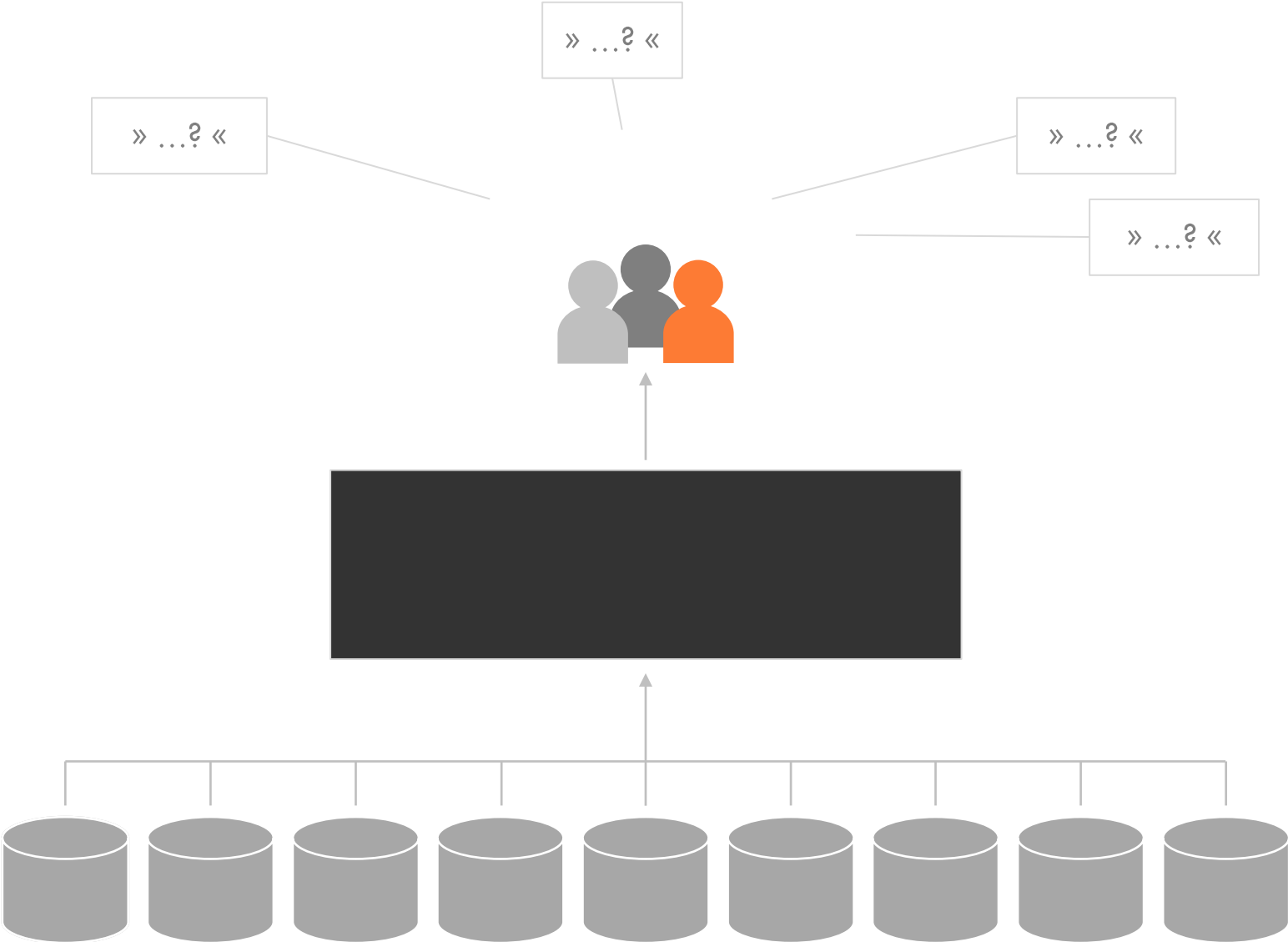
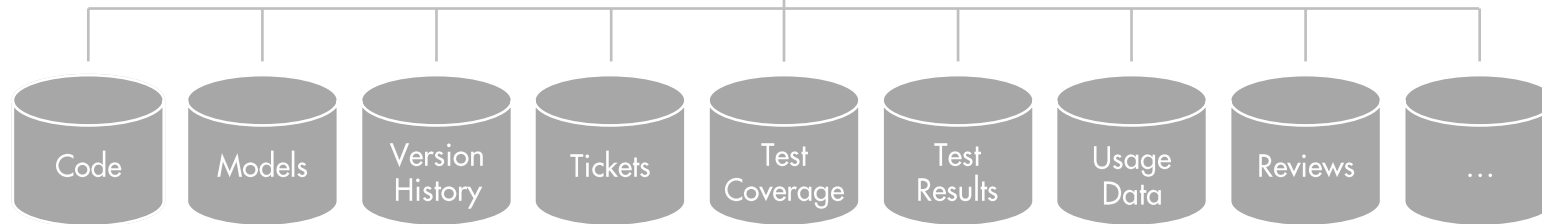
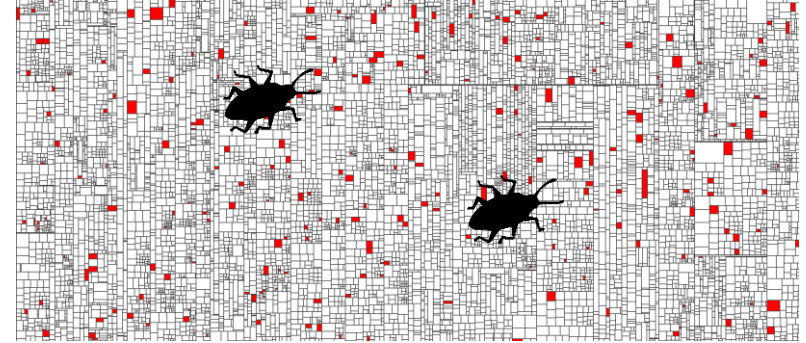


Kann uns AI helfen, besser zu testen?

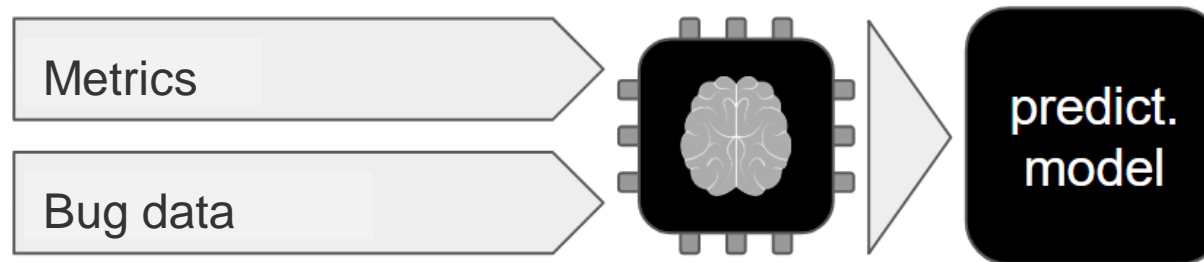
Erfahrungen mit Machine Learning in der QS in Forschung und Praxis



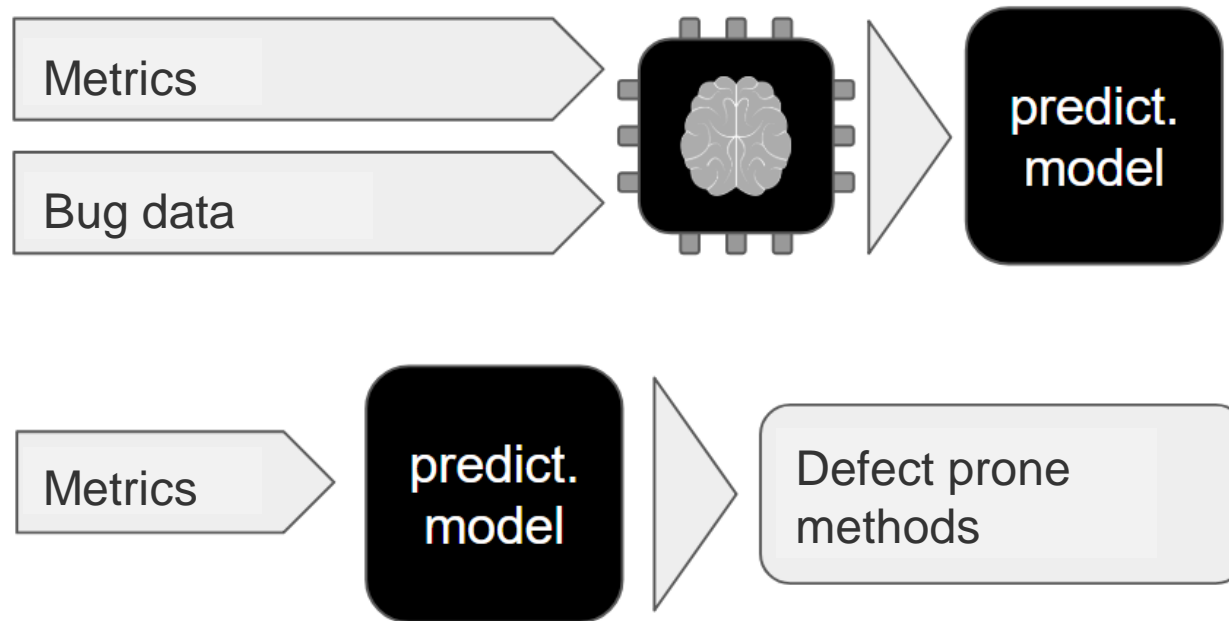
» Wo sind Fehler im Code? «

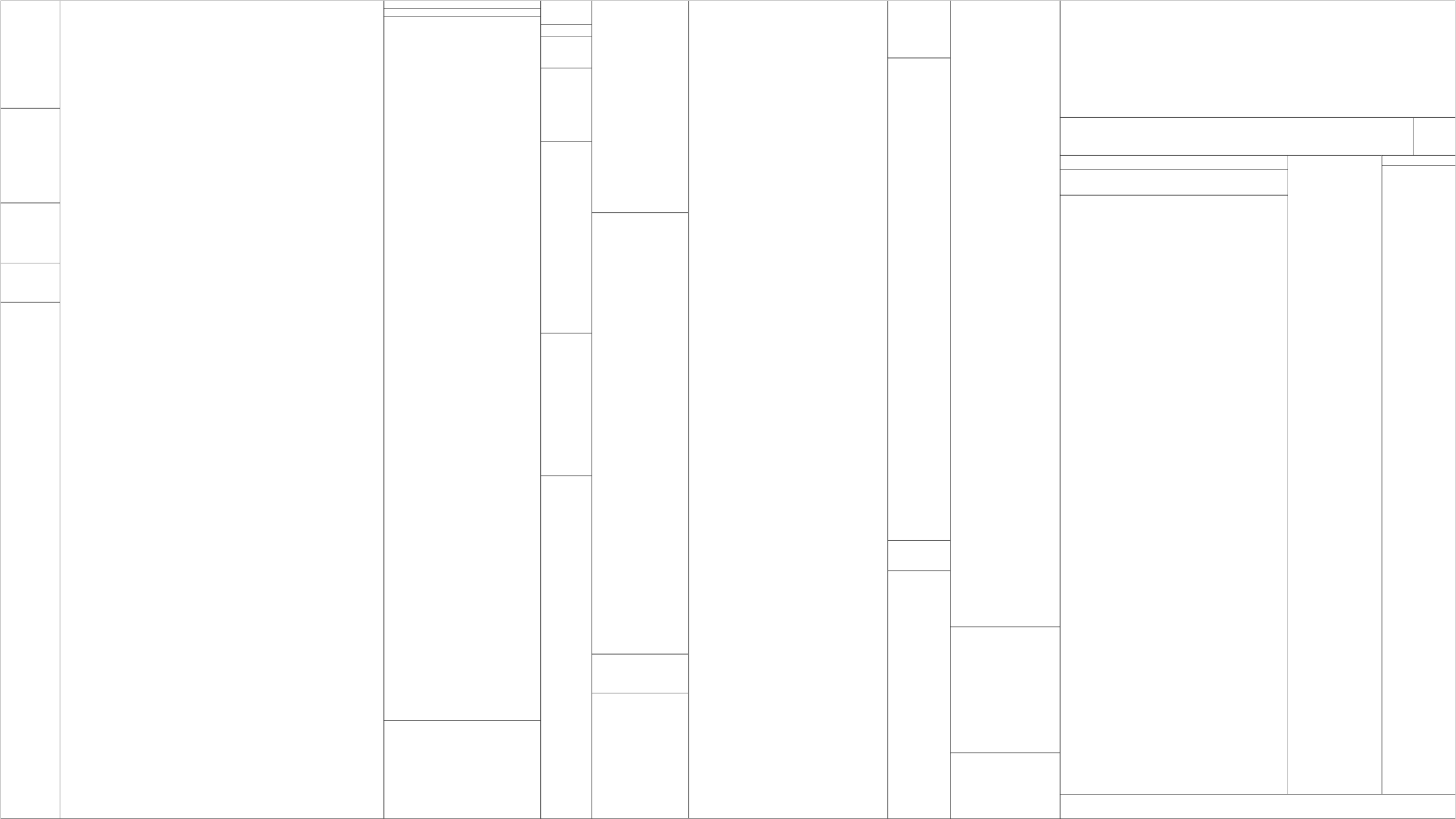


Defect Prediction

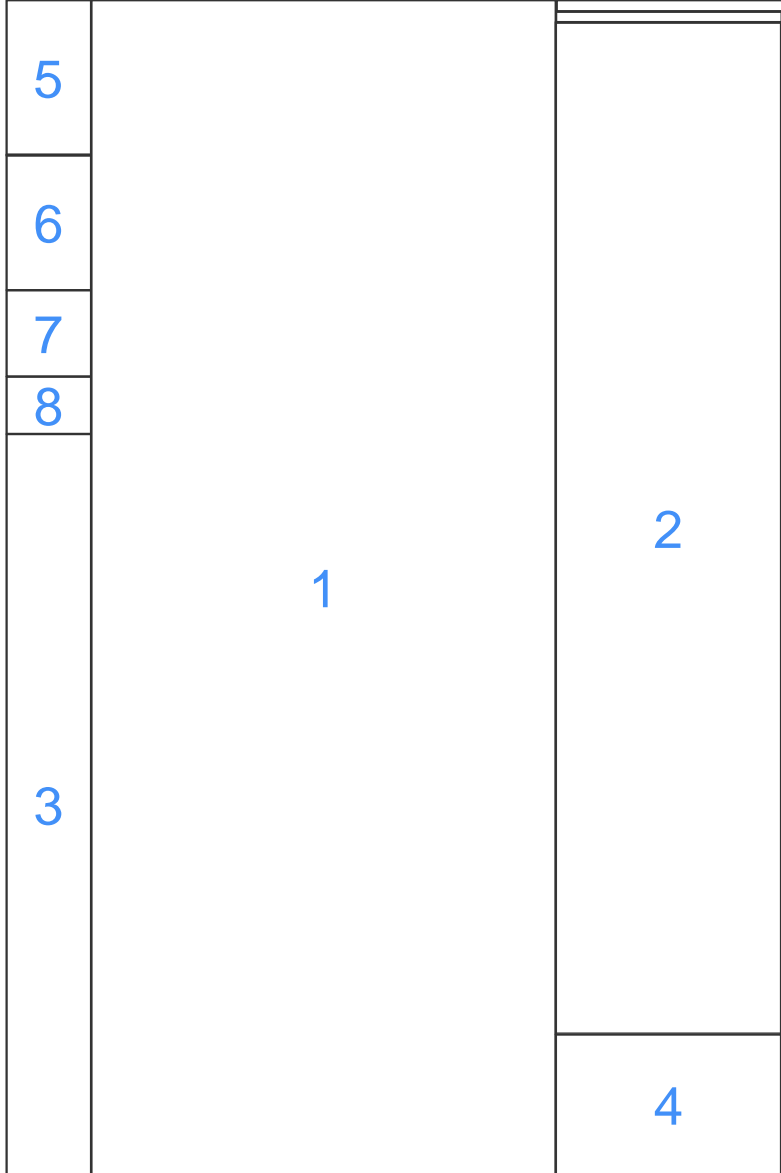


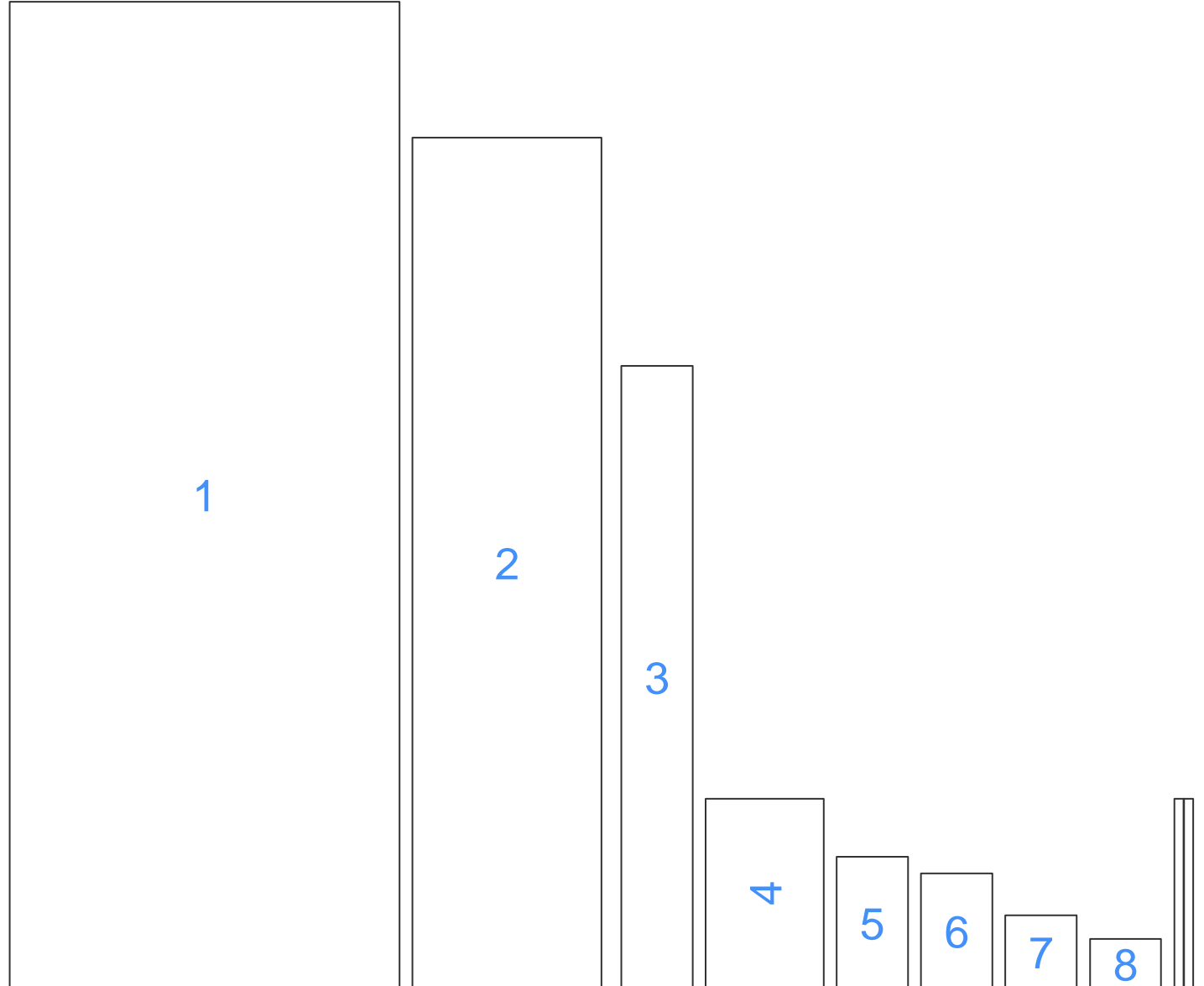
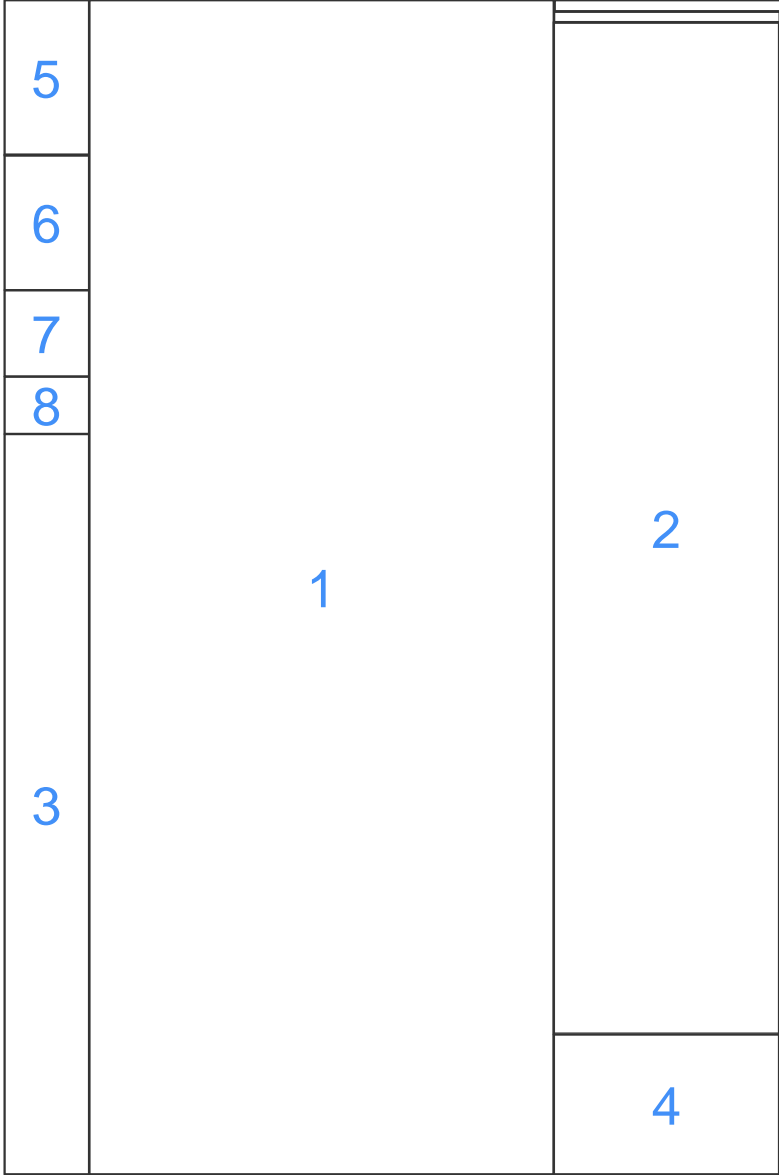
Defect Prediction

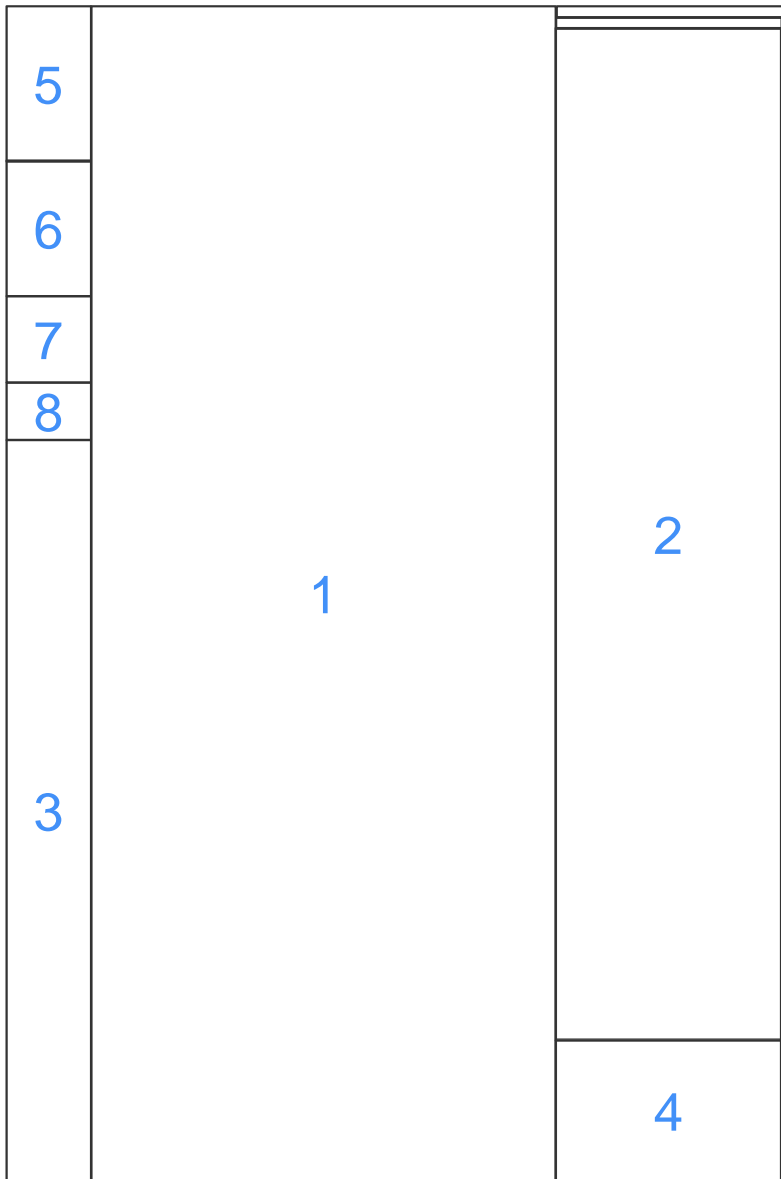




179k LoC

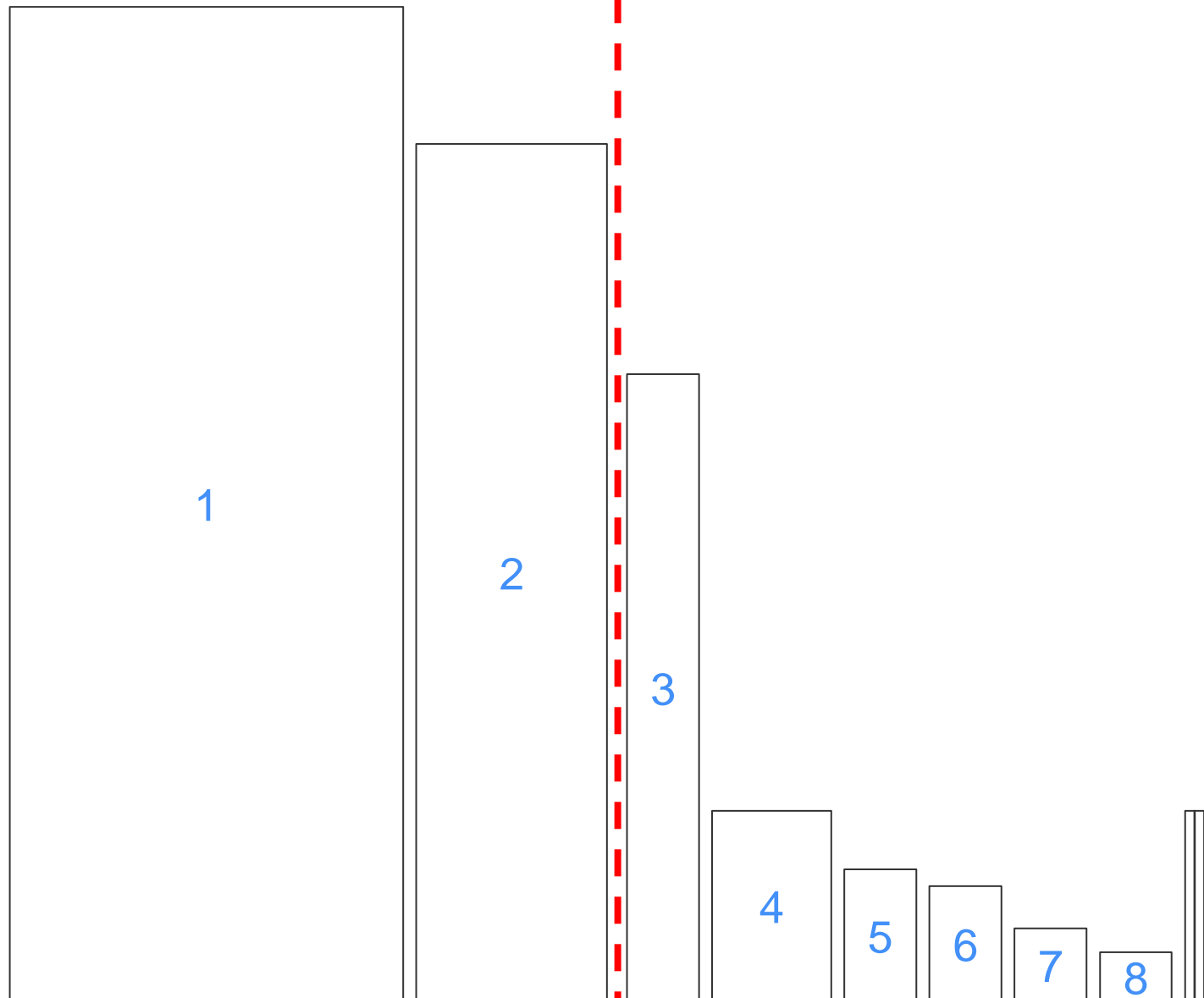


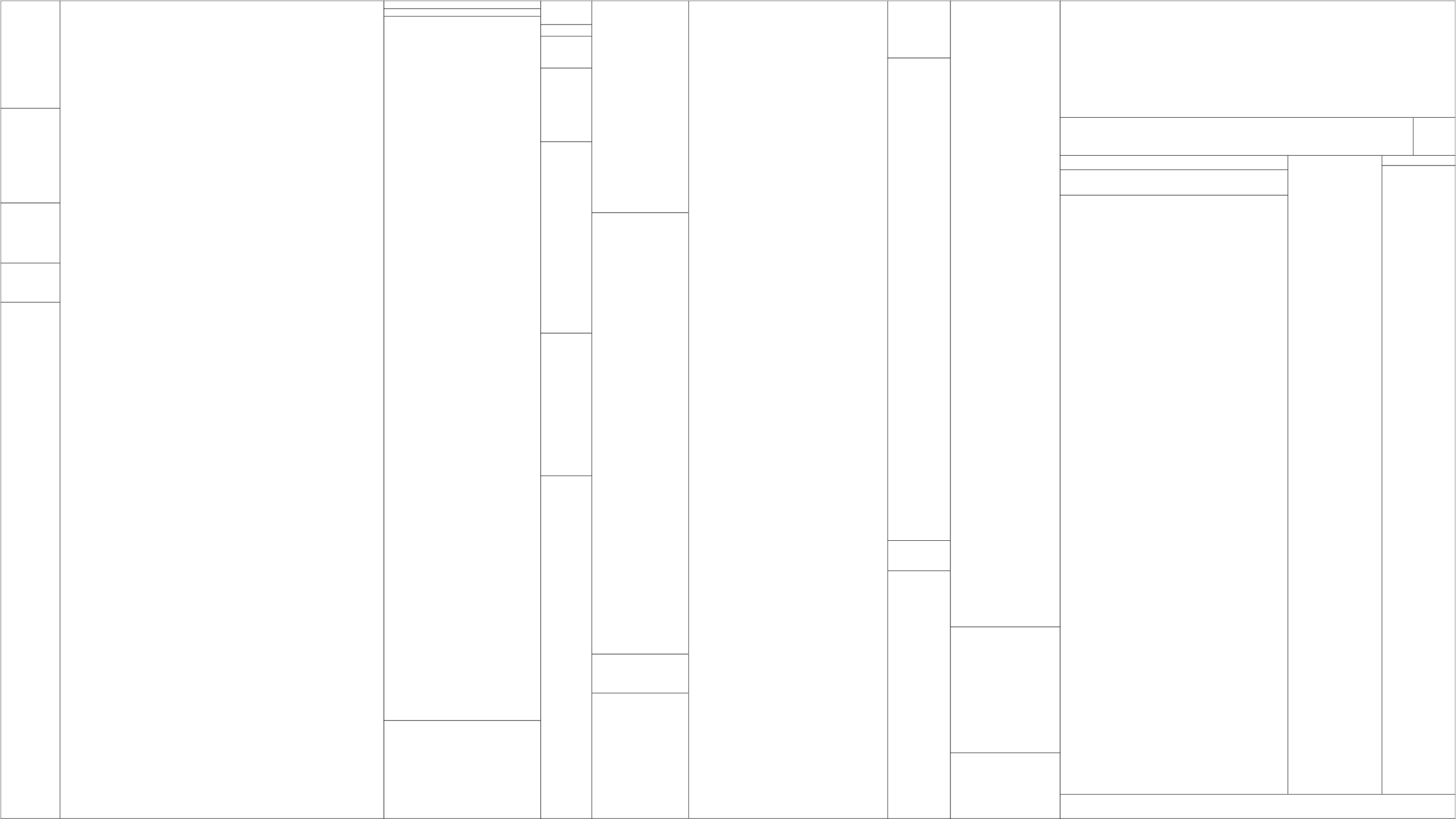


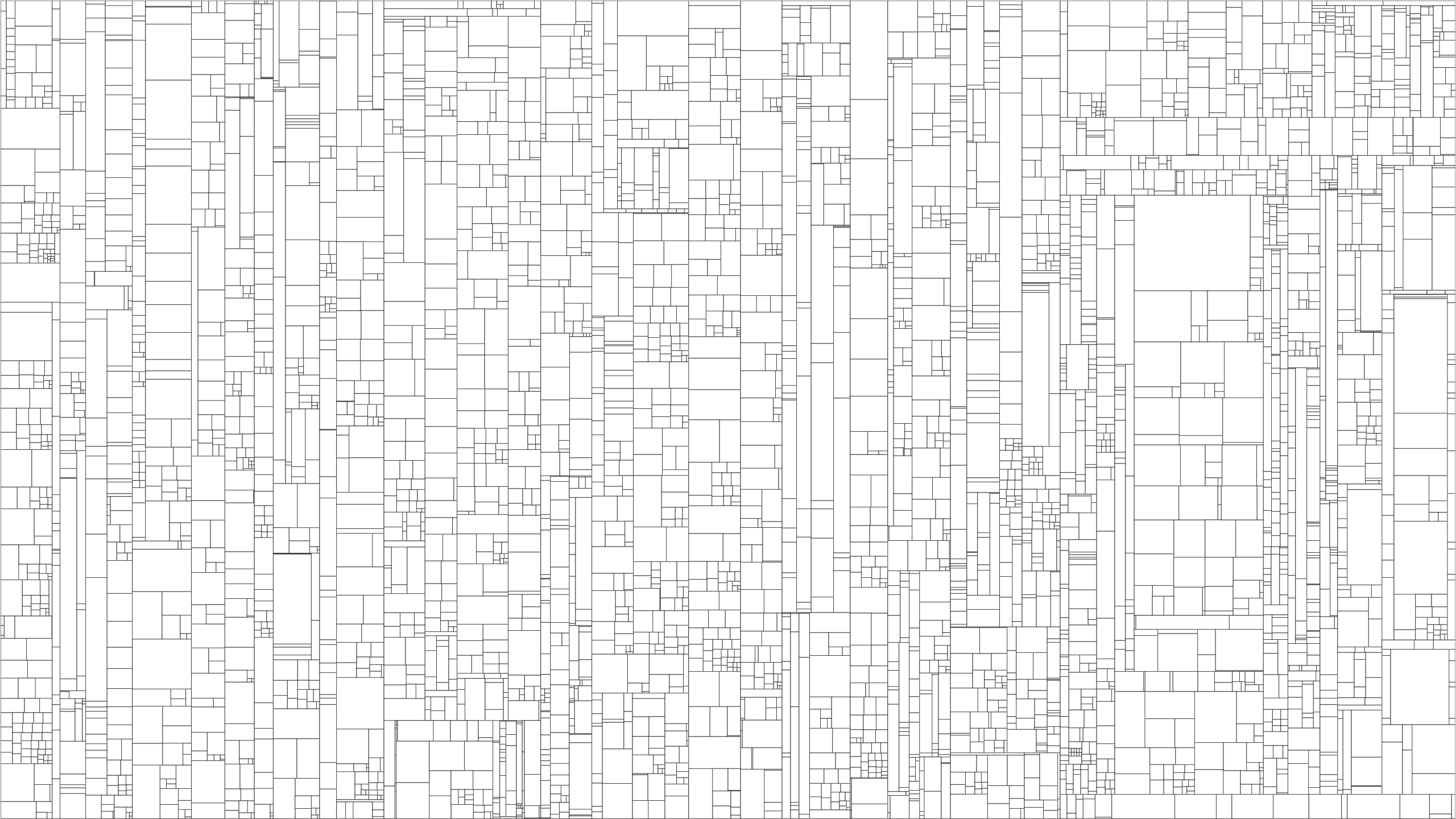


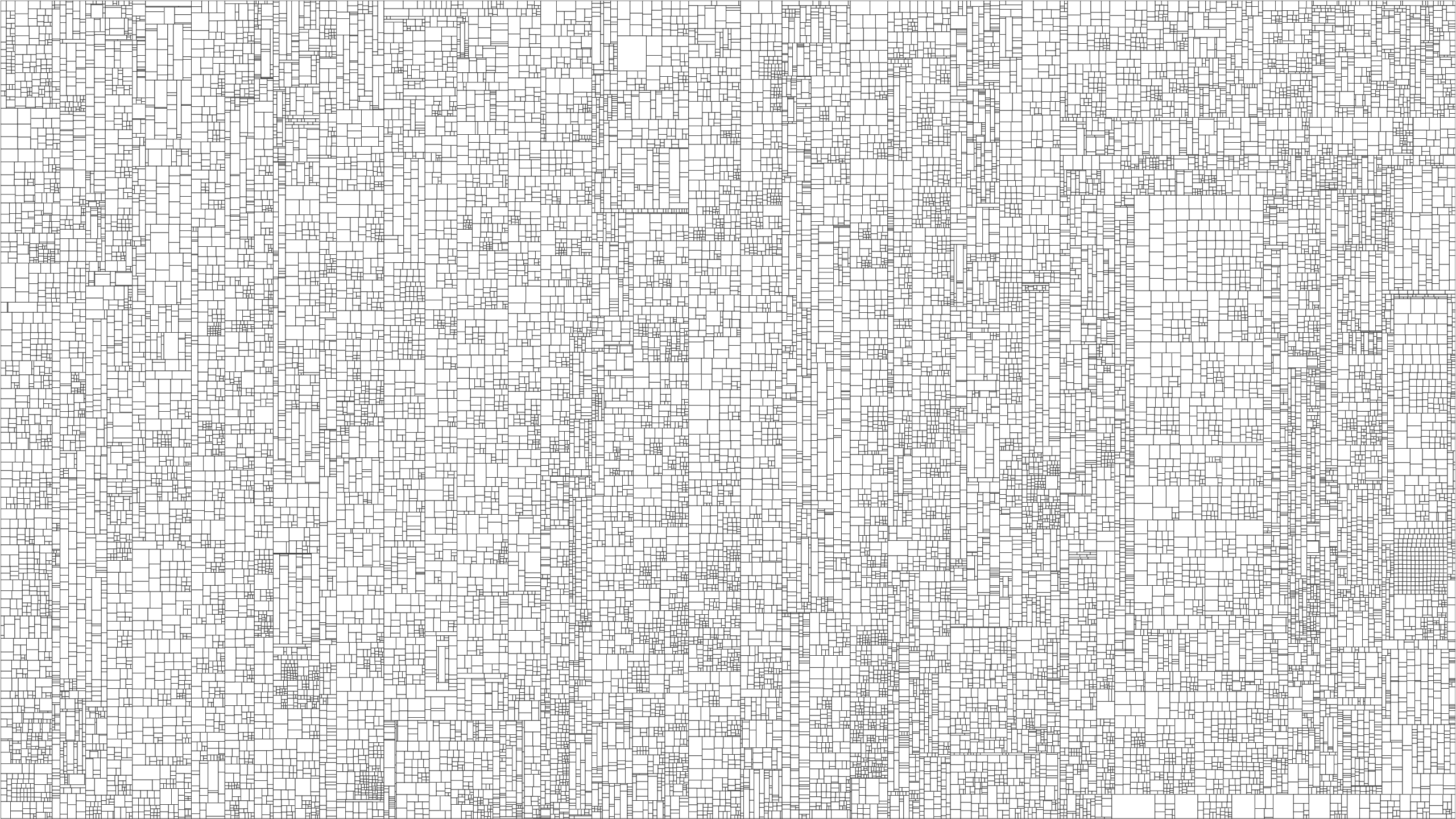
153k LoC
85%

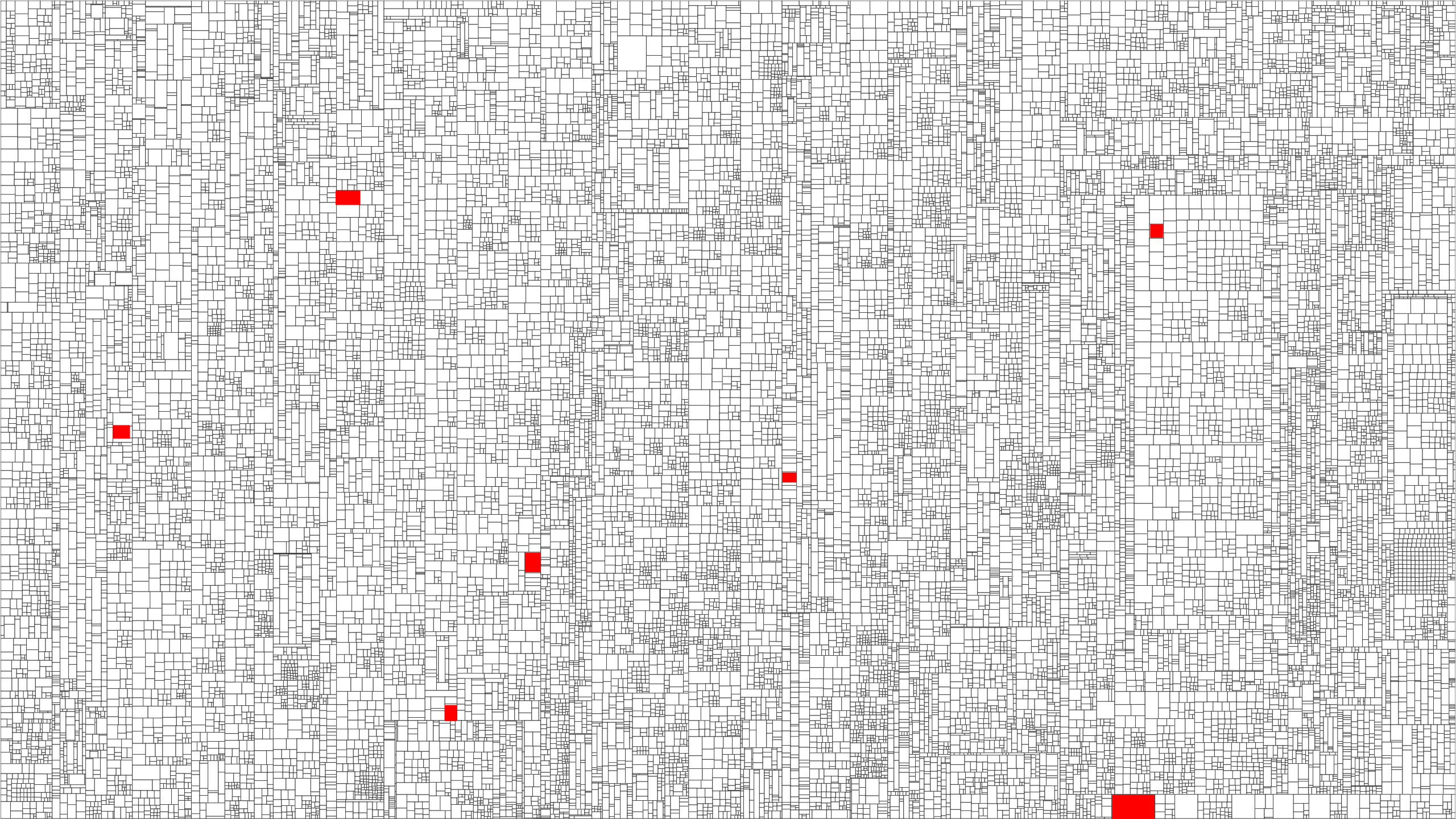
26,5k LoC
15%

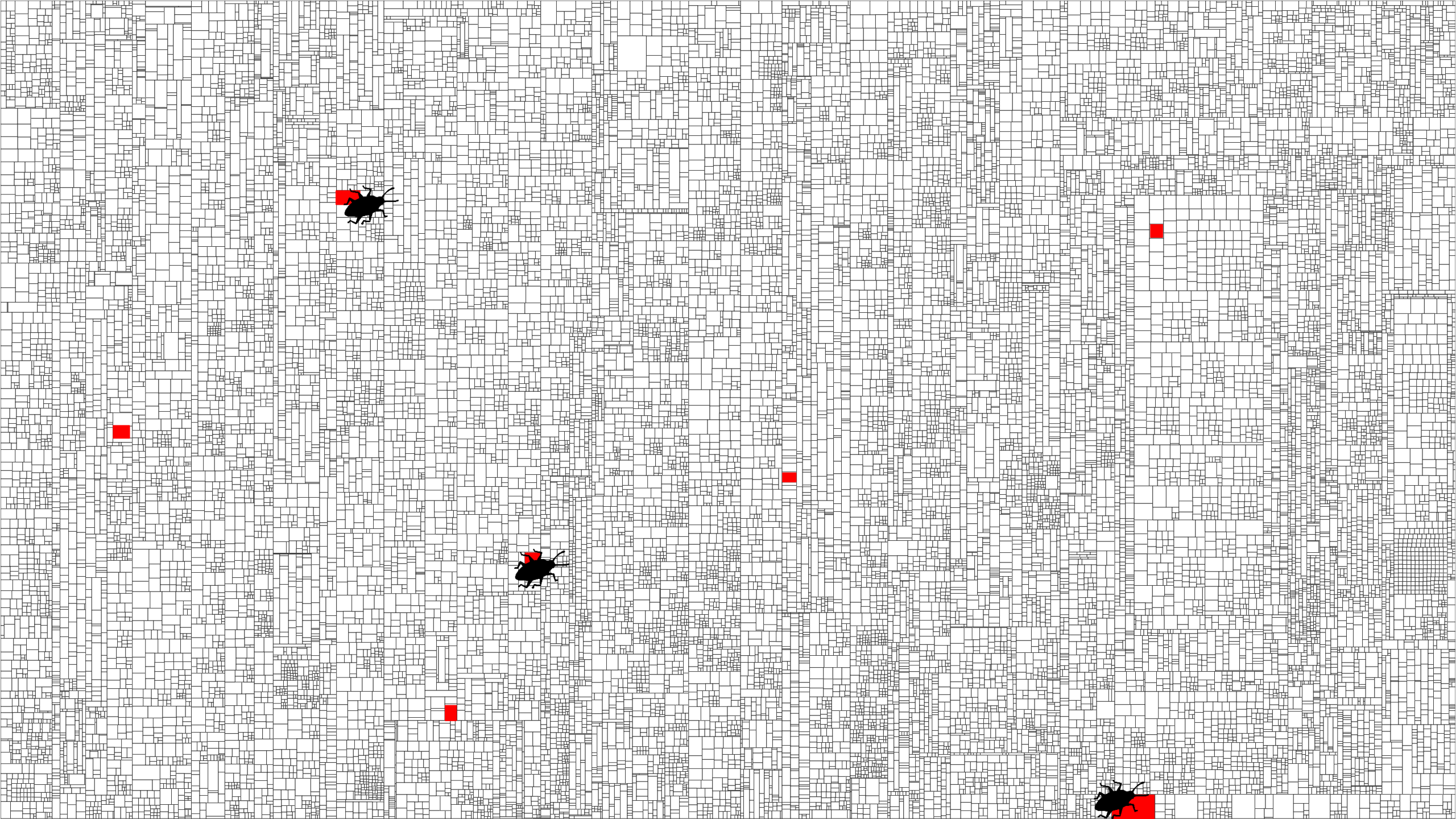


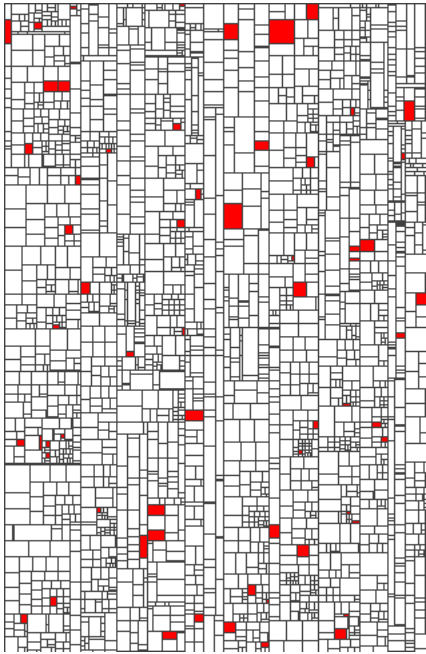






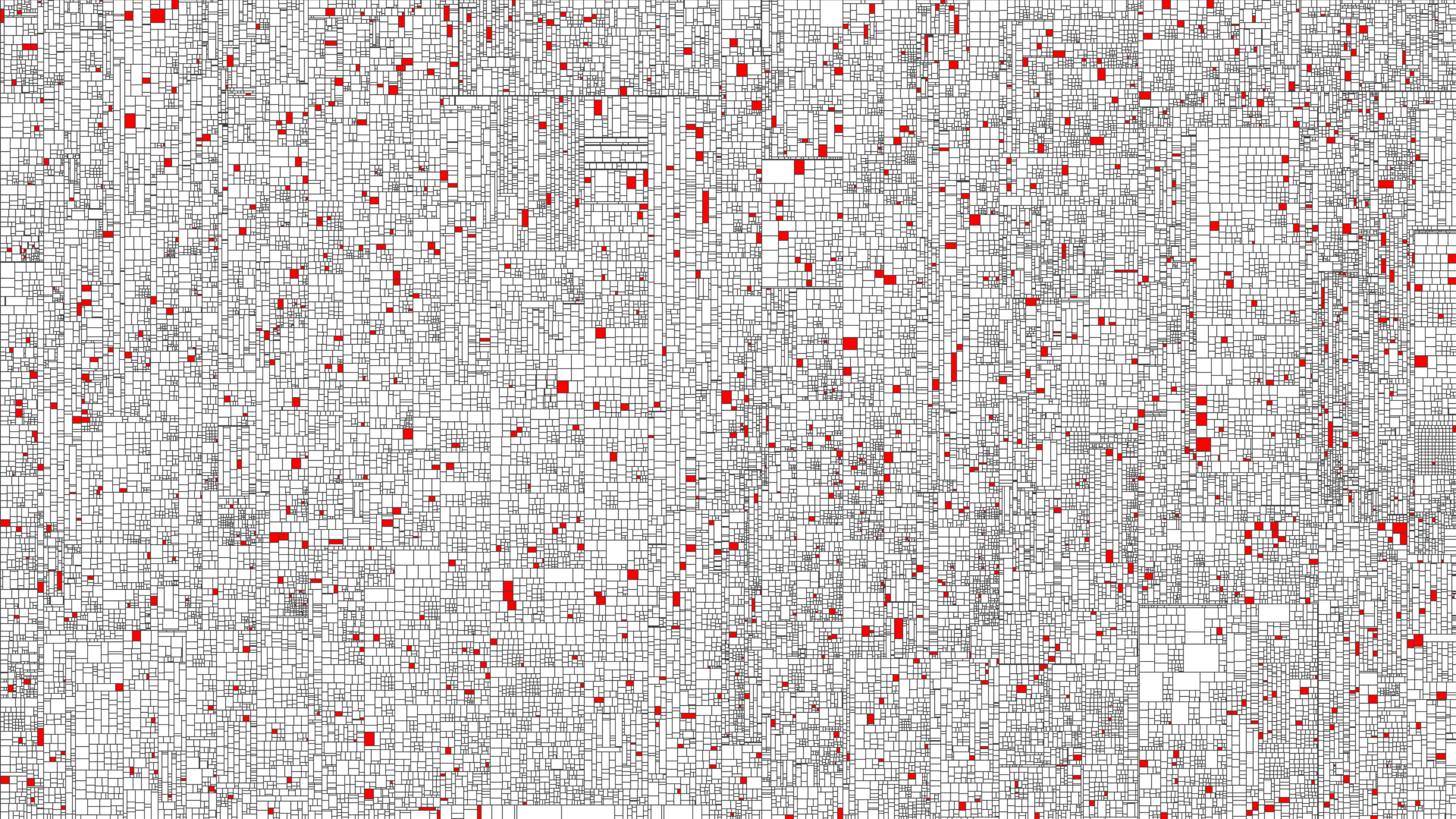


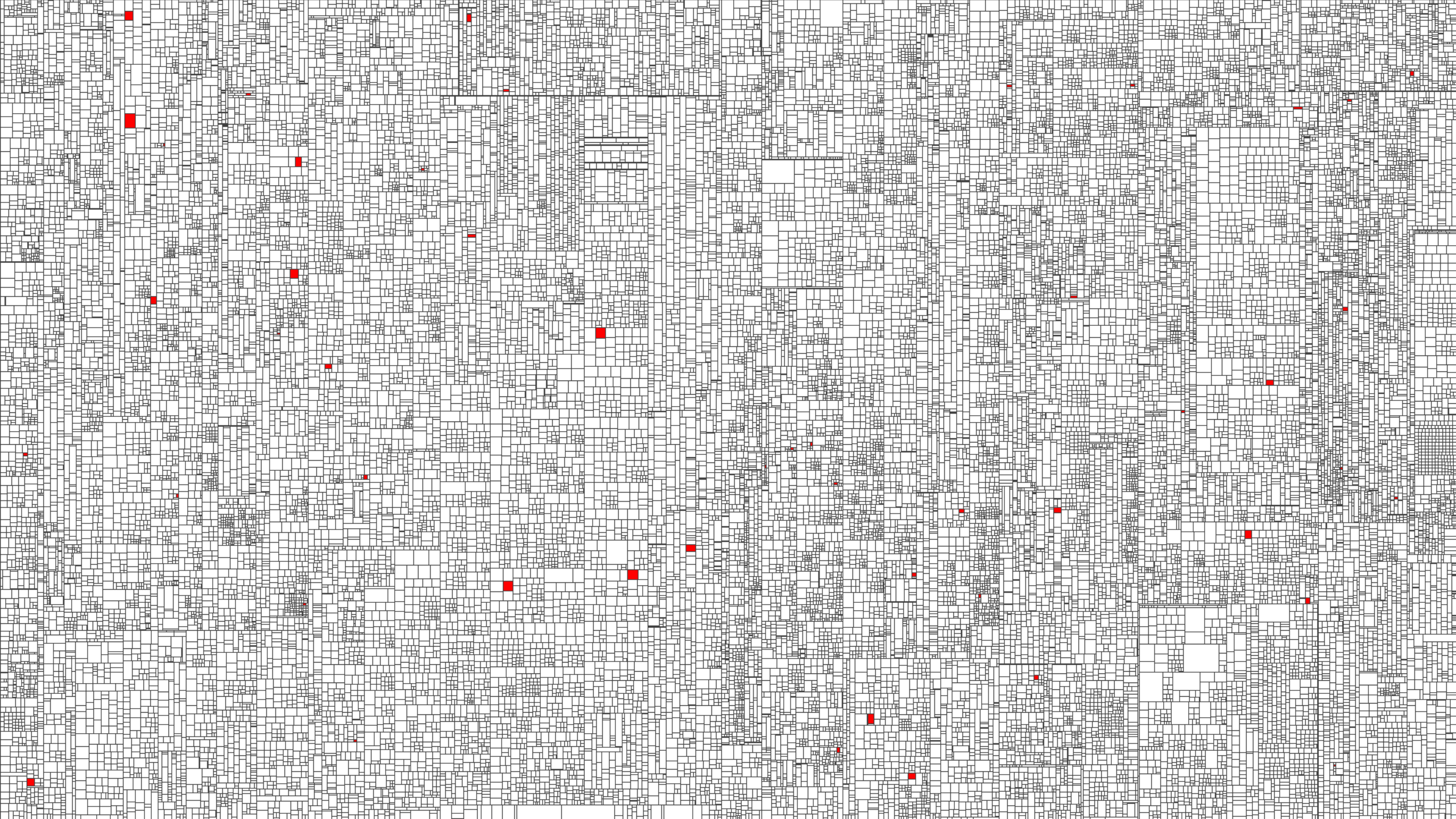




Release

Time of Study





Evaluation

Release	# „defect prone“ Methods	# Bugs (Top 50)
1.4:	1127	
2.0:	1176	-

Evaluation

Release	# „defect prone“ Methods	# Bugs (Top 50)
1.4:	1127	0
2.0:	1176	0

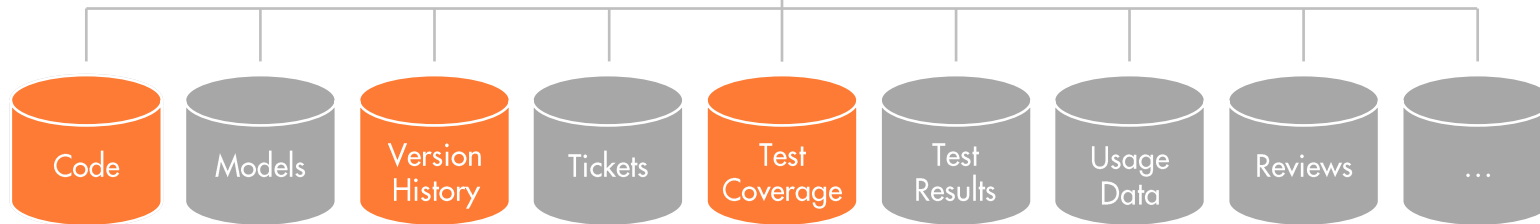
Evaluation

Release	# „defect prone“ Methods	# Bugs (Top 50)
1.4:	1127	0
2.0:	1176	0

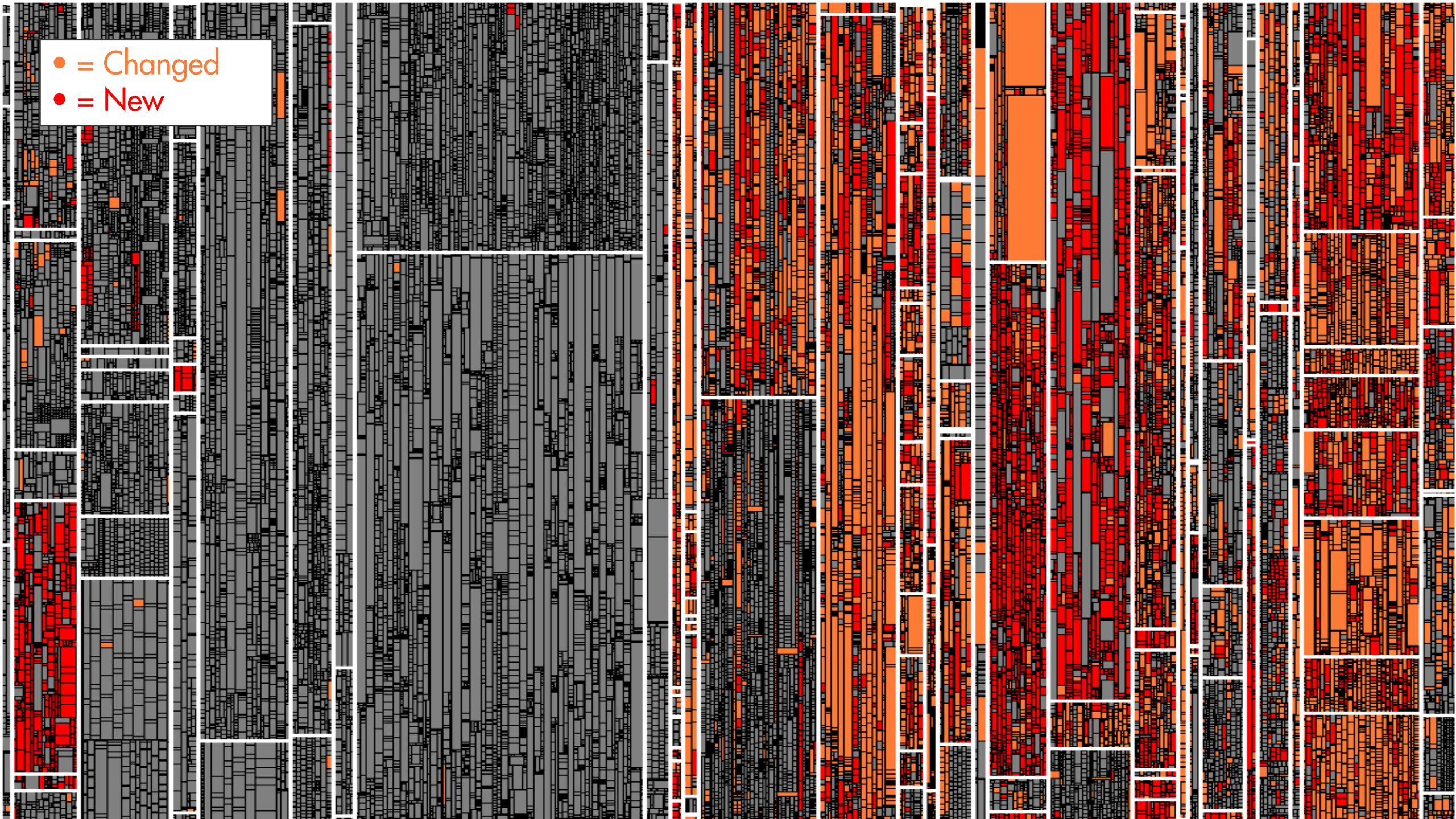
Pascarella, Palomba, Bacchelli, *Re-evaluating Method-Level Bug Prediction*, 2018:
Prediction nicht besser als zufällige Klassifikation.

» Wo sind Fehler im Code? «

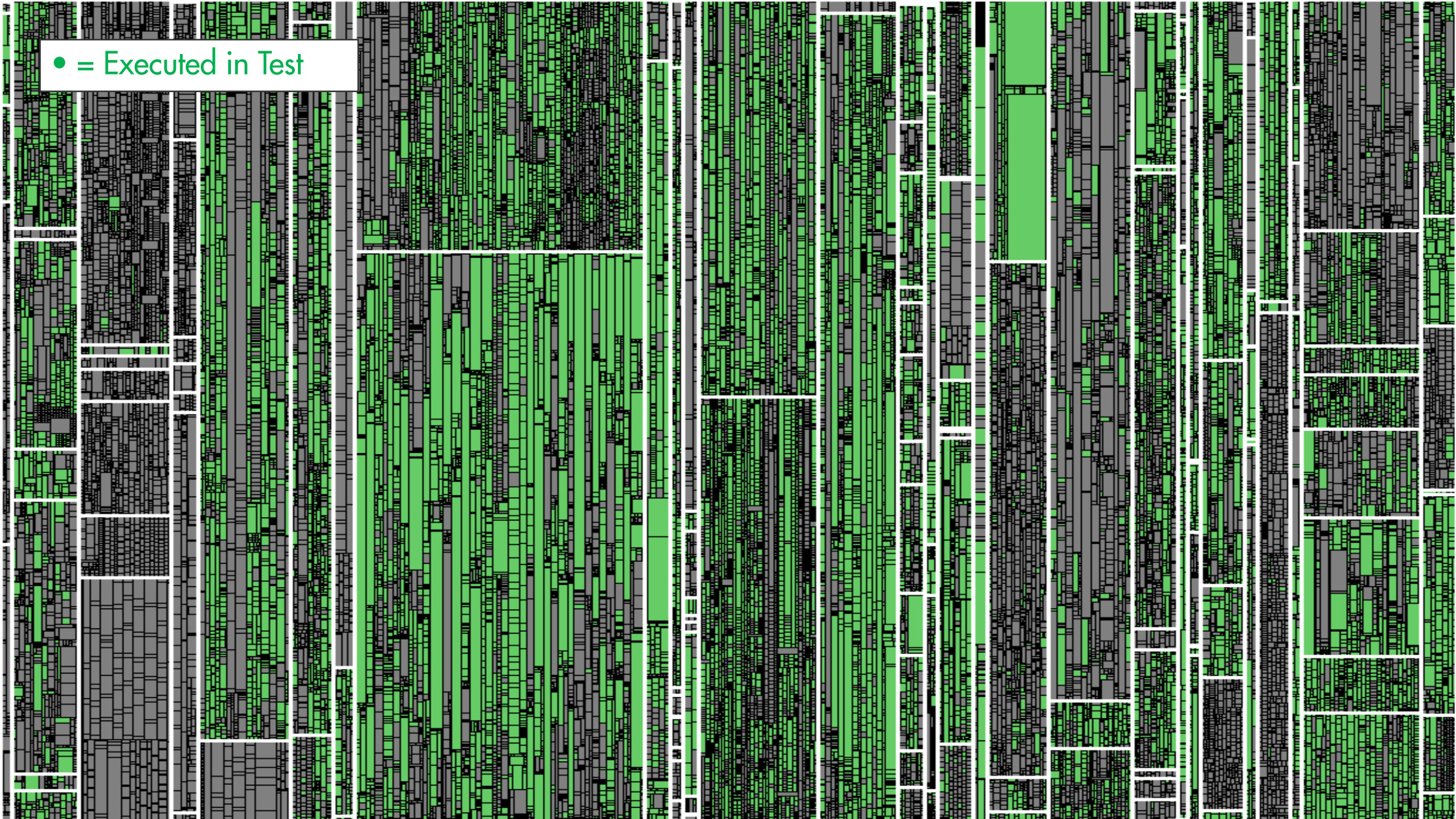
» Wo sind ungetestete Änderungen «



- = Changed
- = New

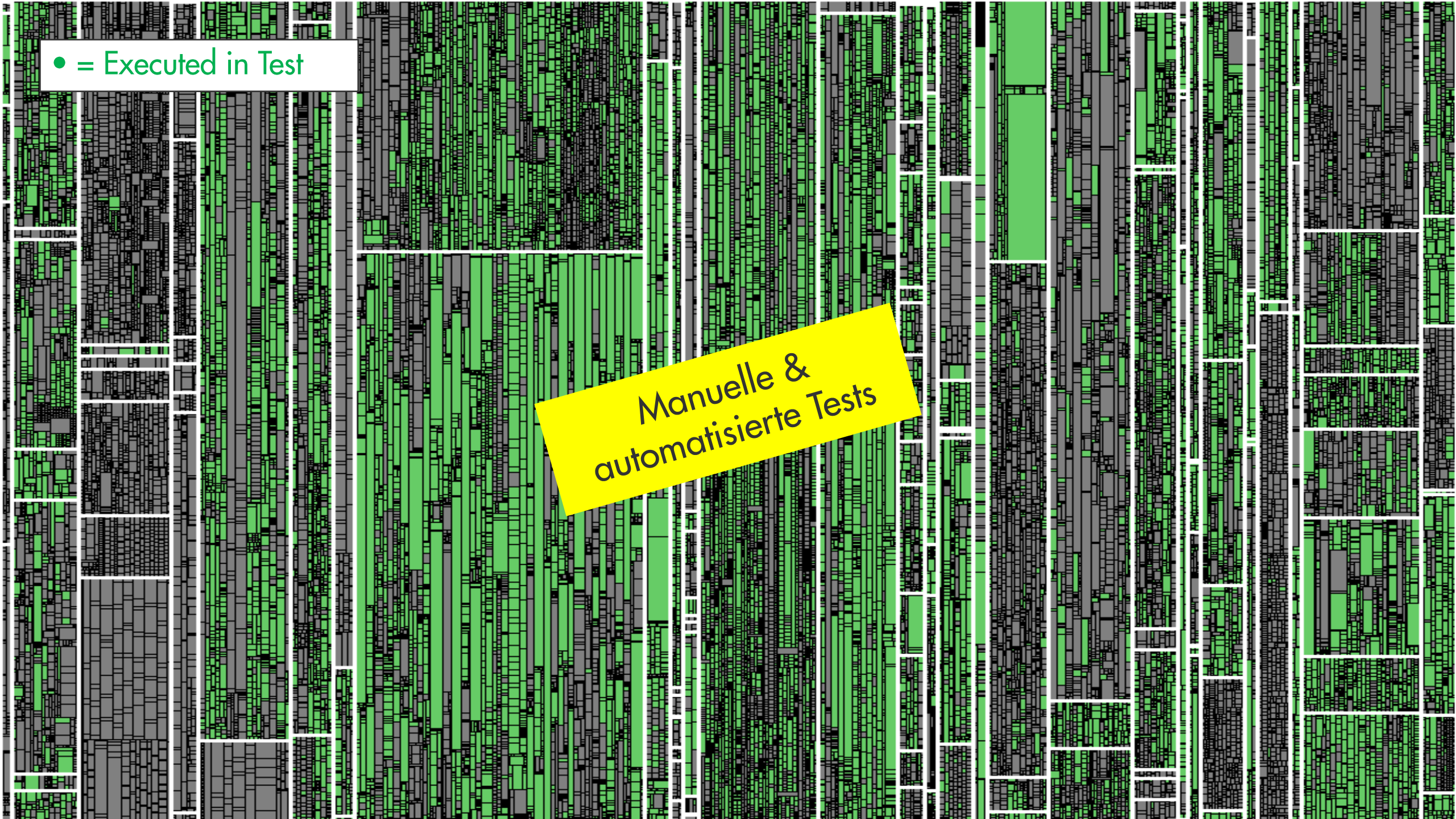


● = Executed in Test

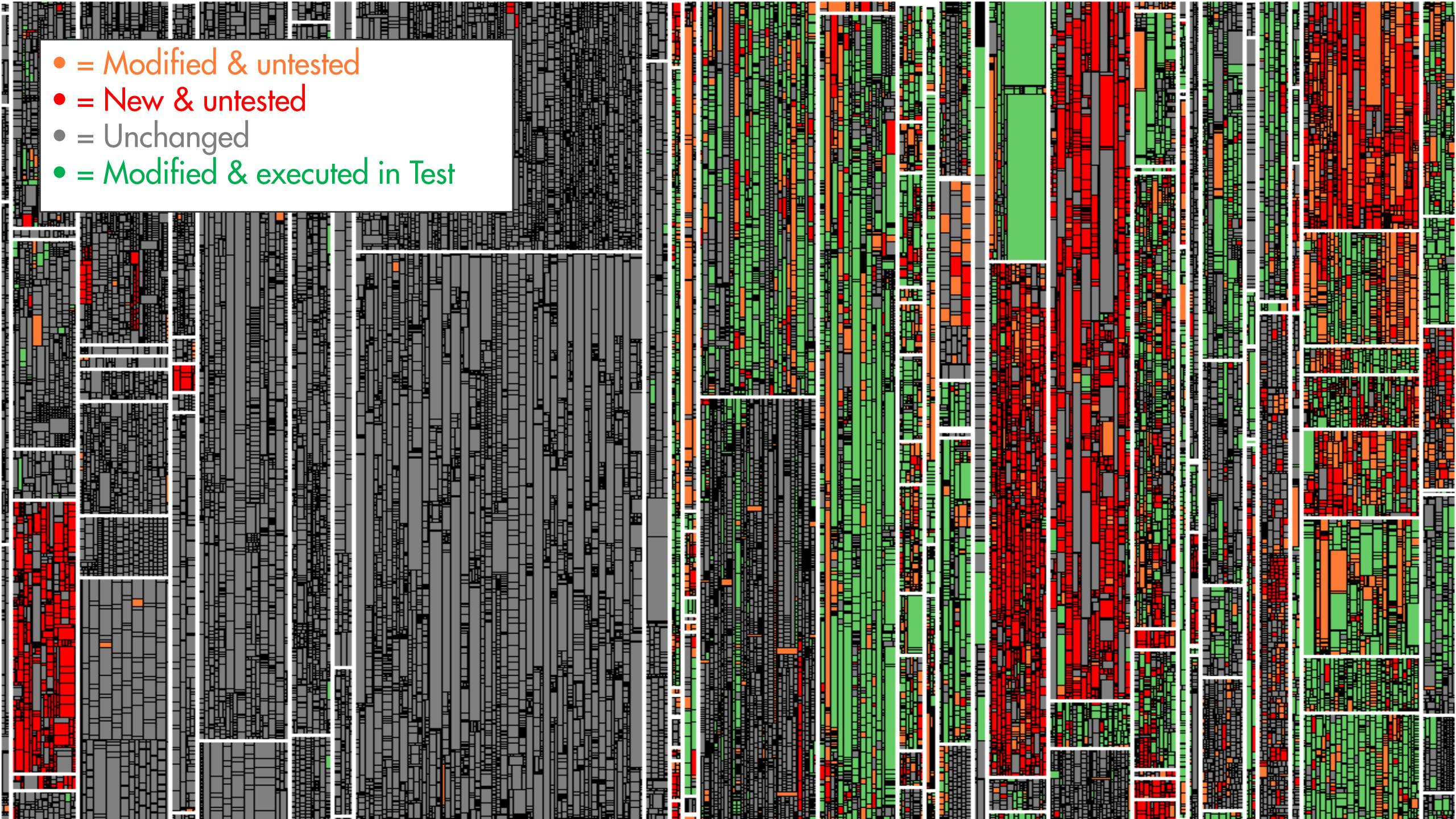


● = Executed in Test

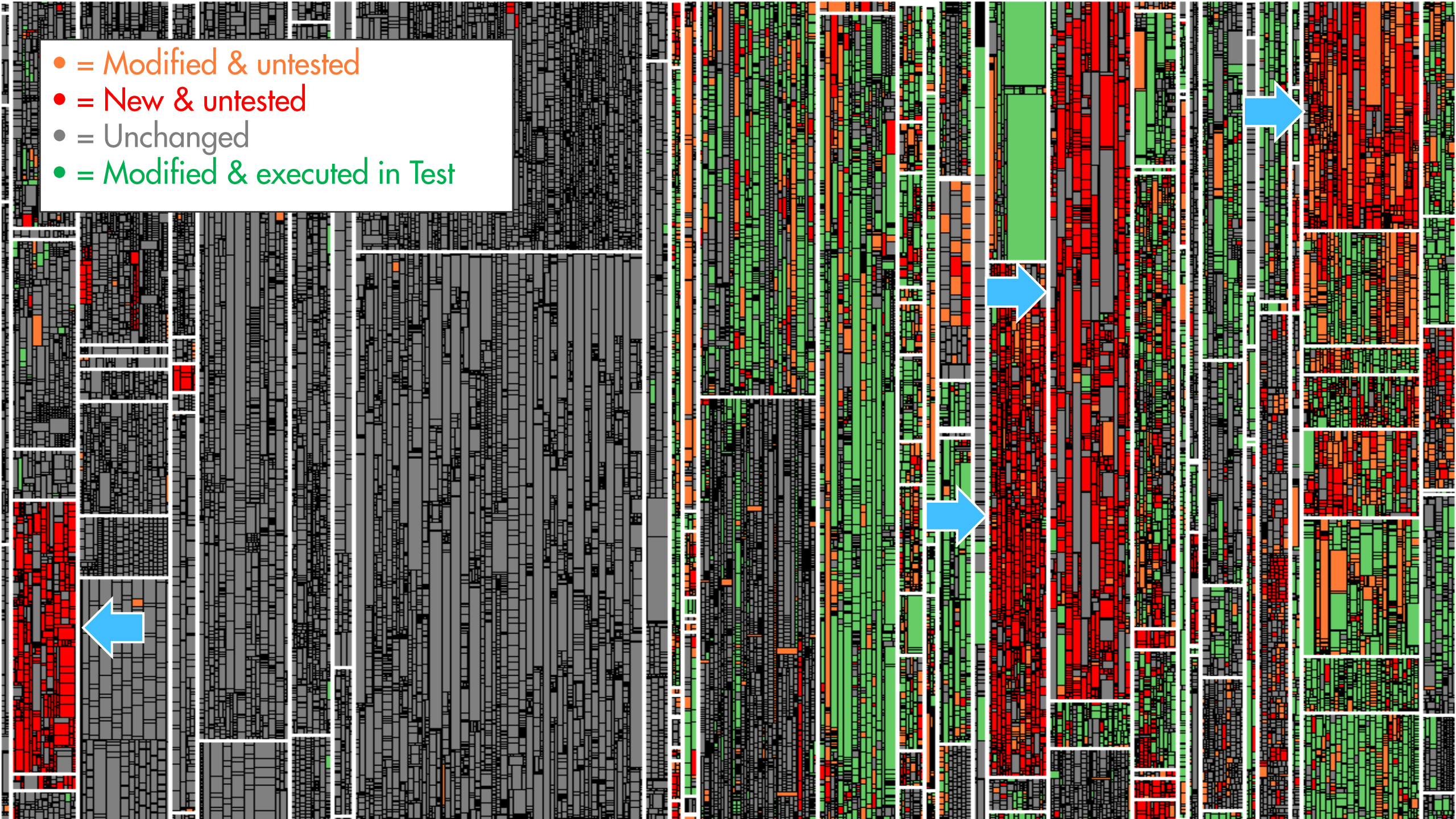
Manuelle &
automatisierte Tests



- = Modified & untested
- = New & untested
- = Unchanged
- = Modified & executed in Test



- = Modified & untested
- = New & untested
- = Unchanged
- = Modified & executed in Test



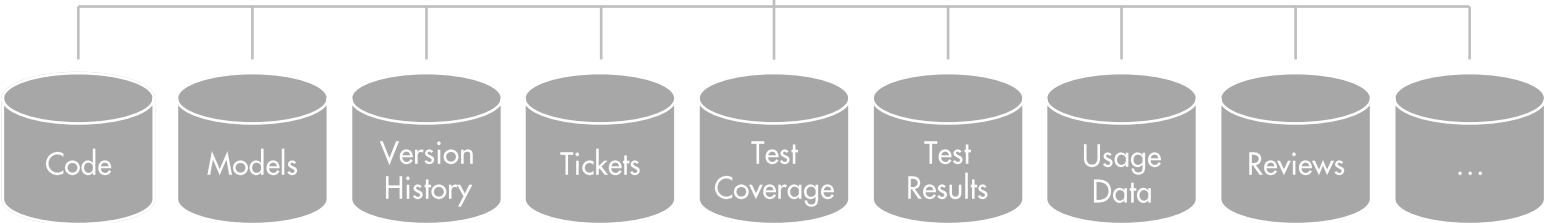
» Wo sind Fehler im Code? «

» Welche Tests sollte ich jetzt ausführen? «

» Wo sind ungetestete Änderungen «



Software Intelligence

Kontakt – Ich freue mich auf Fragen 😊



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