



3DGeo Info 2018  
Delft

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## UrbanCo2Fab: Comprehension Of Concurrent Viewpoints Of Urban Fabric Based On GIT

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# Urban Evolution

- Studied by urban planners, historians, archaeologists
- Slow or fast evolution of cities
- Lessons from past failures and successes for sustainable urban planning
- Need for representation and management of urban changes

# Objectives

- Manage City Life cycle
- A generic approach
- Reduce learning curve and development time

# Urban Evolution: Related Works

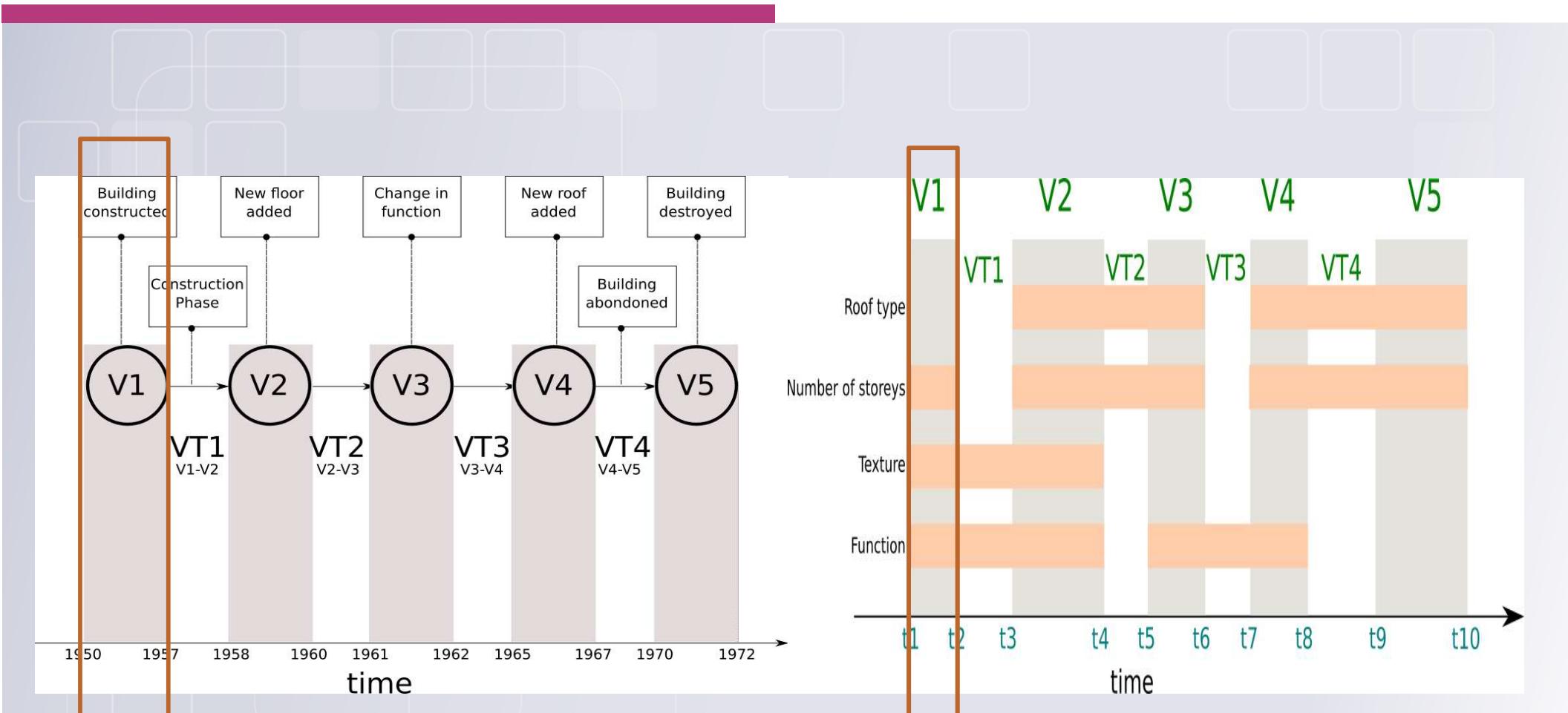
- 4D visualization (e.g., Bastian Fort, digital reconstruction of Pompeii)
- Relief maps
- Venice Time machine project
- GeoGig (but focus on user changes)

# Our solution

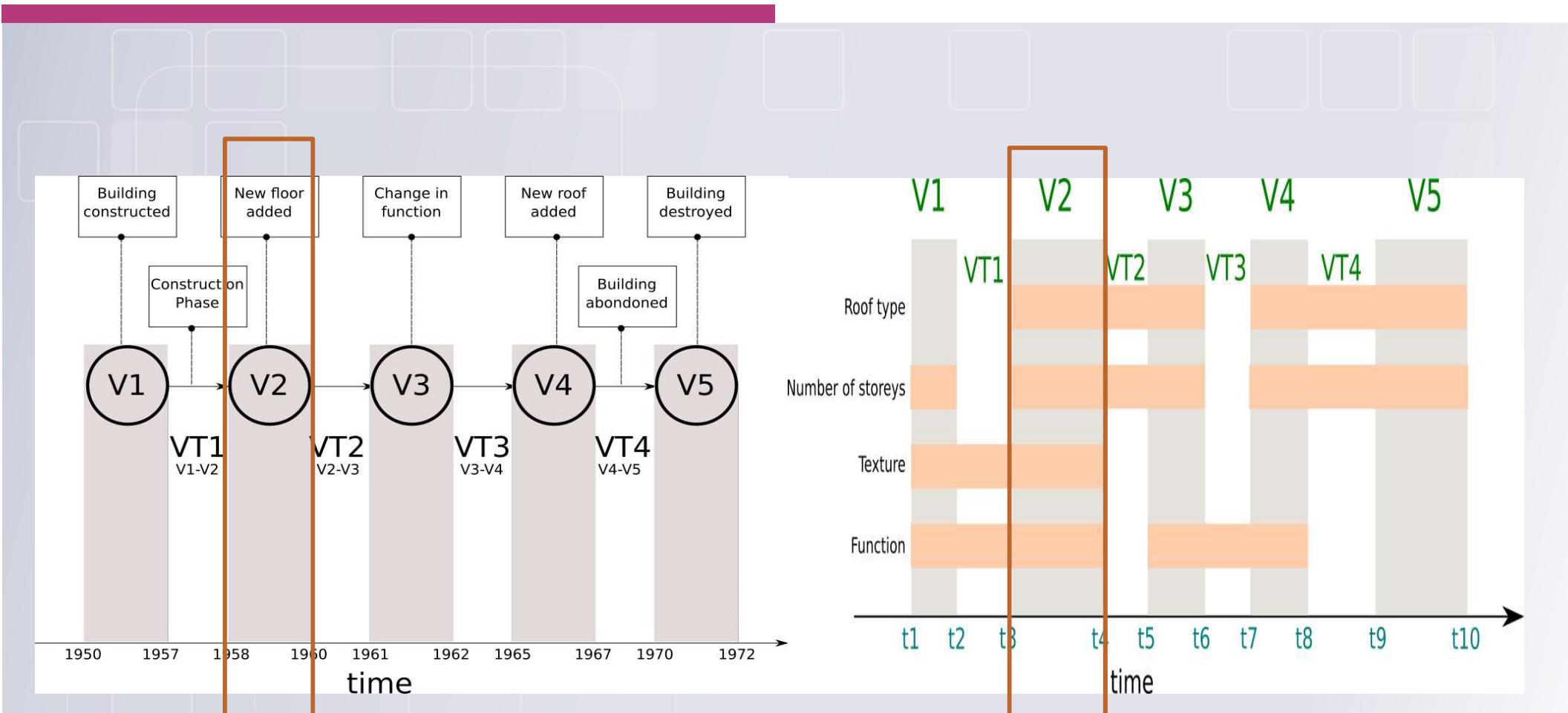
- Not a one-time solution
- Proposition based on Chaturvedi et al. 2017<sup>1</sup>

[1] Chaturvedi, Kanishk, Carl Stephen Smyth, Gilles Gesquière, Tatjana Kutzner, et Thomas H. Kolbe. « Managing Versions and History Within Semantic 3D City Models for the Next Generation of CityGML ». In *Advances in 3D Geoinformation*, 191-206. Lecture Notes in Geoinformation and Cartography. Cham: Springer International Publishing, 2017.

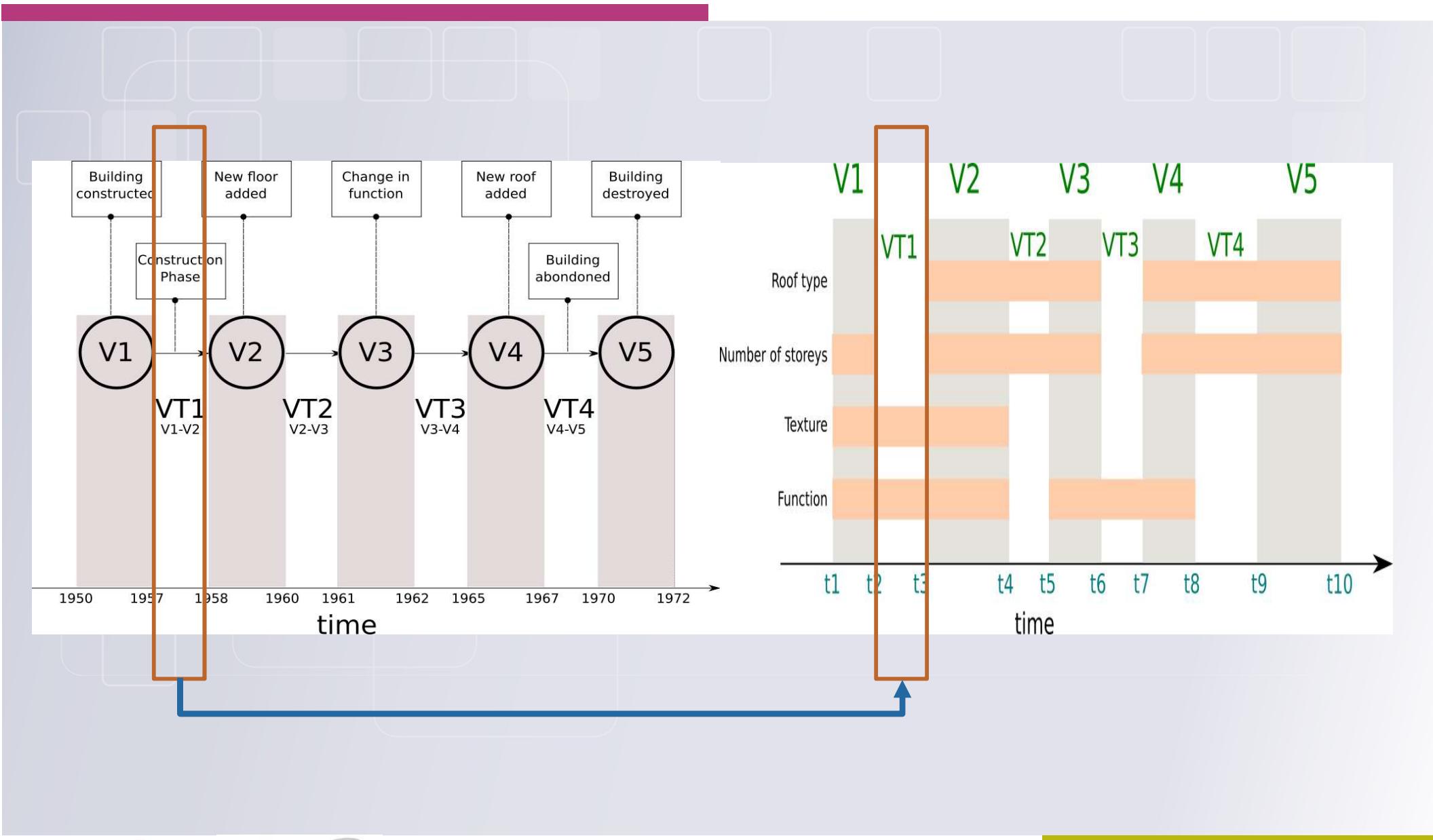
# Version



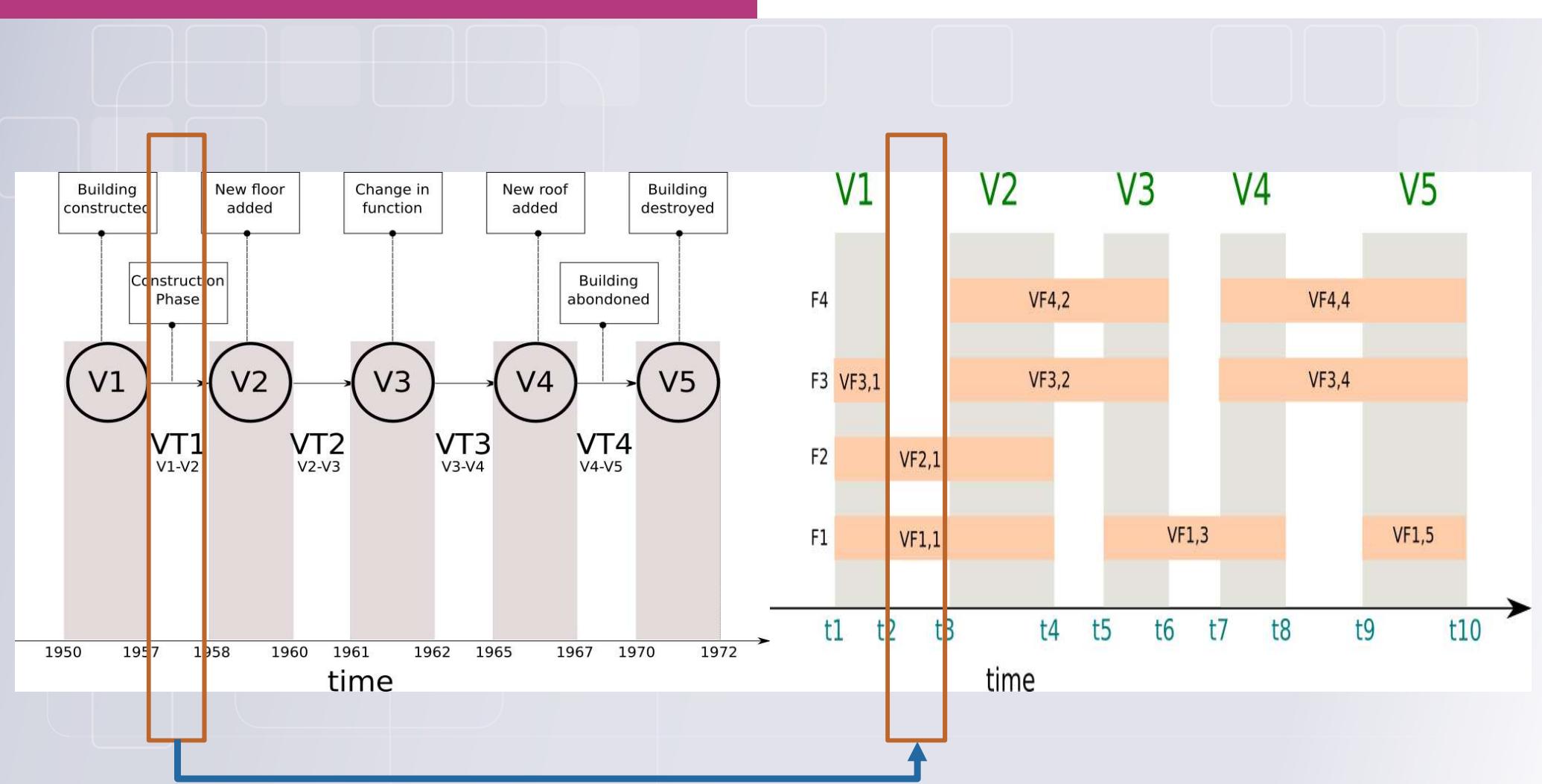
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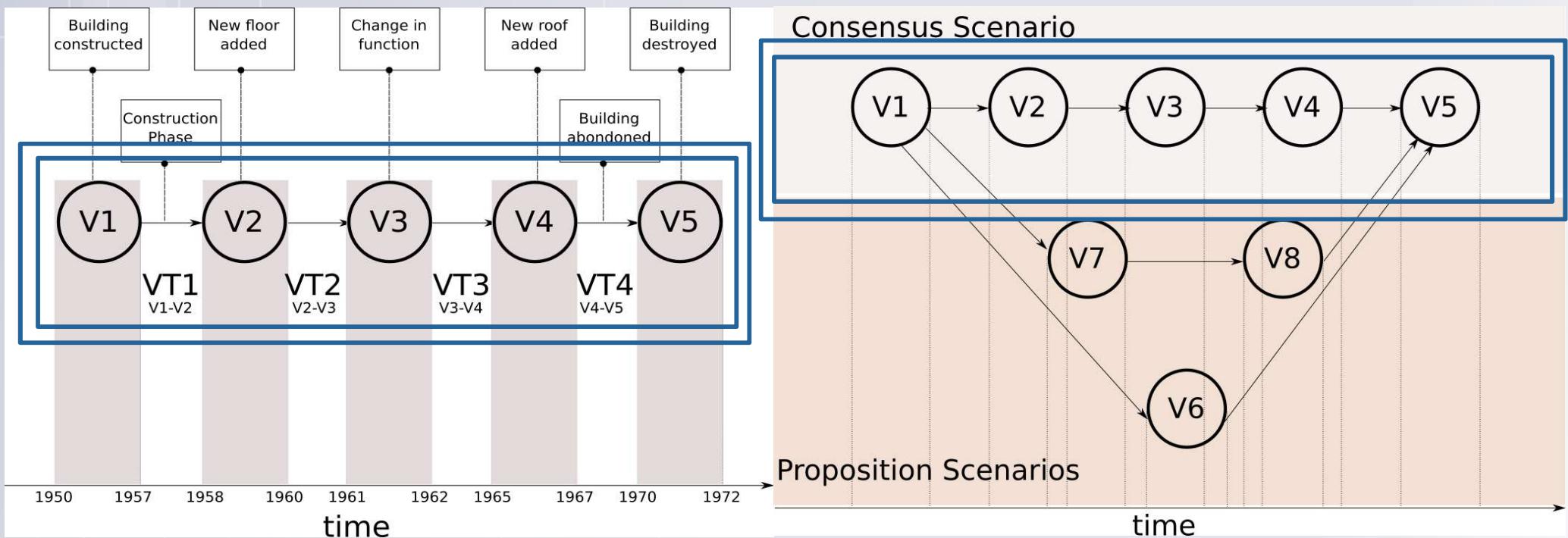
# Version Transition



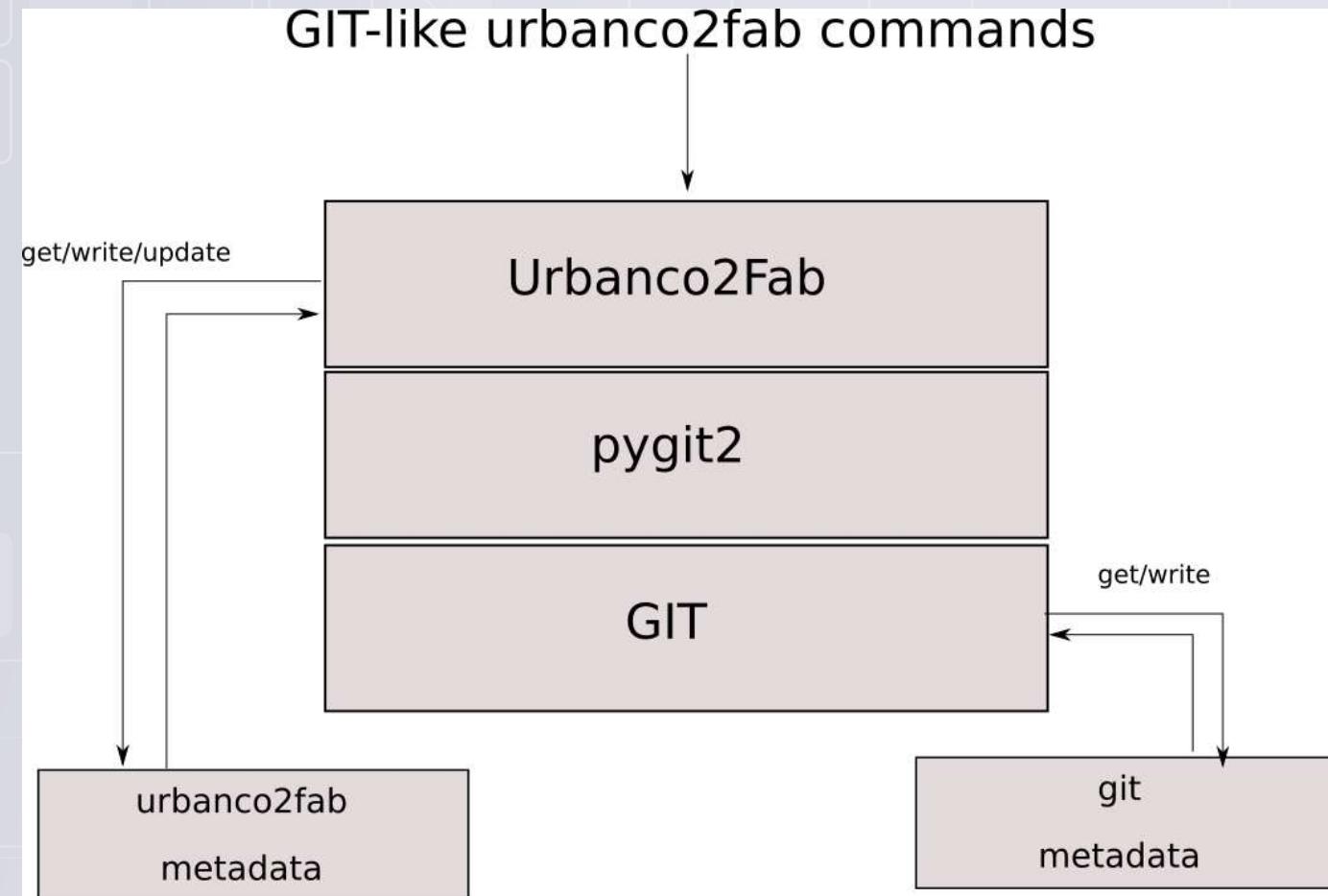
# Versionable Features



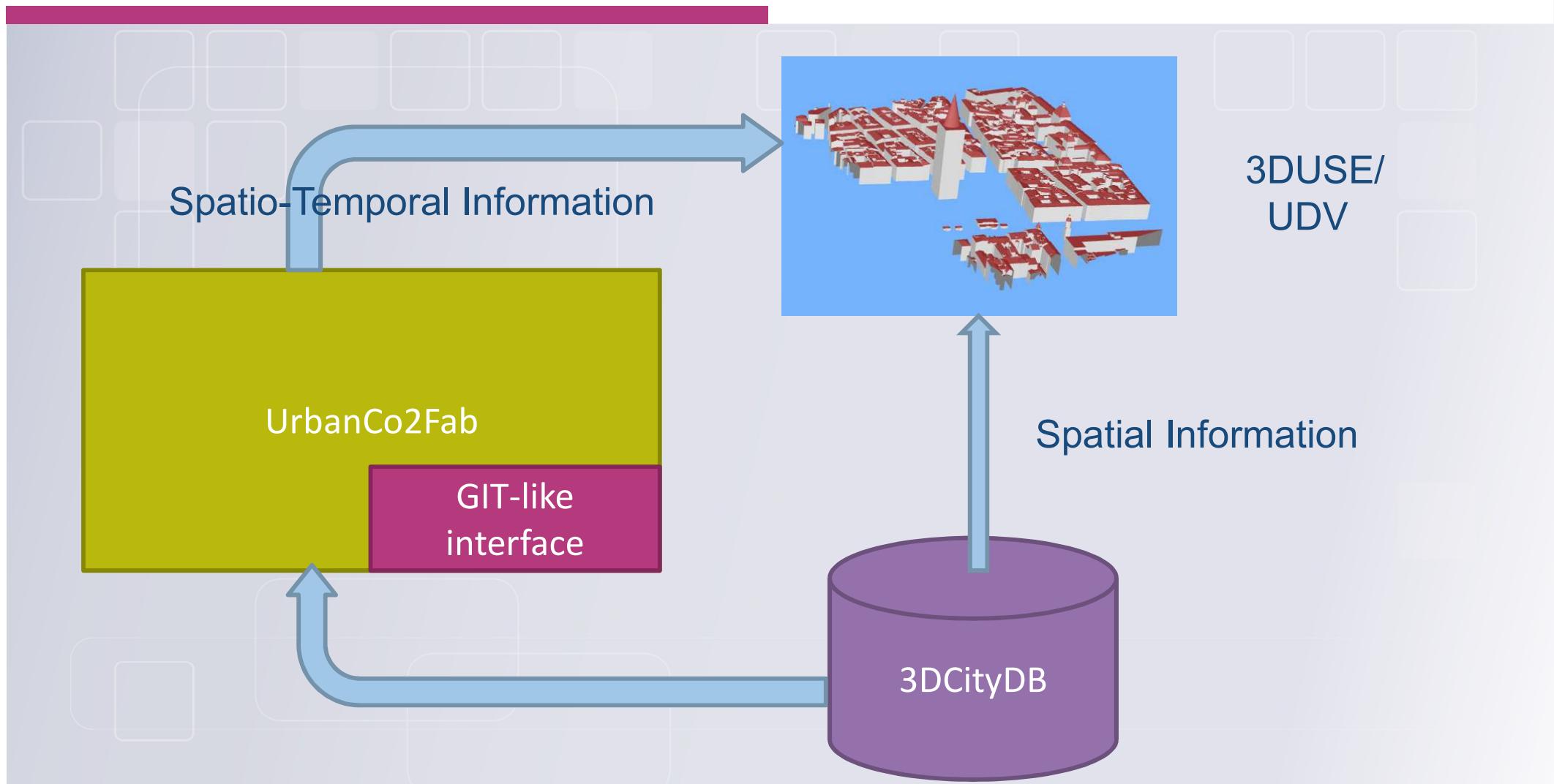
# Workspace



# UrbanCo2Fab: Architecture

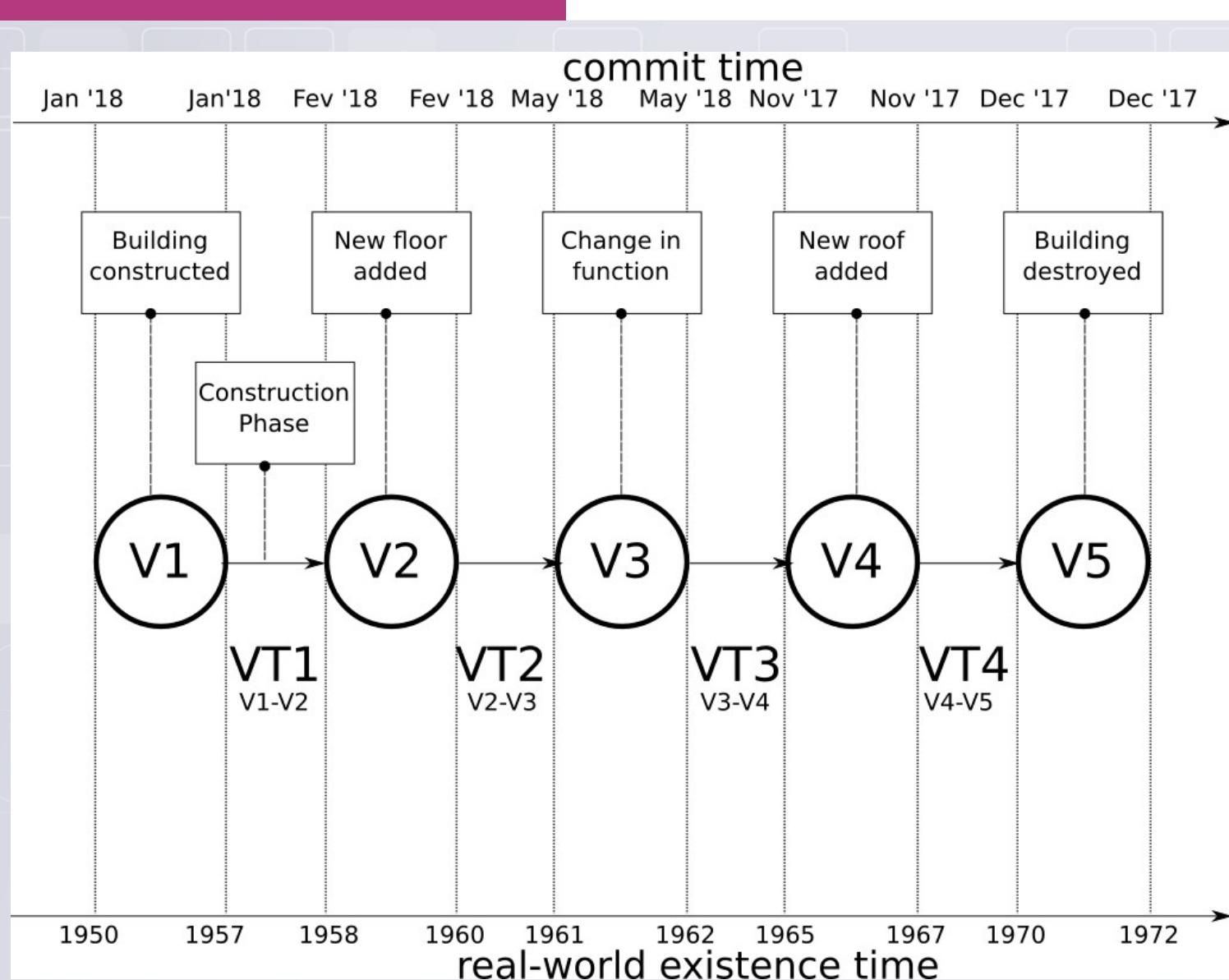


# UrbanCo2Fab



Gesquière, Gilles, et Alexis Manin. « 3D Visualization of Urban Data Based on CityGML with WebGL ». *International Journal of 3-D Information Modeling (IJ3DIM)*, vol. 1, n° 3, juillet 2012, p. 1-15.

# UrbanCo2Fab: GIT commit



# Conclusion and Future Works

- Growing need for a solution to represent urban evolution
- UrbanCo2Fab demonstrates a generic approach with reduced development
- Scalability and Performance of UrbanCo2Fab

# Acknowledgements

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# References

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