates.ProjectRotation double AUTO

Marker

Use "Select model element(s)" to upload only selected marker.

Access-Token

Get Access-Token from VREVAL Website -> Project -> Marker and Create New Marker. Access-Token is only valid for 24h.

SurveyPoint

Watch

Overwrite project survey point, if moved away from project origin.

ProjectRotationDeg Overwrite ProjectRotationDeg, if changed (default 0°).

FamilyName

If family name changed, overwrite name. family type must be

- Checkpoint
- Information
- Sound
- Gate

Step 4

Run the Script, if in Dynamo runs in **Manual** mode

If successful the data are written to VREVAL database, the following message is shown.



3. VREVAL WEBSITE

The uploaded marker will be displayed as follows. The marker can be edited or deleted.

Markers Click to collapse/expand					
Name	Туре	CAD ID	Updated at	Created at	Actions
Floor-01-BalconyStreet_Destination	Checkpoint	4402857	3 minutes ago	Jun 20, 2021 14:31	2 🕯
Street	Checkpoint	4403070	3 minutes ago	Jun 20, 2021 14:31	2 🕯
Floor-01-BalconyStreet	Checkpoint	4403476	3 minutes ago	Jun 20, 2021 14:31	2 🗎
Street_Tree	Checkpoint	4403561	3 minutes ago	Jun 20, 2021 14:31	2 🕯
EntranceMHL	Checkpoint	4403985	3 minutes ago	Jun 20, 2021 14:31	2 1

The marker information and parameter can be edited - except CAD ID and Marker Position.

Edit Marker

Street							
Street							
MARKER DESCRIPTION		TY	PE				
In front of Billboard		(heckpoint				
		Lo wł Ło	ation, where the par ere the participant c ation, where evaluat	ticipant is placed and an gain information or tion results of linked ta	starts or f answer qı ask are sto	inishes a task uestion about ored.	k. Location, t the task.
	VISIBILITY BAN	E PERIMETER Imeter	a.	PLACEMENT DISTAN	CE TO MARK	KFR [meters]	
AVATAR INFORMATION MARKER HEIGHT ABOVE GROUND [meters] 1,2	VISIBILITY RANK	E PERIMETER [meter	9	PLACEMENT DISTAN	CE TO MARK	KER [meters]	
AVATAR INFORMATION MARKER HEIGHT ABOVE GROUND [meters] 1,2 CAD INFORMATION	VISIBILITY RANK	SE PERIMETER [meter	9	PLACEMENT DISTAN	ICE TO MARK	KER [meters]	
AVATAR INFORMATION MARKER HEIGHT ABOVE GROUND [meters] 1,2 CAD INFORMATION CAD ID	VISIBILITY RANG	SE PERIMETER (meter SU	8] RVEY POINT	PLACEMENT DISTAN	ICE TO MARK	KER [meters]	
AVATAR INFORMATION MARKER HEIGHT ABOVE GROUND [meters] 1,2 CAD INFORMATION CAD ID 4403070	VISIBILITY RANK	SE PERIMETER (meter SU X	a] RVEY POINT	PLACEMENT DISTAN	CE TO MARK	KER [meters] Z O	í
AVATAR INFORMATION MARKER HEIGHT ABOVE GROUND [meters] 1,2 CAD INFORMATION CAD ID 4403070 MARKER POSITION X Y	visibility rand	SE PERIMETER (meter	e] RVEY POINT	PLACEMENT DISTAN 1.5 Y 0 Y		Z Z Z	í