**RoomScan XML Overview**

The highest level within the XML document structure is the project. A project corresponds to a property within the RoomScan app; generally a house for a family with the possibility of multiple floor levels. A project contains one of more floors and a floor contains one or more designs. This structure reflects in XML:

**<?xml version="1.0" encoding="UTF-8"?>**

<project>

 ...

 <floors type="array">

 <floor>

 ...

 <designs type="array">

 <design>

 ...

 </design>

 </designs>

 </floor>

 </floors>

</project>

**Design XML**

Most of the magic happens in the design-tag. This is where all the data of the floor plan is stored. A design - a floor plan - can consist of assets, objects, areas and lines. Please note that all the measurements are in **meters**.

**<?xml version="1.0" encoding="UTF-8"?>**

<design>

 ...

 <assets type="array">

 <asset id="string">

 ...

 </asset>

 </assets>

 <objects type="array">

 <object>

 <asset refid="string"/>

 ...

 </object>

 </objects>

 <areas type="array">

 <area>

 <area refid="string"/>

 ...

 </area>

 </areas>

 <lines type="array">

 <line>

 <asset refid="string"/>

 ...

 </line>

 </lines>

</design>

**Design**

You can give a design a name by providing the name-tag:

<design>

 <name>string</name>

 ...

</design>

**Assets**

The assets-tag contains a list of all the assets used in the design. There are three kinds of assets: **objects** (like furniture elements) and **lines** (like walls, hedges, fences etc).

**Object assets**

<asset id="string"> for example id="e123"

 <name>string</name>

 <url2d>string</url2d>

 <url3d>string</url3d>

 <layer>int</layer>

 <filter-value>string</filter-value> [optional]

 <color>string</color> for example: #ffffff [optional]

</asset>

**Line assets**

<asset id="string"> for example id="l123"

 <type>string</type>

 <color>string</color> for example #ffffff

 <url2d>string</url2d>

 <thickness>float</thickness>

</asset>

**Objects**

Symbol elements are described as object-tags.

<object>

 <asset refid="string"/> for example: refid="e123"

 <type>string</type>

 <color>string</color> for example: #ffffff [optional]

 <points>float float float</points> x y z coordinates of the object

 <size>float float float</size>

 <rotation>float float float</rotation> [optional]

</object>

The points-, size- and rotation- all have three values. These are the x y z values of each specific tag, space separated.

**Lines**

Lines like walls, dimension lines, hedges and fences are described as line-tags.

<line>

 <asset refid="string"/> for example: refid="l123" [optional]

 <type>string</type> options: default\_wall, simple\_wall or wall\_with\_gaps

 <points>float float float float float float float float float, float float float float float float</points> [last 3 points of the first group of points are optional]

 <color>number</color> for example: #ffffff [optional]

 <thickness>float</thickness> [optional]

 <text>string</text> [optional]

</line>

The points-tag contains 2 groups of points.

The first group of points represents the 2 or 3 base points at bottom of a wall. It contains 6 or 9 values. The first 3 represent the **start x y z coordinates** of a line, the second 3 represent the **end x y z coordinates** of a line and the last 3 represent the **curve x y z coordinates** of a line.

The second group of points represents the 2 top points of a wall. It contains 6 values. As the bottom, the first 3 represent the **top start x y z coordinates** of a line, the second 3 represent the **top end x y z coordinates** of a line.

The three different kinds of <line> element are as follows:

* **<type>default\_wall</type>**The outline of the room including recesses into doors and windows and a line across doorways (at the door line between the rooms) to form a complete polygon.
* **<type>simple\_wall</type>**Simply one line per wall; a rectangular room will have four of these regardless of how many doors there are. This is best for simple area calculations.
* **<type>wall\_with\_gaps</type>**This is the same as **default\_wall** but there are no lines across doorways or windows, so they don’t form a polygon.

**Areas**

Areas like rooms and other surfaces are described as area-tags.

<area>

 <asset refid="string"/> for example: refid="t123" [optional]

 <type>string</type> options: perimeter, room, room-with-collars

 <points>float float float float float float float float float, float float float float float float float float float, ...</points> [last 3 points of each line segment are optional]

 <color>number</color> for example: #ffffff

 <rotation>float float float</rotation> [optional]

</area>

The points of an area are described as a combination of **line segments**. These line segments are comma separated. See the points-tag of a line-tag for more information about the structure of the coordinates.

The three different kinds of <area> element are as follows:

* <type>room</type>
This is a room ignoring any recesses into the wall for doors and windows.
* <type>room-with-collars</type>
This is a room with short walls into recesses for doors and possibly windows.
* <type>perimeter</type>
This is the exterior outline of a groups of rooms, usually the whole of a floor, which includes the interiors of the internal walls and any voids (the area coloured black on a default RoomScan floor plan).