Software Project course

Proposal

Customizable Dashboards for BIM Data

Proposal for Improved User Interface Version 2.0: Customizable Dashboards for BIM Data

We have created a program that converts models of buildings into the web of data that was visioned by the father of the web, Tim Berner-Lee.

A semantic web graph connects data in a way that makes it easy for computers to understand relationships. The benefits are in creating chat interfaces that do not hallucinate. Data can be shared as a single point of truth, and you can easily mix and match it from different sources.

The benefit of our open-source converter is that it allows programmers to easily access the information content of building data. IFC is a standard format for sharing building information between different software. Currently, it is used in research groups around the world.

We have created user interfaces: one command-line interface, one desktop app, and one OpenAPI interface. The software can be found here: https://github.com/jyrkioraskari/IFCtoLBD.

So, the task is to innovate a new and better user interface for this, but you should also think about how you would like to access the data when it is converted. As file output is not optimal, how would you help users continue with the data when it is ready? You could invent new filters to let users find interesting insights in the data. How can it be made accessible and friendly to use? Here you have free hands.

The current implementation is in Java and Python. You can use the one that you like. If preferred, JavaScript is also possible. We have three ways to visualize the elements of the data in 3D. There are code examples on the site.

Client's background

The project is conducted for Aalto's R2B commercialization project BIMSpect. Its goal is to implement and prepare commercialization of design monitoring and control tool that aims to enhance the management of design projects in the construction industry. BIMSpect combines construction management research and computer science to develop an application that tracks design dynamics.

Aalto's contact person:
Jyrki Oraskari

Jyrki.Oraskari@aalto.fi