

Generic AEC/FM View Description

Architectural design to quantity take-off - level 2

Reference	GSC-002	Version	2	Status	Draft
History	Based on BLIS view 'Arch. design >> Quantities take off / cost estimating' (2000) Based on SABLE DAPI 'Quantity Information for Cost Estimation' (2004) This document created 20.10.2006 Divided into 3 levels 18.3.2007 Handed over to German Speaking Chapter 3.3.2008 → reference changed from VBL-005 to GSC-002				
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Description	<p>This view defines the subset of the data created in architectural design software, which is useful for quantity take-off purposes.</p> <pre>graph LR; A[Design Model (objects, attributes)] --> B[Design Quantities (object quantities)]; B --> C[Production Quantities (assemblies, items, resources)]; subgraph This_view [This view]; A; B; end</pre> <p>The basic idea behind this view is that architects (and other designers) provide design object quantities (e.g. gross area of a wall), which can be used as 'raw material' for creating production quantities (e.g. material, labor, equipment etc. involved in building a wall). Designers think in terms of spaces, building elements and their functional properties. Quantity take-off focuses on assemblies, items and the resources required for these assemblies and items.</p> <p>In scope for this view are:</p> <ul style="list-style-type: none">• Spaces• Surface elements• Building elements• Furniture and fixtures <p>For each of these the following data is needed</p> <ul style="list-style-type: none">• Identification → used for grouping design objects in a way that is meaningful to quantity take-off• Quantity → used as 'raw material' for production quantities• Location → used for organizing the production quantities <p>For identification this view relies on type information, such as the construction type and space type. In the exchange type information may be reduced to simple string attributes.</p> <p>This view (level 2) defines quantities that are internationally applicable; it does not specify any quantities calculated by national/local calculation rules. More specific quantities can be derived from the generic quantities defined by this view. This view for example defines a gross area for walls and openings, and the relationship between walls and openings. The receiving application can use this information for calculating the net area of the wall using national/local calculation rules, e.g. those openings smaller than one square meter should be ignored. The quantities in scope of the view are calculated by the sending application. The receiving application is not required to extract any quantities from geometry.</p> <p>For quantity information it is crucial to define exactly and in detail what each quantity means. It is also important to document all cases in which a quantity cannot be provided or may have an invalid value. For example if complex walls, e.g. walls with an arbitrary footprint, do not have all quantities found on simpler walls.</p> <p>Location information is included whenever it is defined by the architect. However, it is acknowledged that the architect may not provide all location information needed by quantity takeoff, e.g. construction sections.</p> <p>Out of scope for this view are cost information, scheduling information and production information (assemblies, items and resources). Out of scope are libraries of construction types and space types.</p> <p>This document uses the official IFC Model View Definition Format version 1.1.0. of the IAI (www.iai-international.org) The content of this document has to be certified by the IAI before becoming part of an official IFC Model View Definition.</p>				