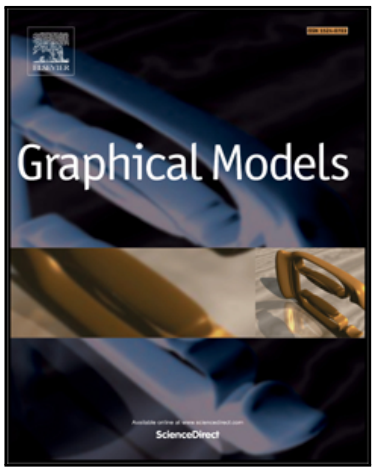

Lightweighting for Web3D Visualization of Large-scale BIM Scenes in Real-time

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Highlights

- Semantics-guided lightweighting is proposed to reduce the amount of data processing in the front end by removing the redundant data and creating an IFC Lightweight Scene Graph (IFC_LSG).
- Double-Layered Sparse Voxel (DLSV) is proposed for data indexing to improve the access efficiency of real-time Web3D building visualization.
- Incremental Frustum of Interest (I-FOI) is proposed to manage the scene by combining the rendering pipeline and the current scene index.