SYSTEMATIC QUALITY CHECK OF BUILDING INFORMATION MODELS

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Abstract

Building information models are developed according to the aggregation of a series of objects characterised by graphical and non-graphical information. Today, this set of information is defined according to the level of information need principle (ISO 19650-1) that requires an a priori identification of all the information needed to satisfy the objectives and the specific information model. Even if information models are based on a shared semantics and a data structure that facilitates the transmission of information between machines (interoperability) and from the machine to the humans, the peculiarities of the construction sector often require the integration of personalised information. Moreover, not all the information that can be integrated into an object are related and/or parametrised. This brings to the possibility of issues related to the quality of the model that can hinder future developments.

The aim of this work is that of exploring the main classes of quality issue that can be found in a building information model and provide solutions both in terms of processes and rules that can be integrated in Exchange Information Requirements (EIR) documents, and to develop automatic or semi-automatic systems that can help the designers, the construction companies, the client, etc. in checking that all the information are compiled according to the specific requirements, i.e. that the model is of a good quality.

As a complementary activity, the research should look at means to communicate the quality issues in an effective way also to those with no experience in modelling and or working with information models. On this directing the work will look at the development of structured dashboard that should be automatically extracted from the quality analysis above mentioned.

Dissertation:
https://bimaplus.org/wp-content/uploads/2021/10/2021-MohamedSafwat-Dissertation.pdf

Presentation video:
https://youtu.be/ASQpfb6807s

doi: 10.5281/zenodo.5705765