

# Git-based versioning for basic IFC change control

## Task

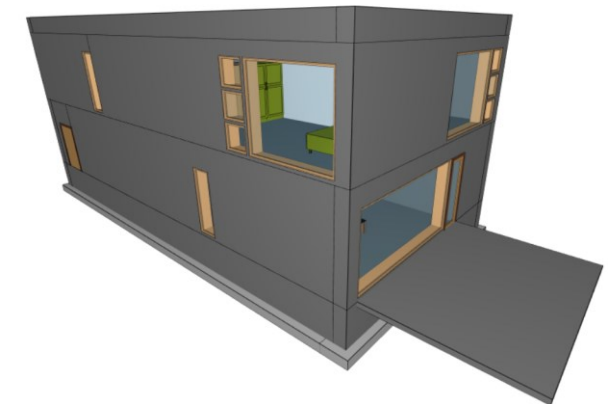
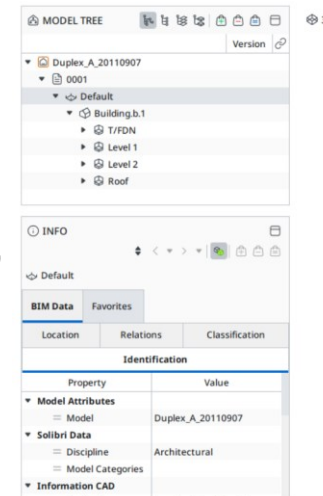
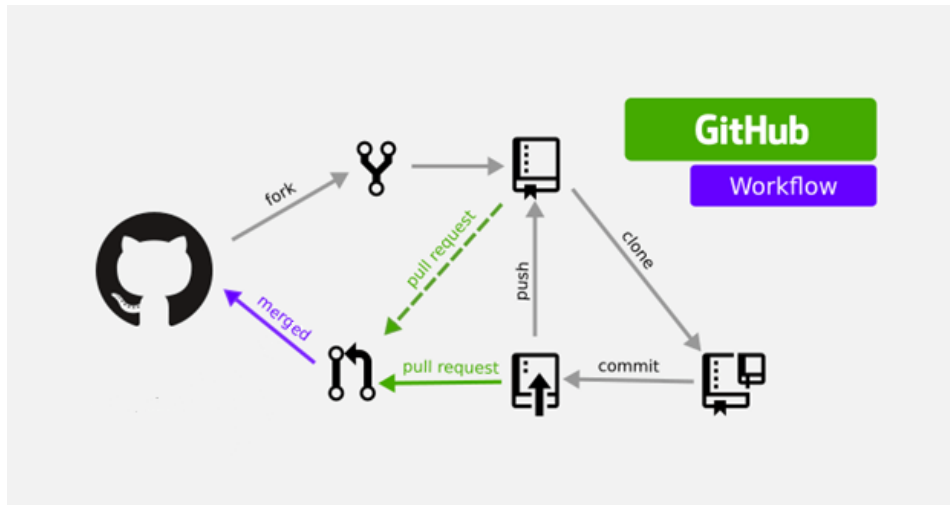
- IFC is used to exchange BIM models in a vendor-neutral fashion
- Git is the established tool for version controlling source code

## GENERAL INSTRUCTIONS:

- Understand how Diff and Patch methods in Git work
- Find a representation of IFC files that allow seamless and lossless version control in Git (likely by using .NET or Python)
- Built a visualization approach to show commits in a web-based viewer using modern web technologies (React, NodeJS, ...)

## Project Characteristics

Modeling:	<input type="checkbox"/>
Mathematics:	<input type="checkbox"/>
Programming:	<input type="checkbox"/>
Science:	<input type="checkbox"/>



[1] Esser, S., Vilgertshofer, S., & Borrmann, A. (2022). Graph-based version control for asynchronous BIM collaboration. *Advanced Engineering Informatics*, 53, 101664.

<https://doi.org/10.1016/j.aei.2022.101664>

[2] Shi, X., Liu, Y. S., Gao, G., Gu, M., & Li, H. (2018). IFCdiff: A content-based automatic comparison approach for IFC files. *Automation in Construction*, 86, 53–68.

<https://doi.org/10.1016/j.autcon.2017.10.013>