

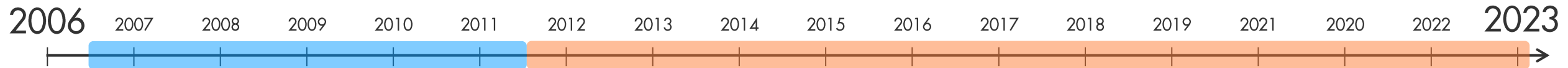
Gestern lief's doch noch
Muss ich heute schon wieder alles testen?



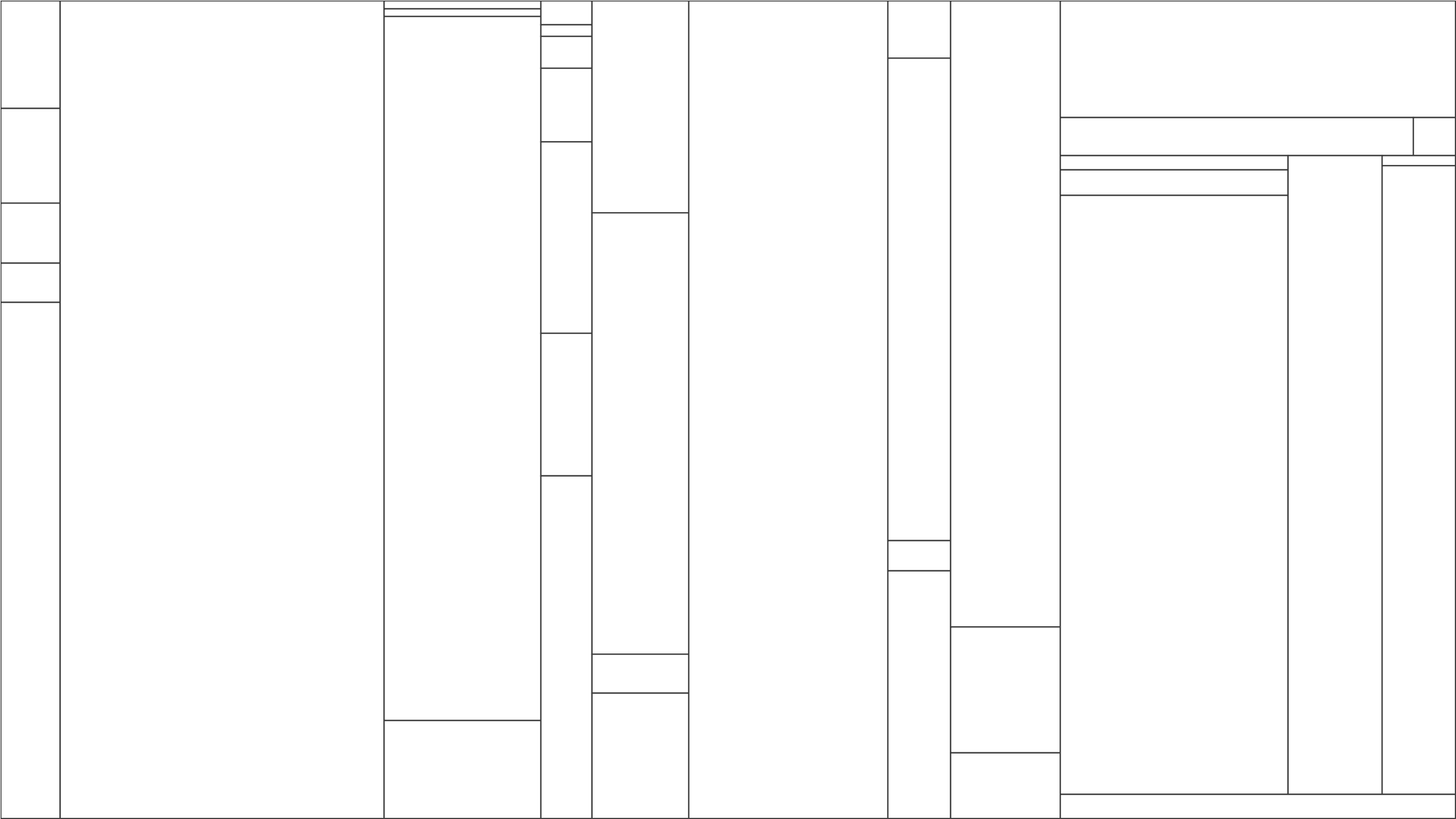
TUM

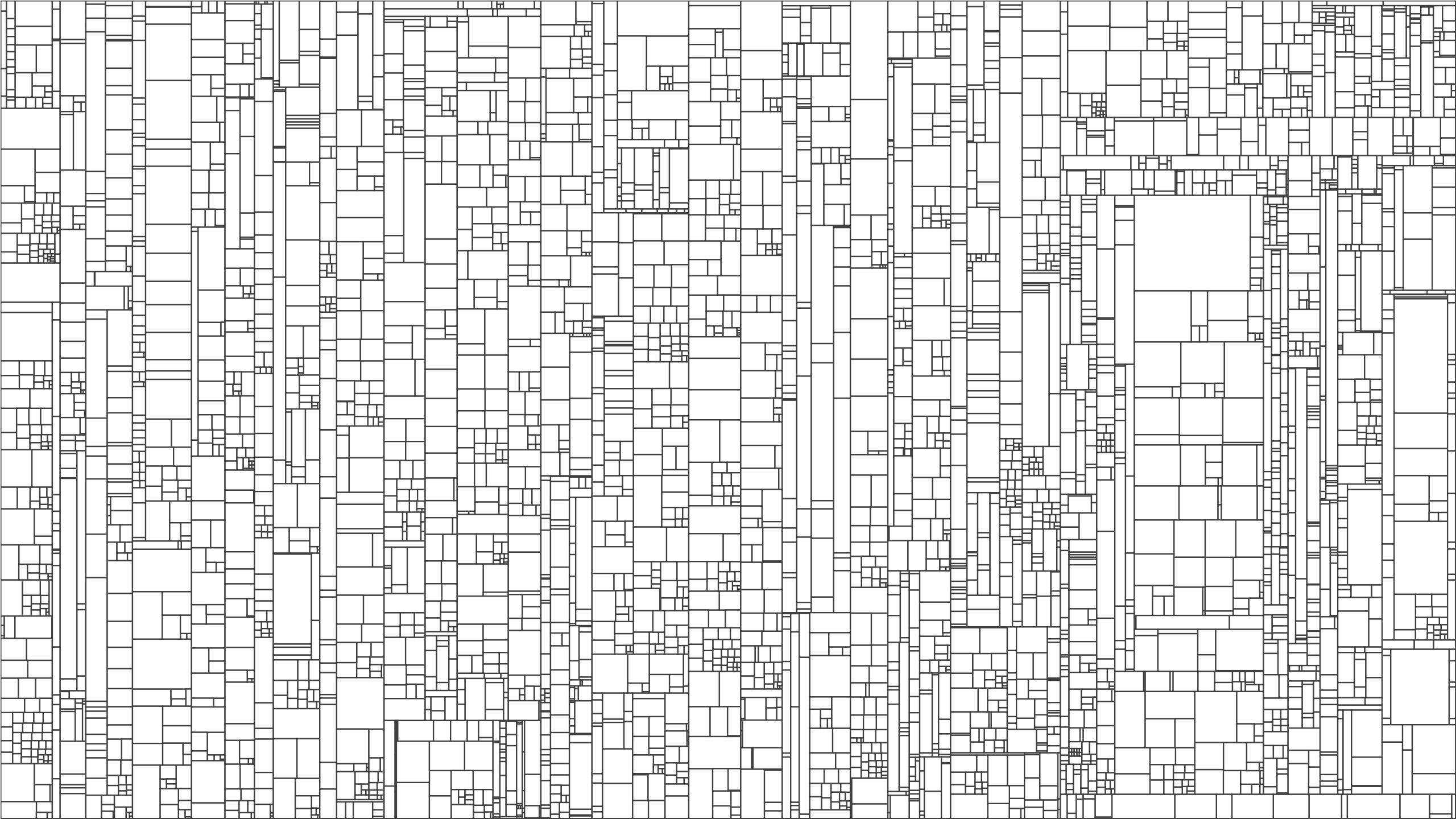


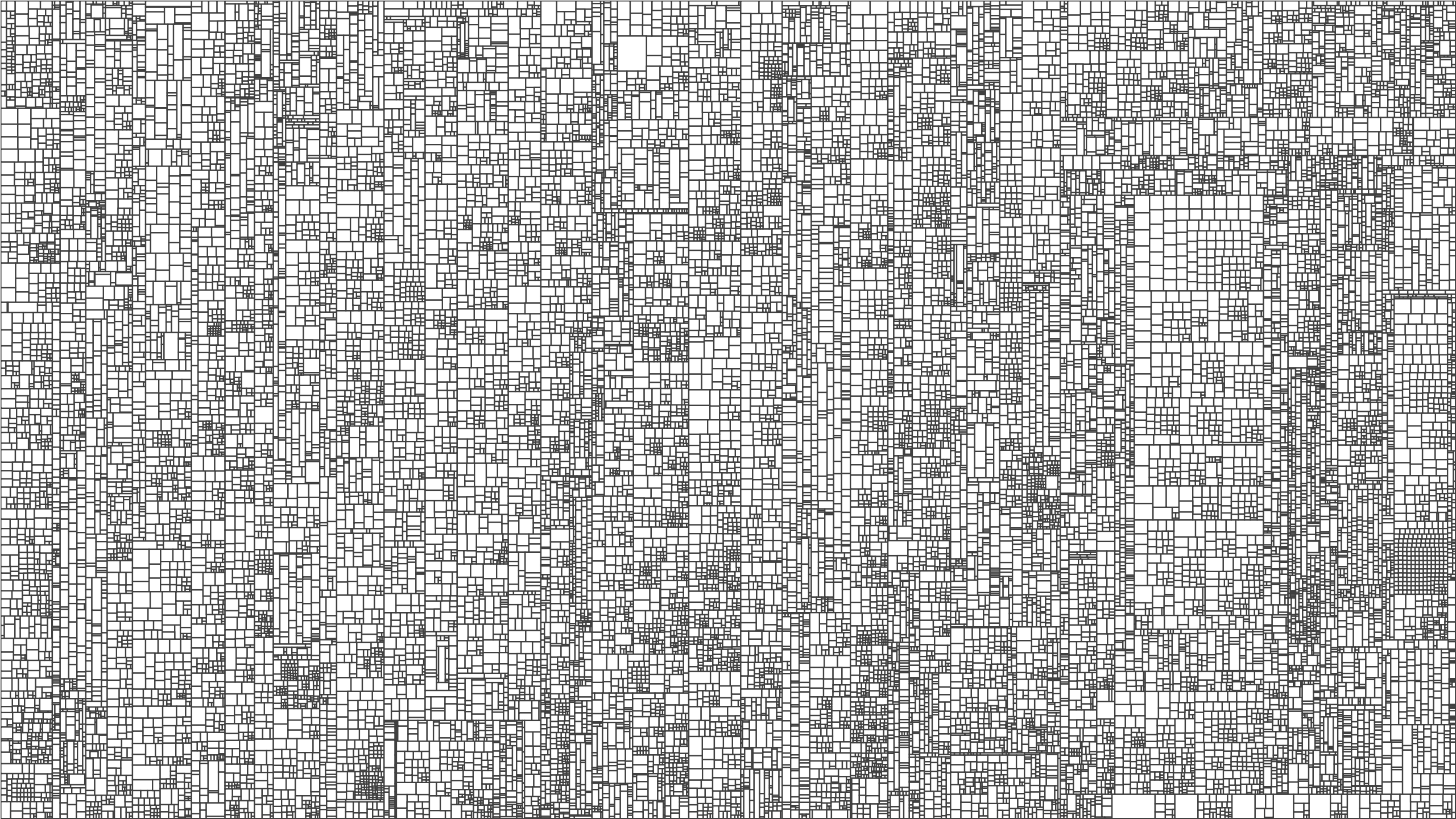
CQSE

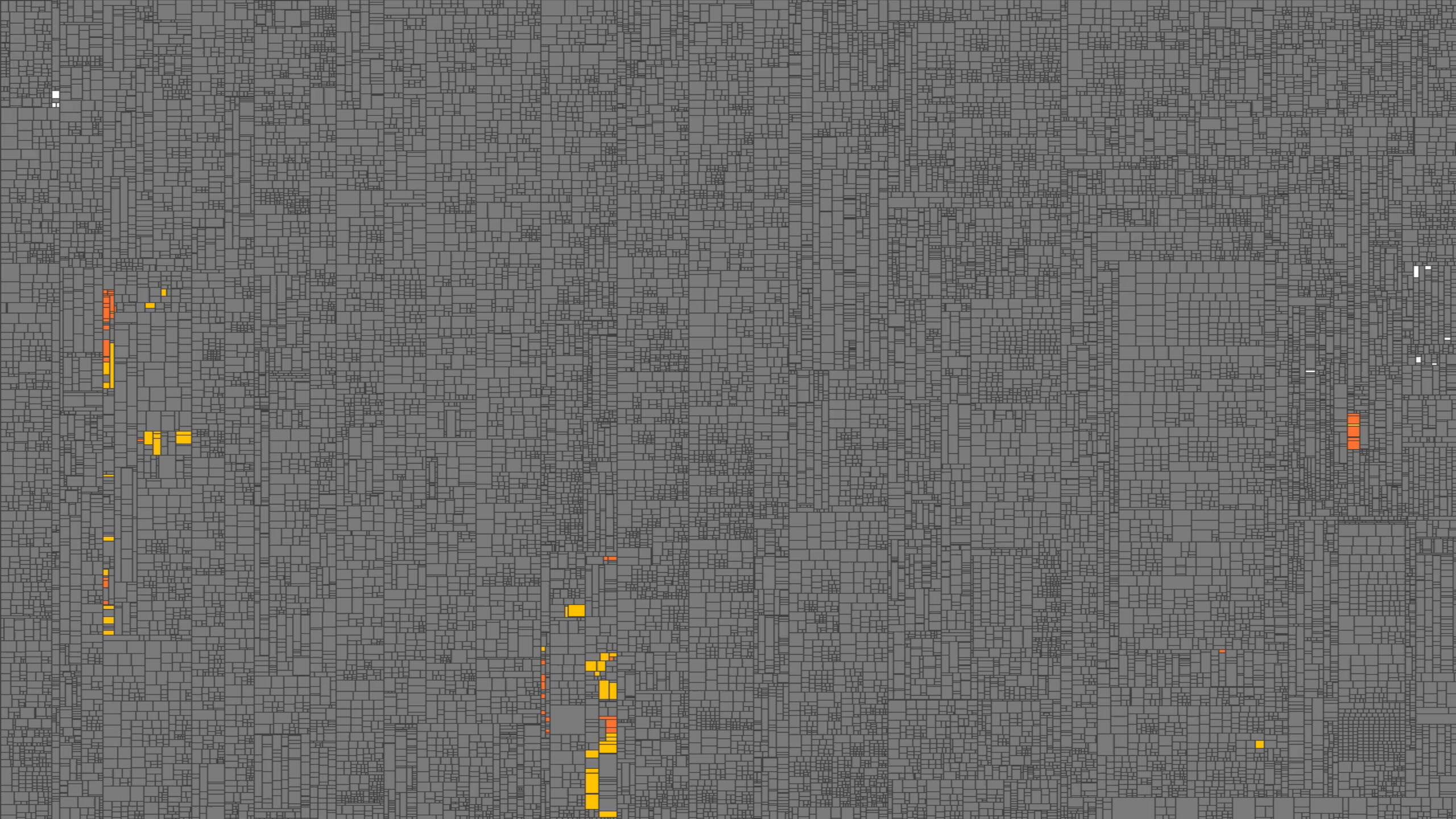


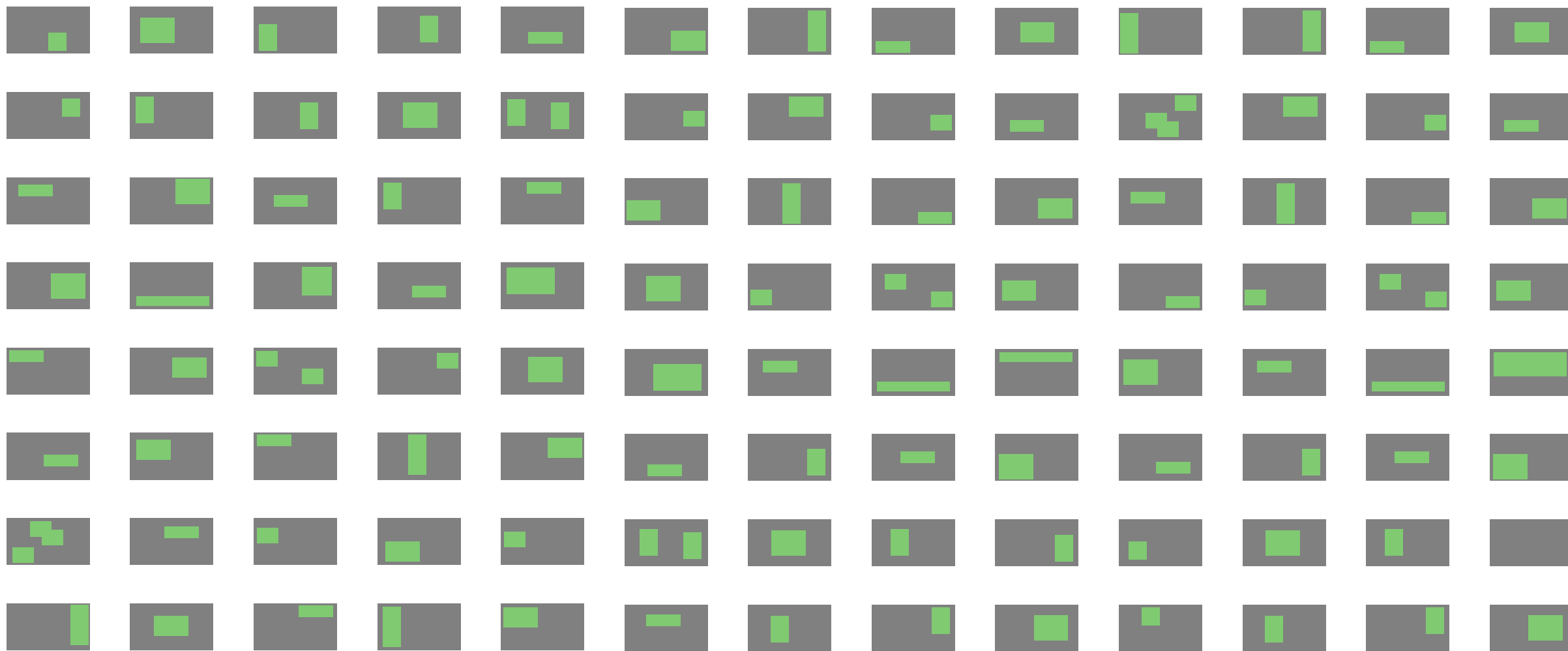








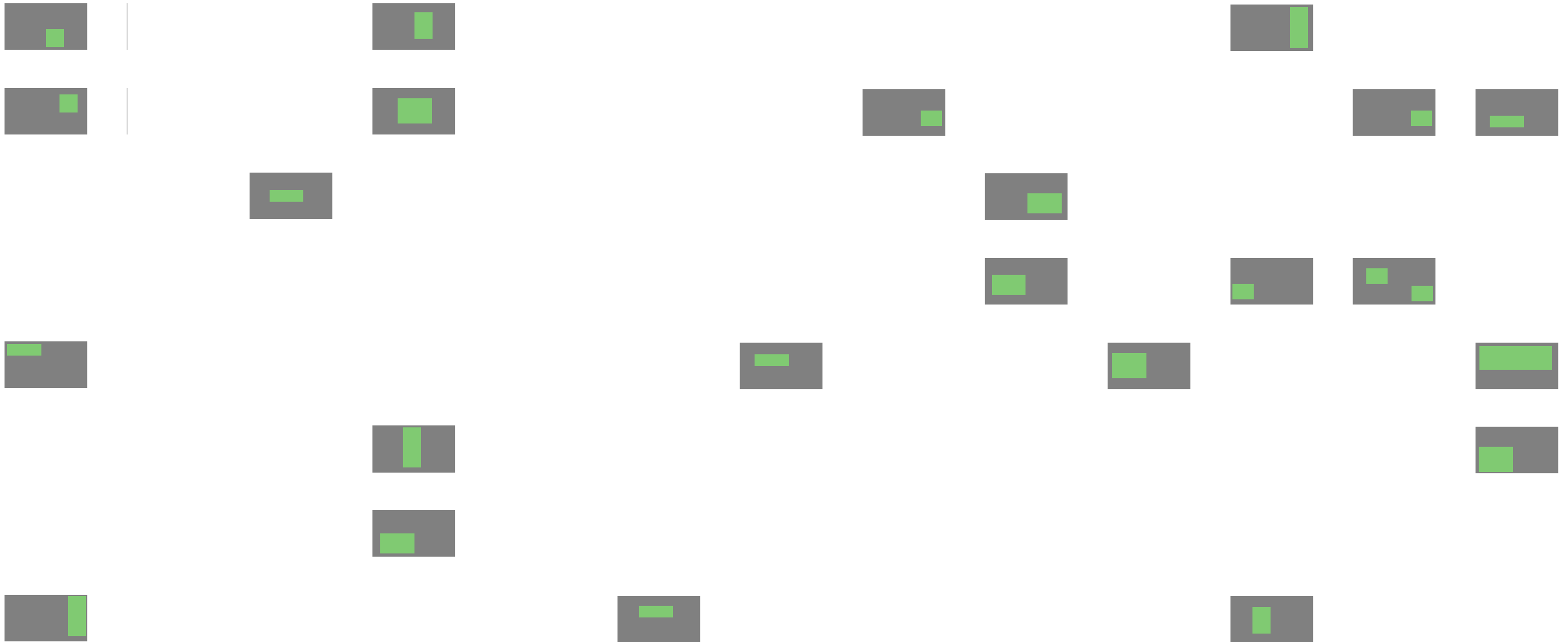




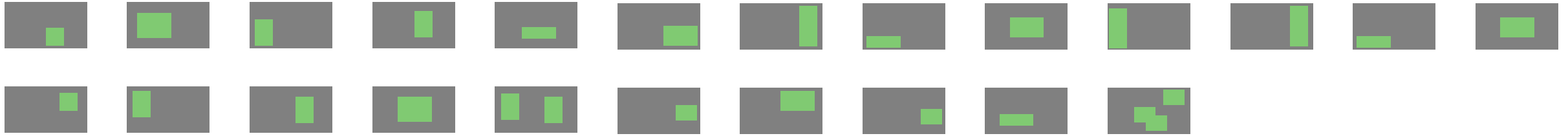
Schritt 1: Selektion betroffener Testfälle



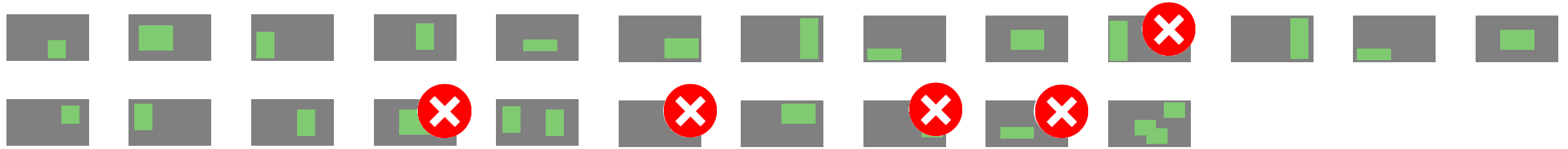
Schritt 1: Selektion betroffener Testfälle



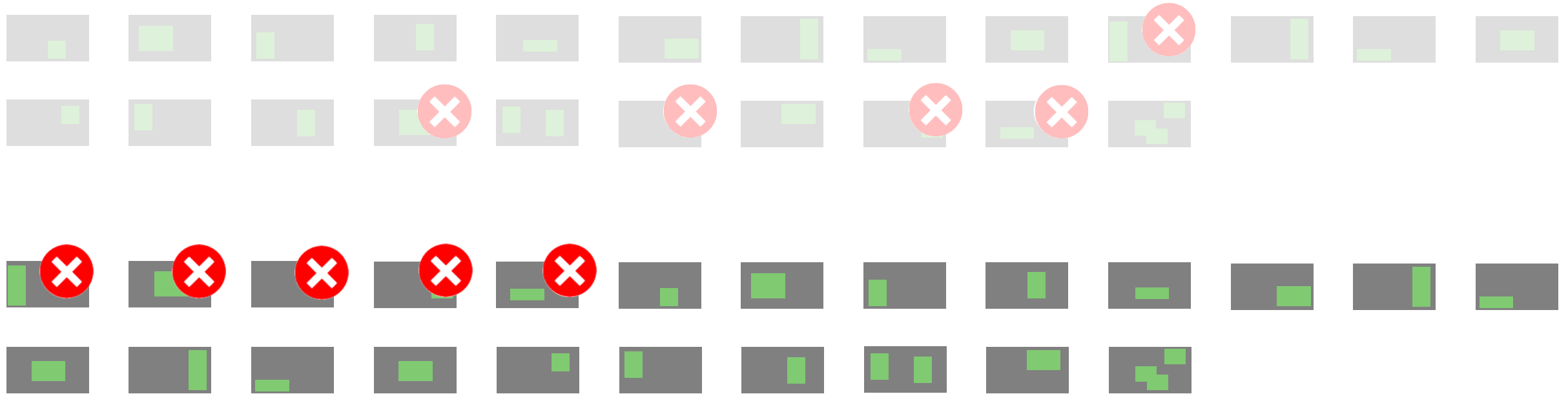
Schritt 1: Selektion betroffener Testfälle



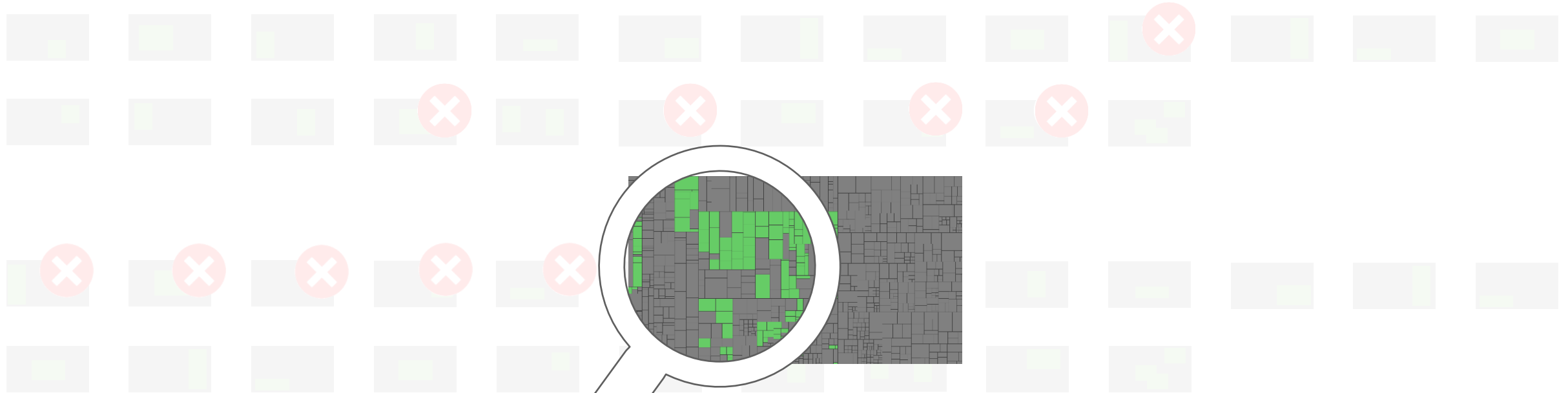
Schritt 2: Priorisierung selektierter Testfälle



Schritt 2: Priorisierung selektierter Testfälle



Schritt 2: Priorisierung selektierter Testfälle

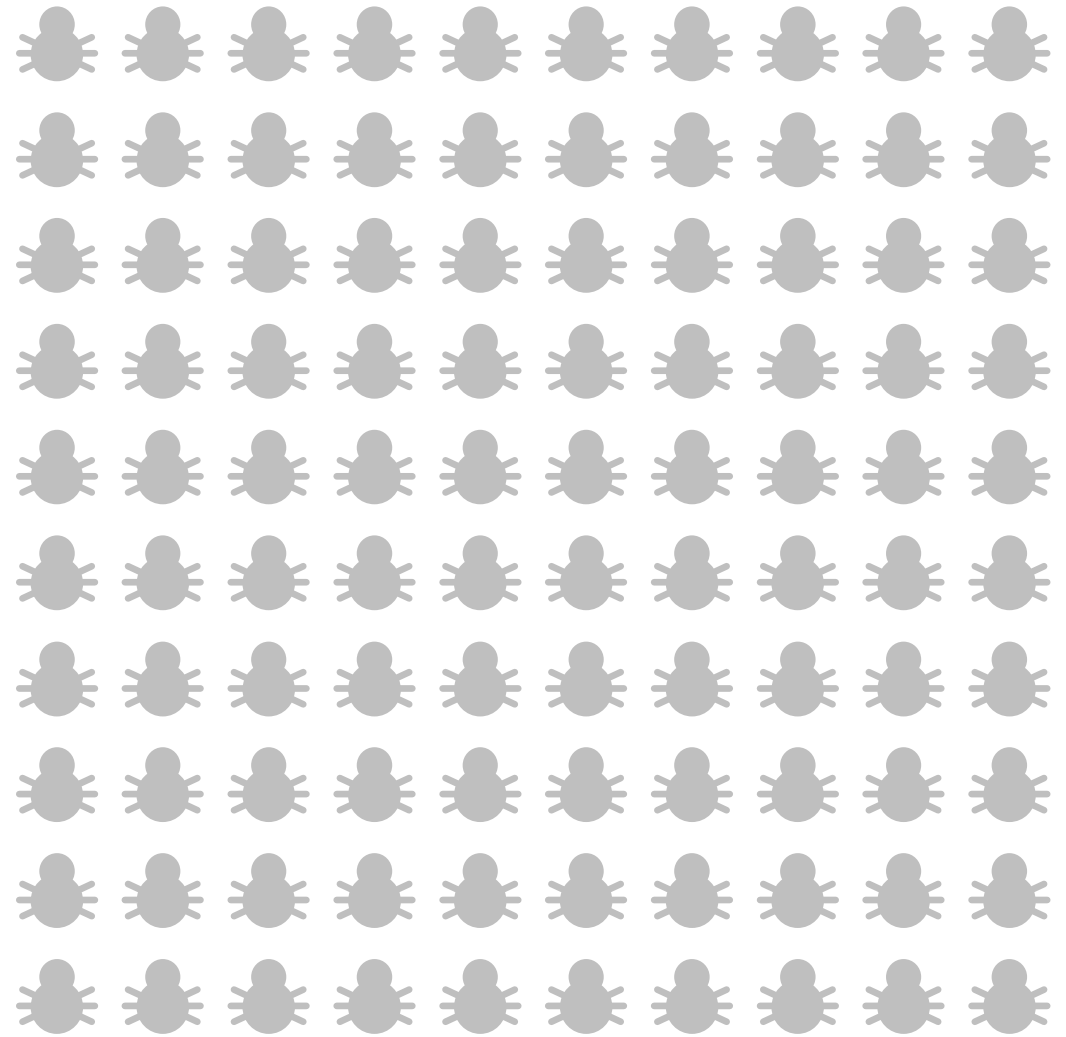
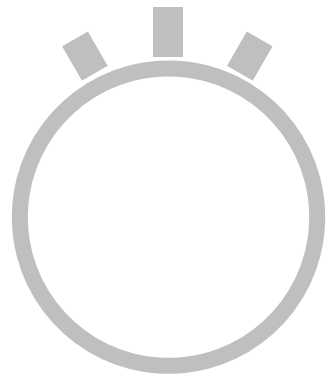


Change coverage

Execution time

Schritt 2: Priorisierung selektierter Testfälle

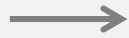




Initiale Aufzeichnung aller Tests



Ausführung
aller Tests



Coverage & Laufzeit
für alle Tests



Test-Impact-Analyse

CI Pipeline



VCS



Codeänderung



- Test-Selektion
- Test-Priorisierung

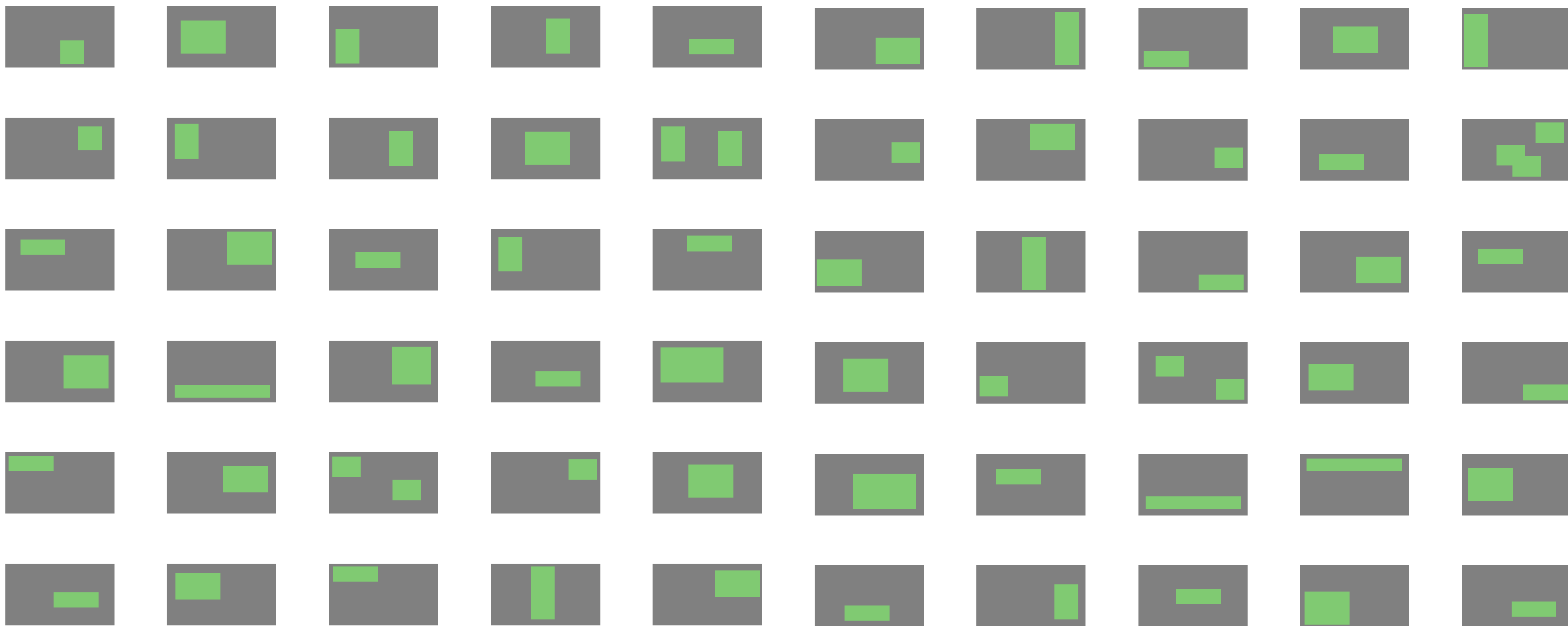
Test-Impact-Analyse

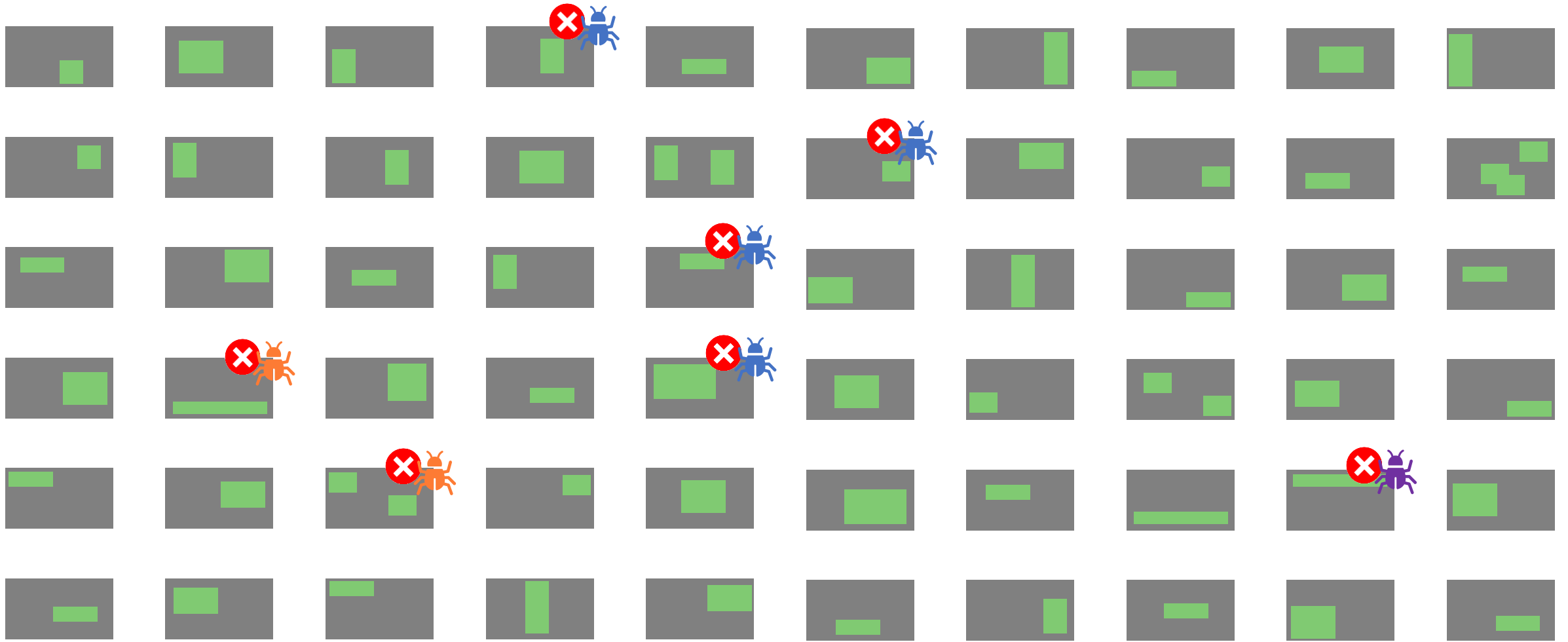


Änderungsrelevante und
sortierte Testfälle



Geht das auch einfacher?





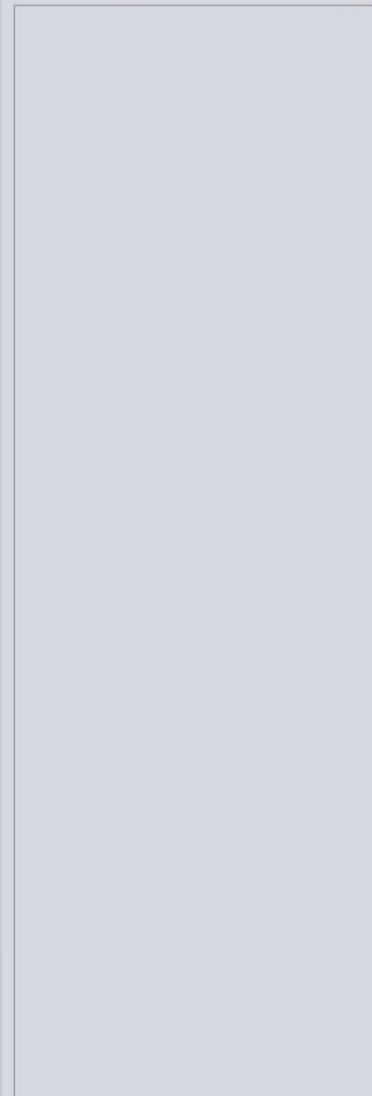
Sample Only the Active Layer/Mask

Untitled1 x Picture1.png x



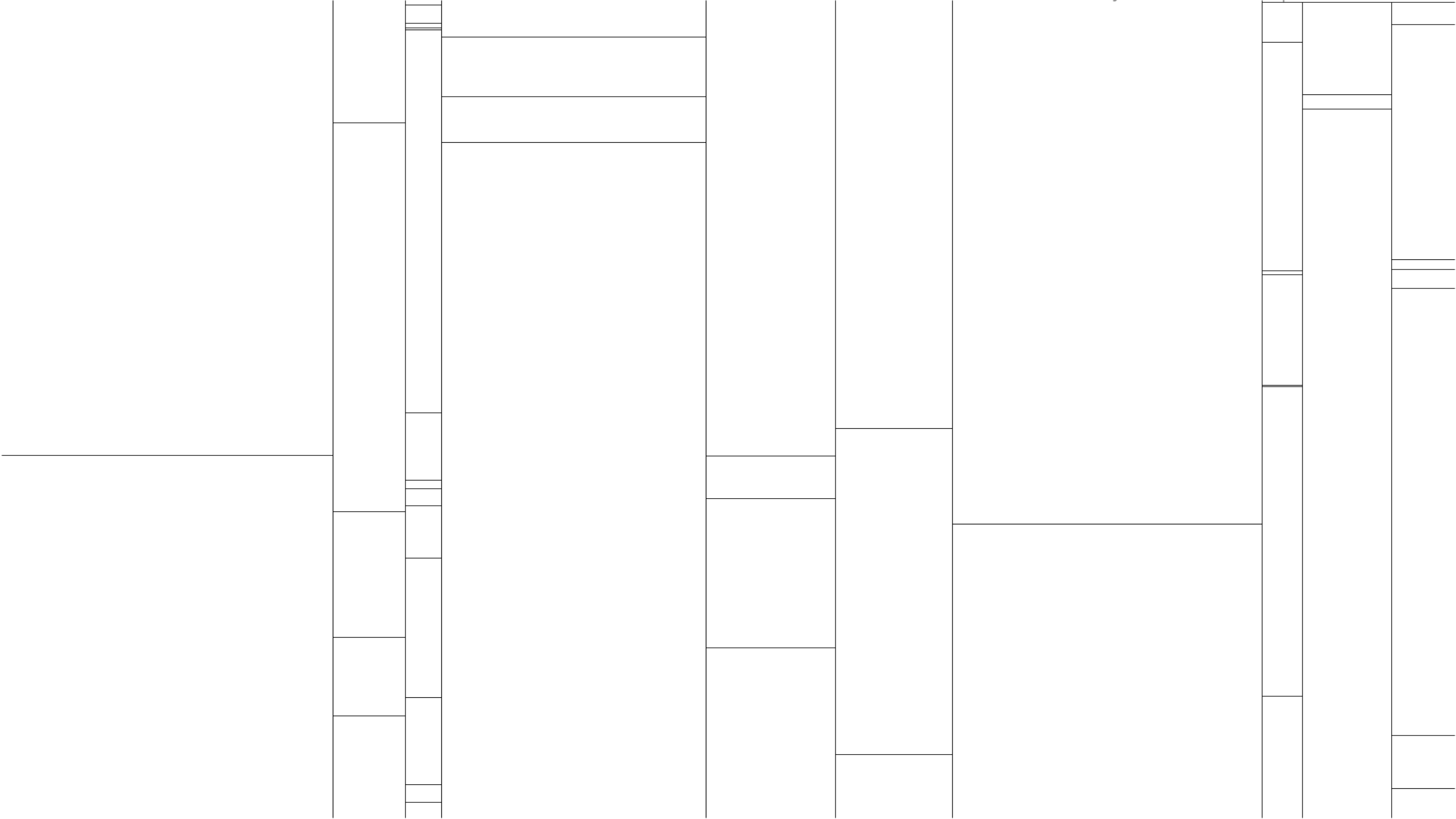
Layers

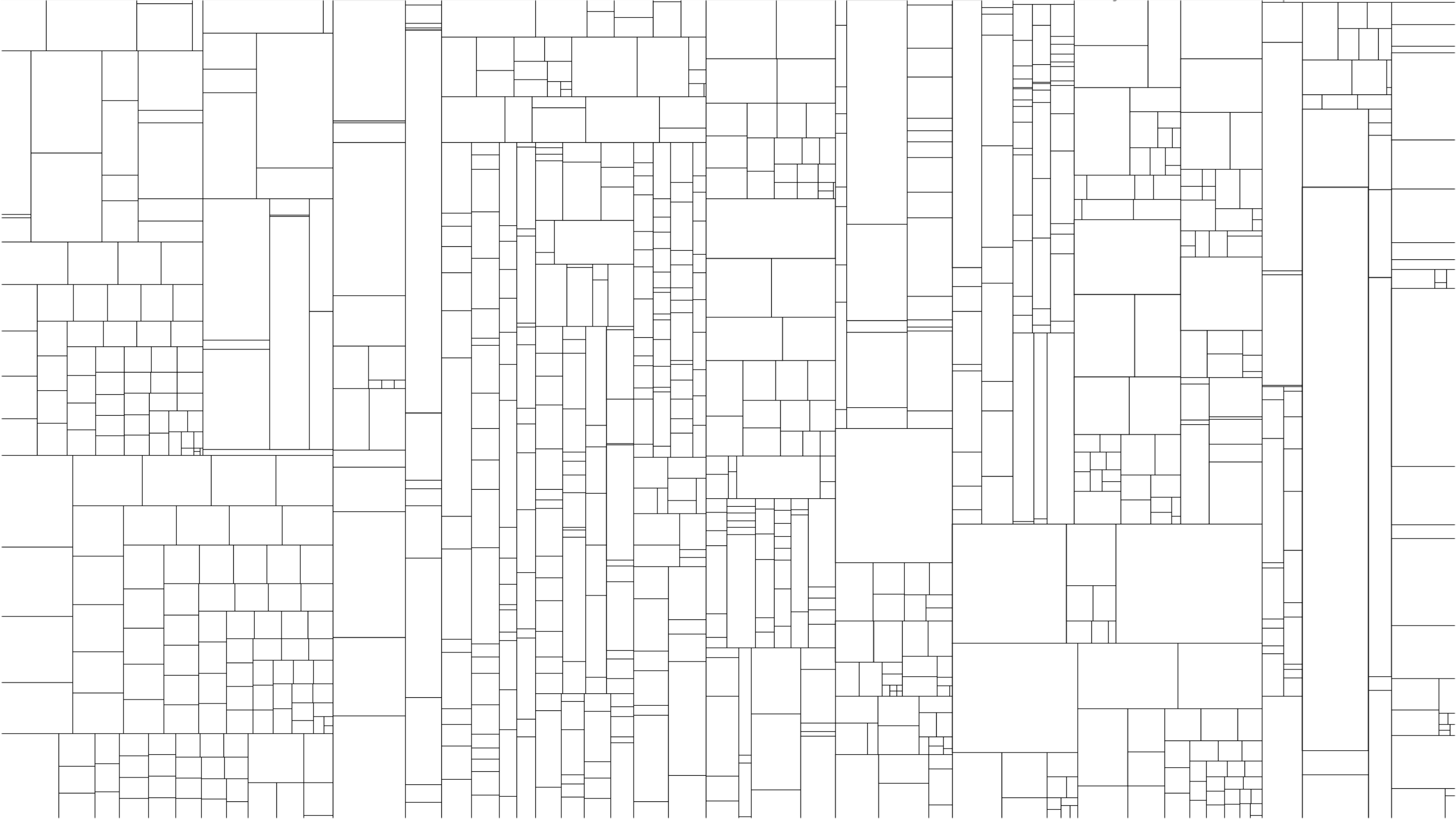
Opacity: 100 % Normal

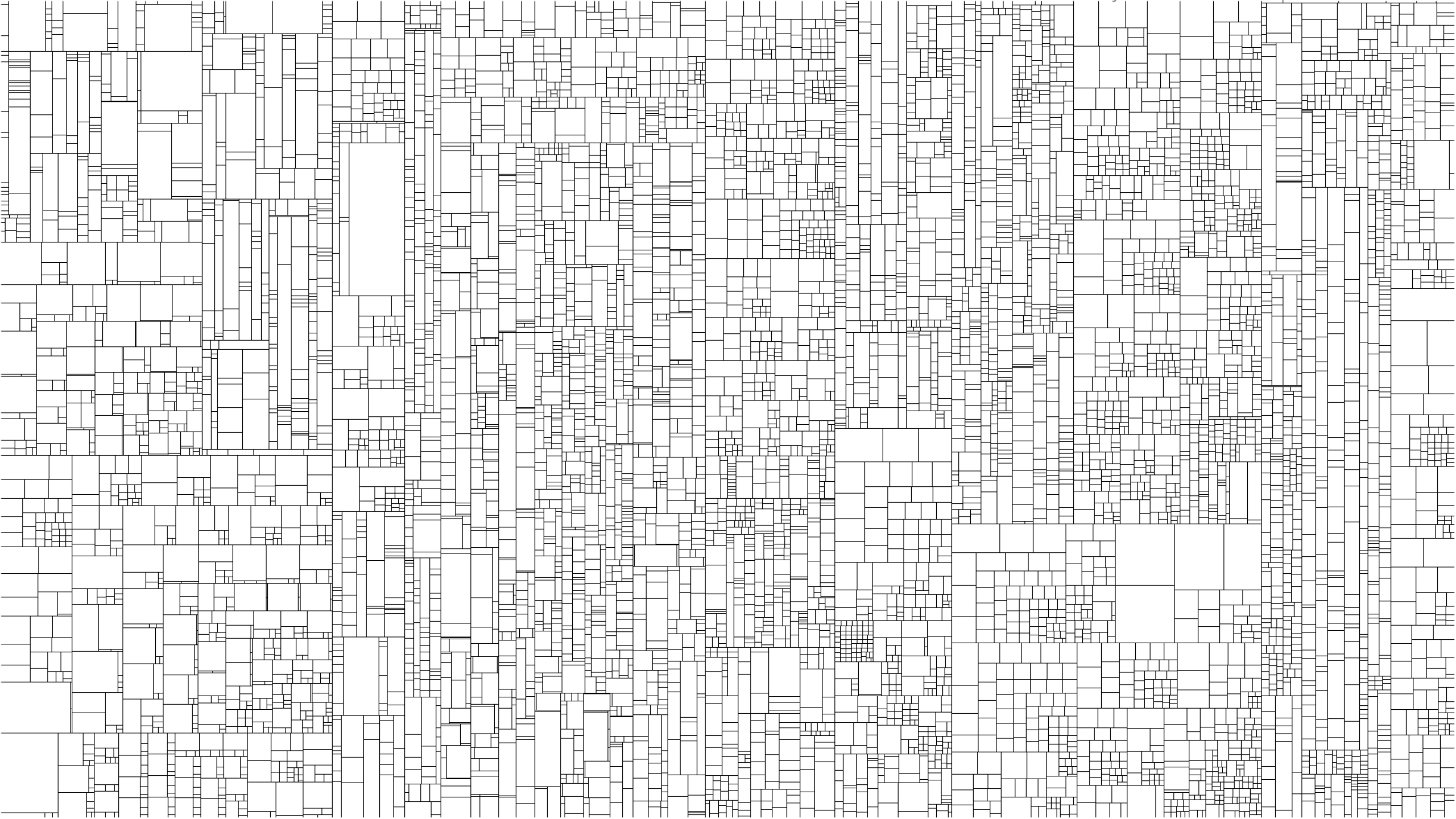


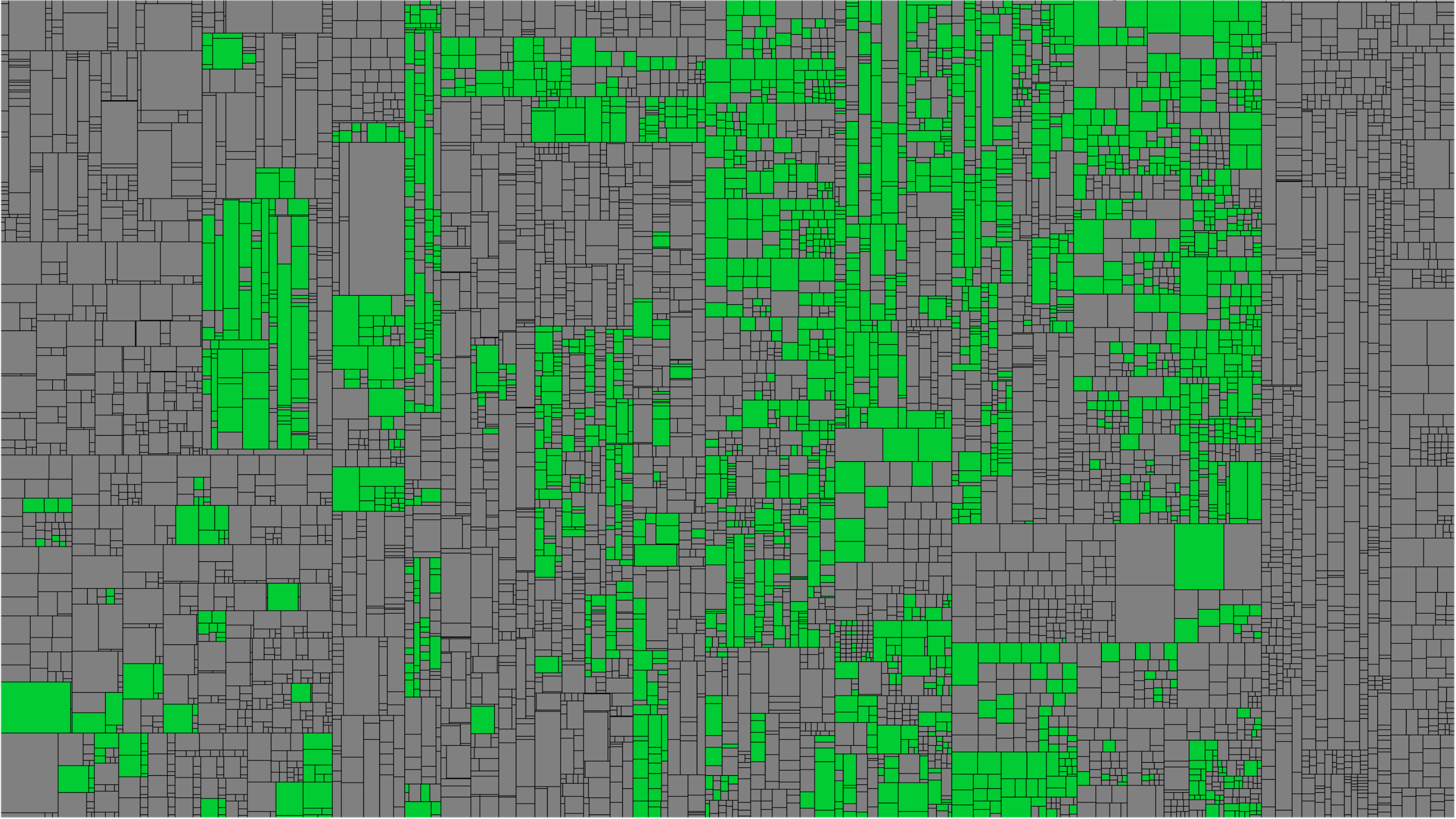
layer 1

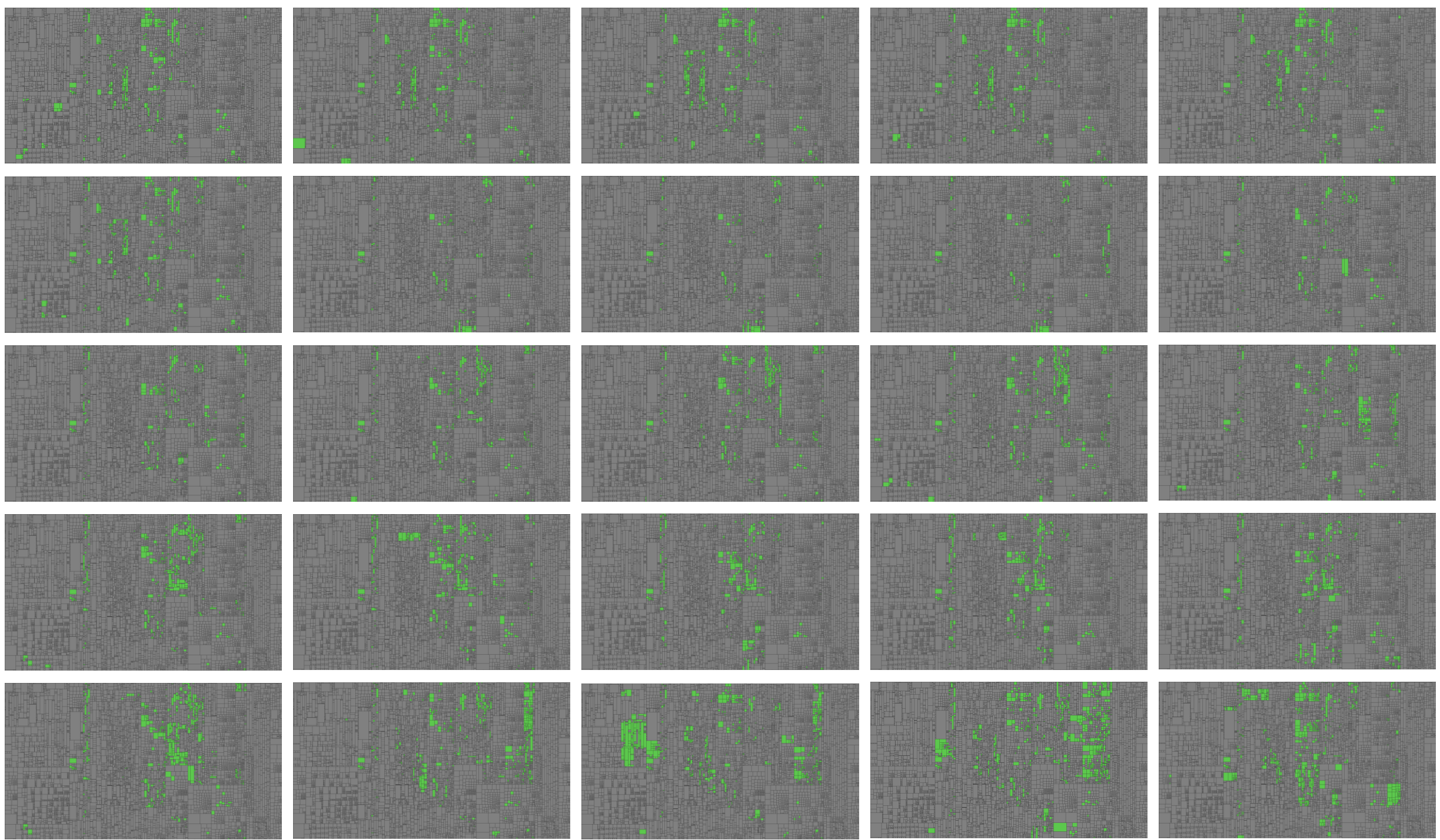


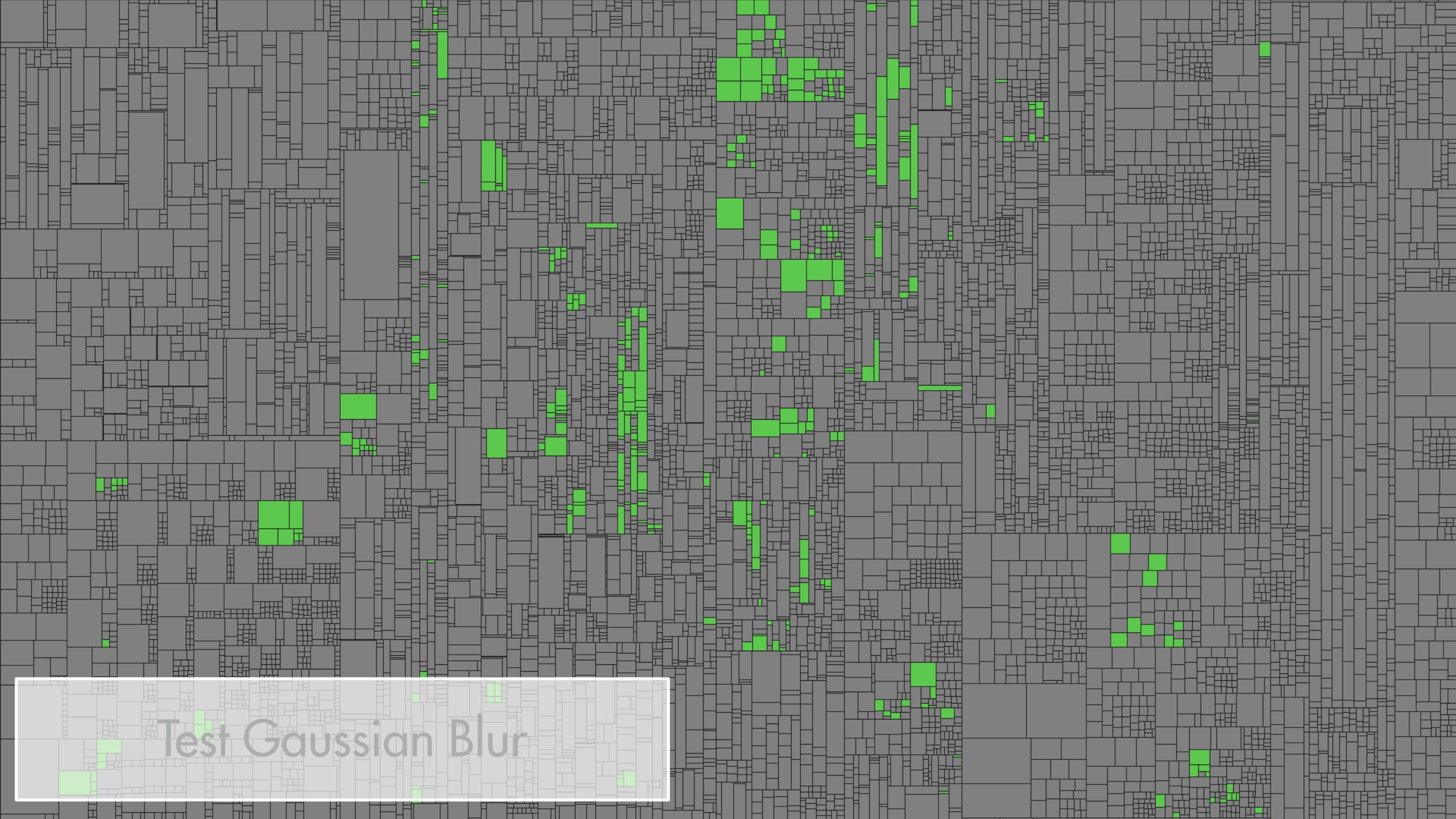








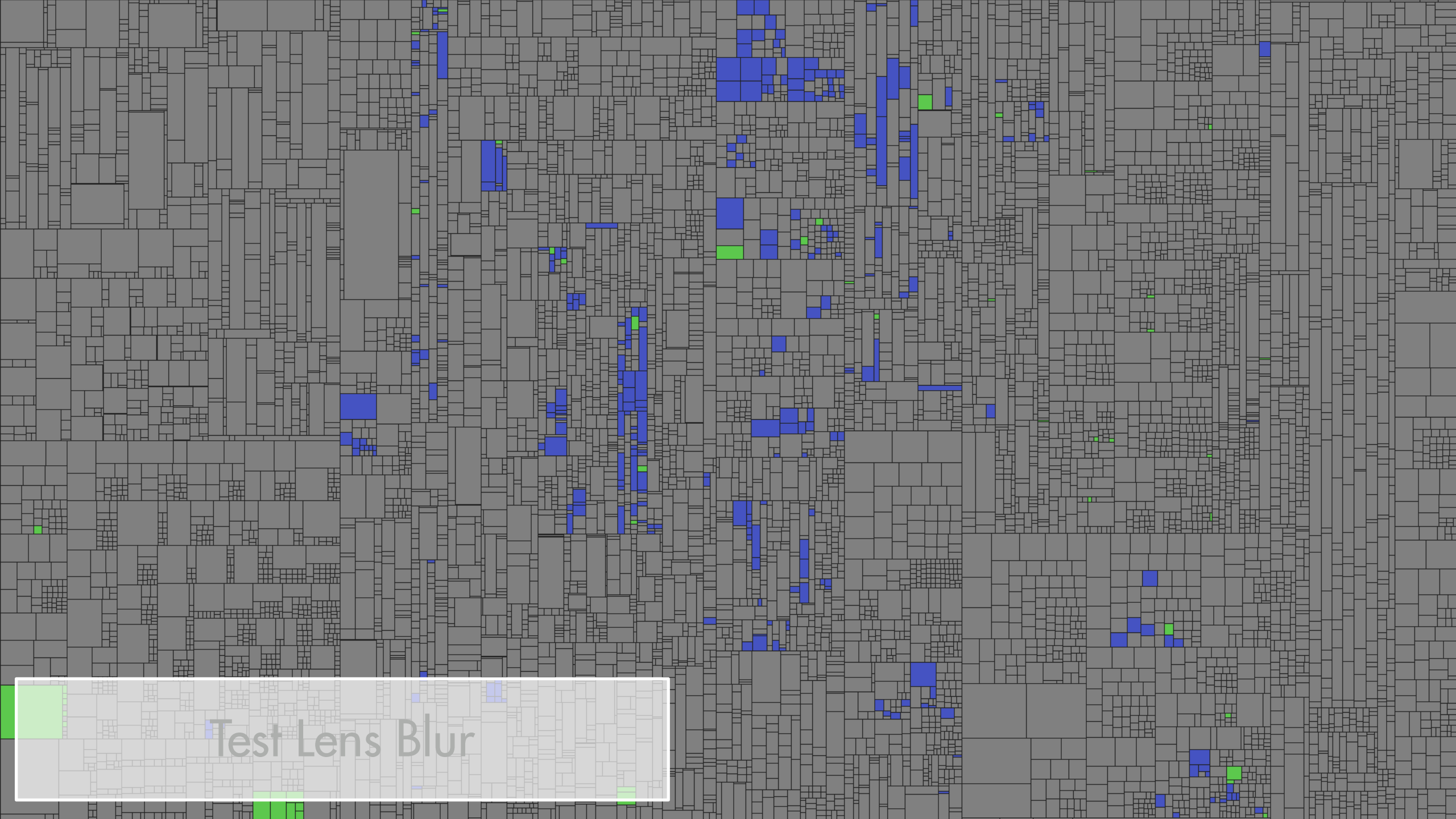




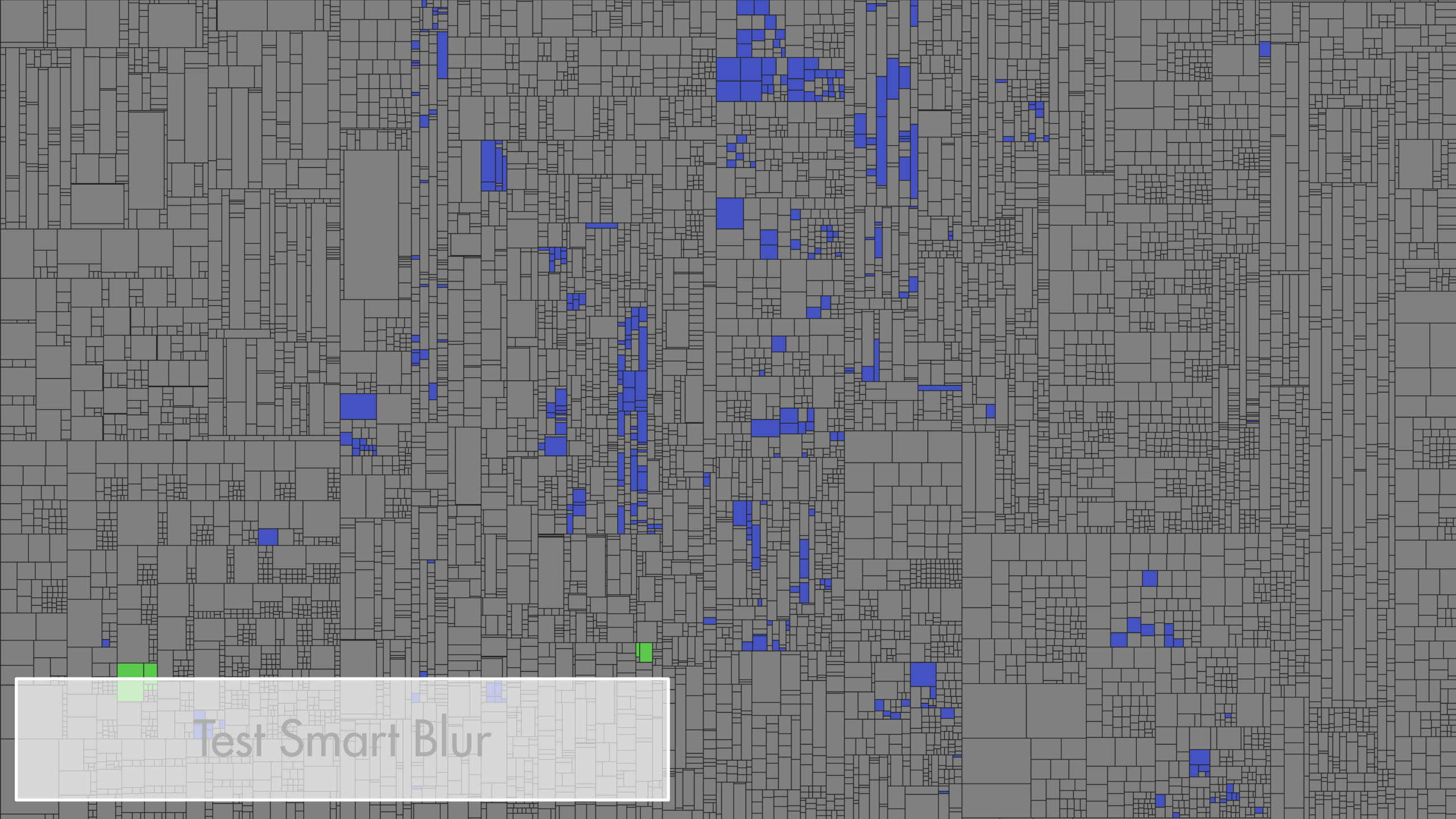
Test Gaussian Blur



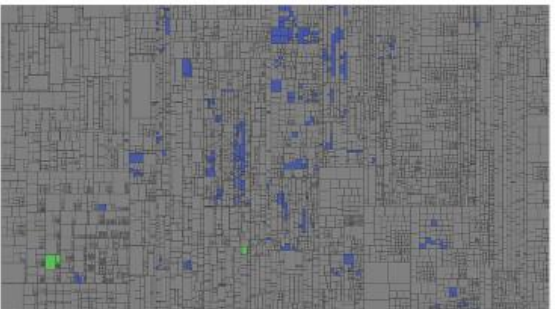
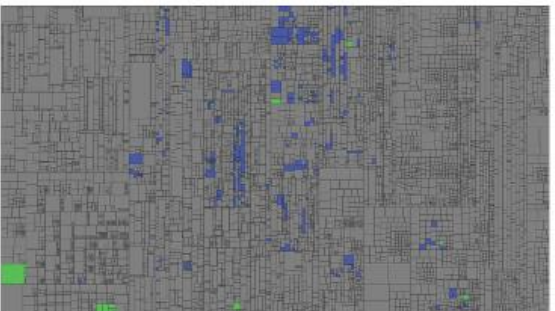
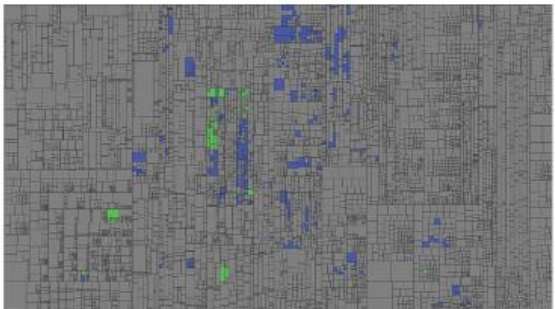
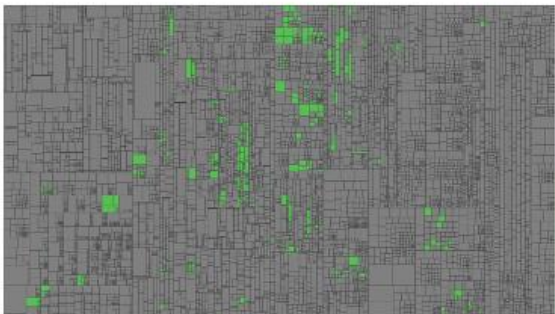
Test Motion Blur



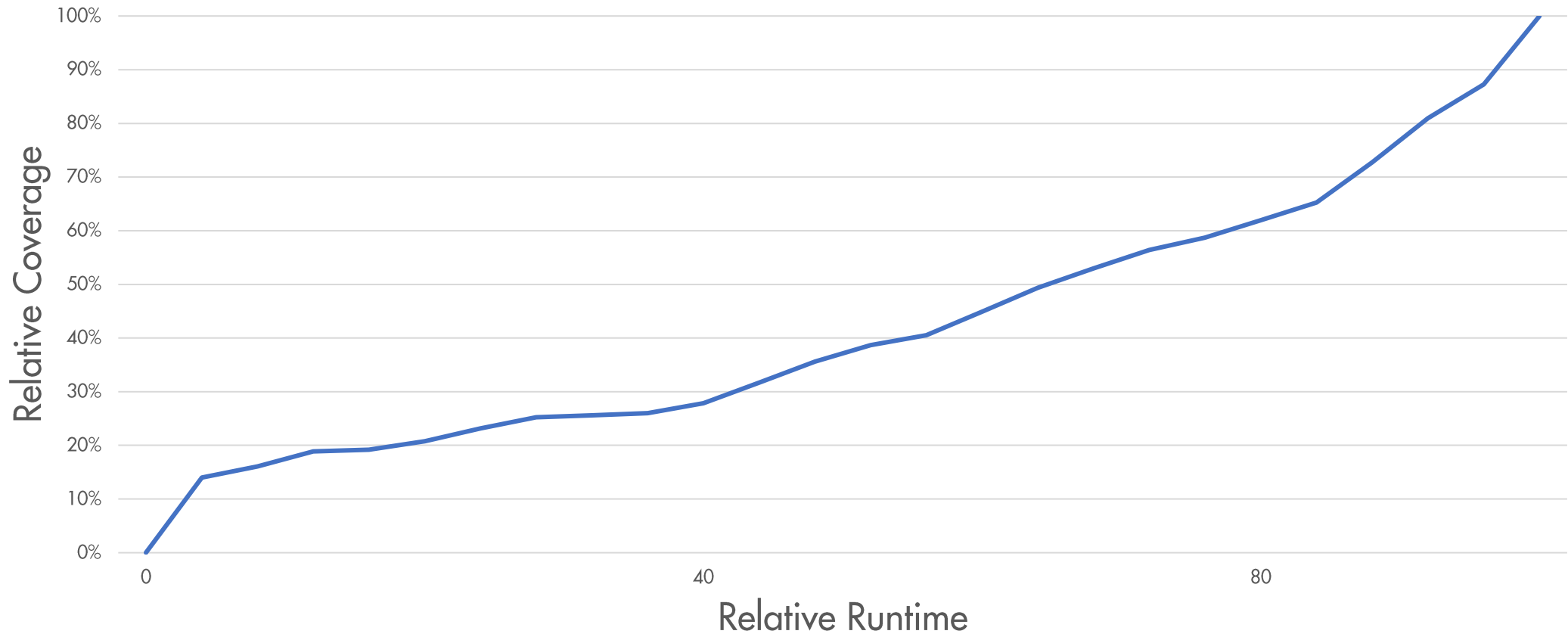
Test Lens Blur



Test Smart Blur



Time vs Code Coverage

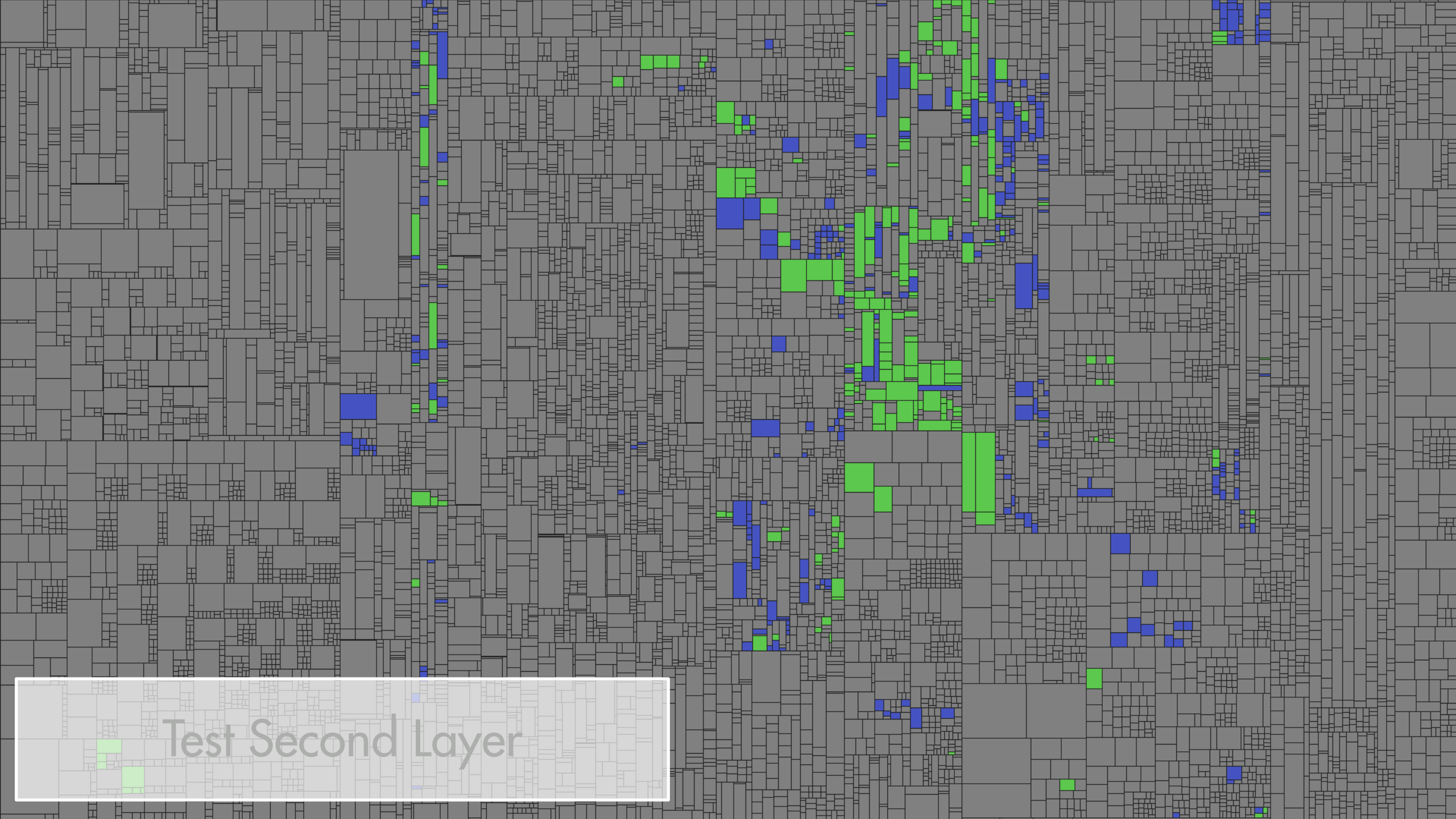




Test Create and Modify
Selection

A treemap visualization showing a hierarchical structure of data. The background is a dense grid of grey rectangles. Overlaid on this are several clusters of smaller rectangles in green and blue. The green rectangles are scattered throughout, with notable concentrations in the upper-left, middle-right, and lower-right areas. The blue rectangles are also scattered, with some clusters in the upper-right and middle-left areas. The overall layout is complex and non-uniform.

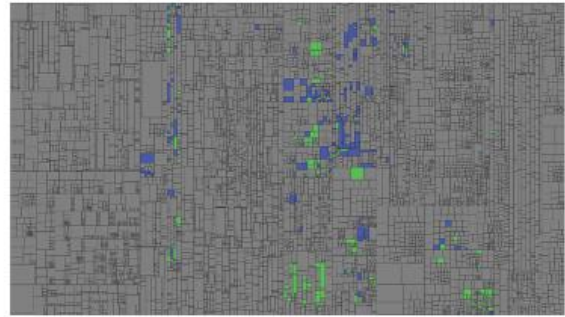
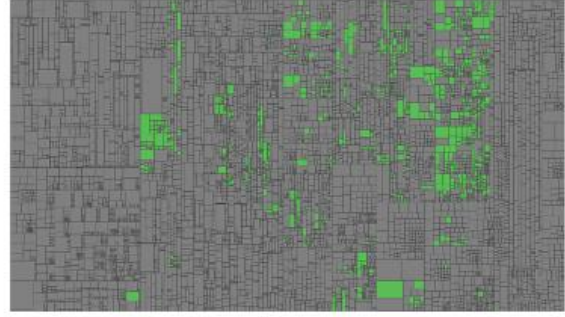
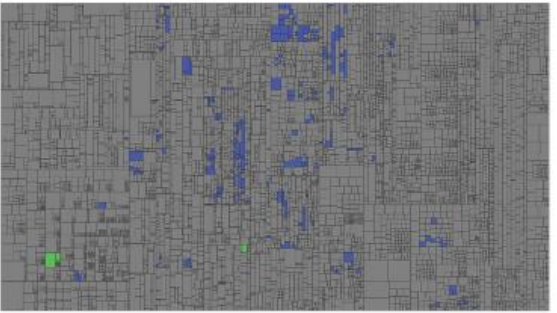
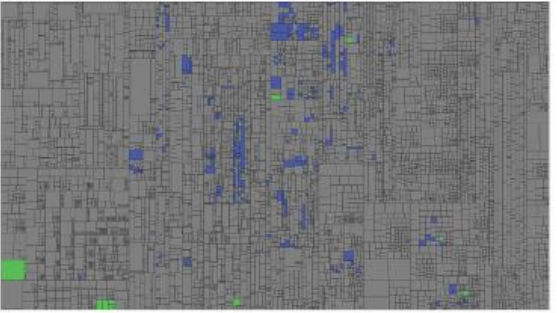
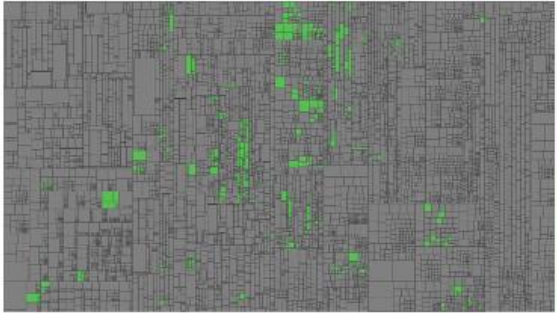
Test Change View Settings



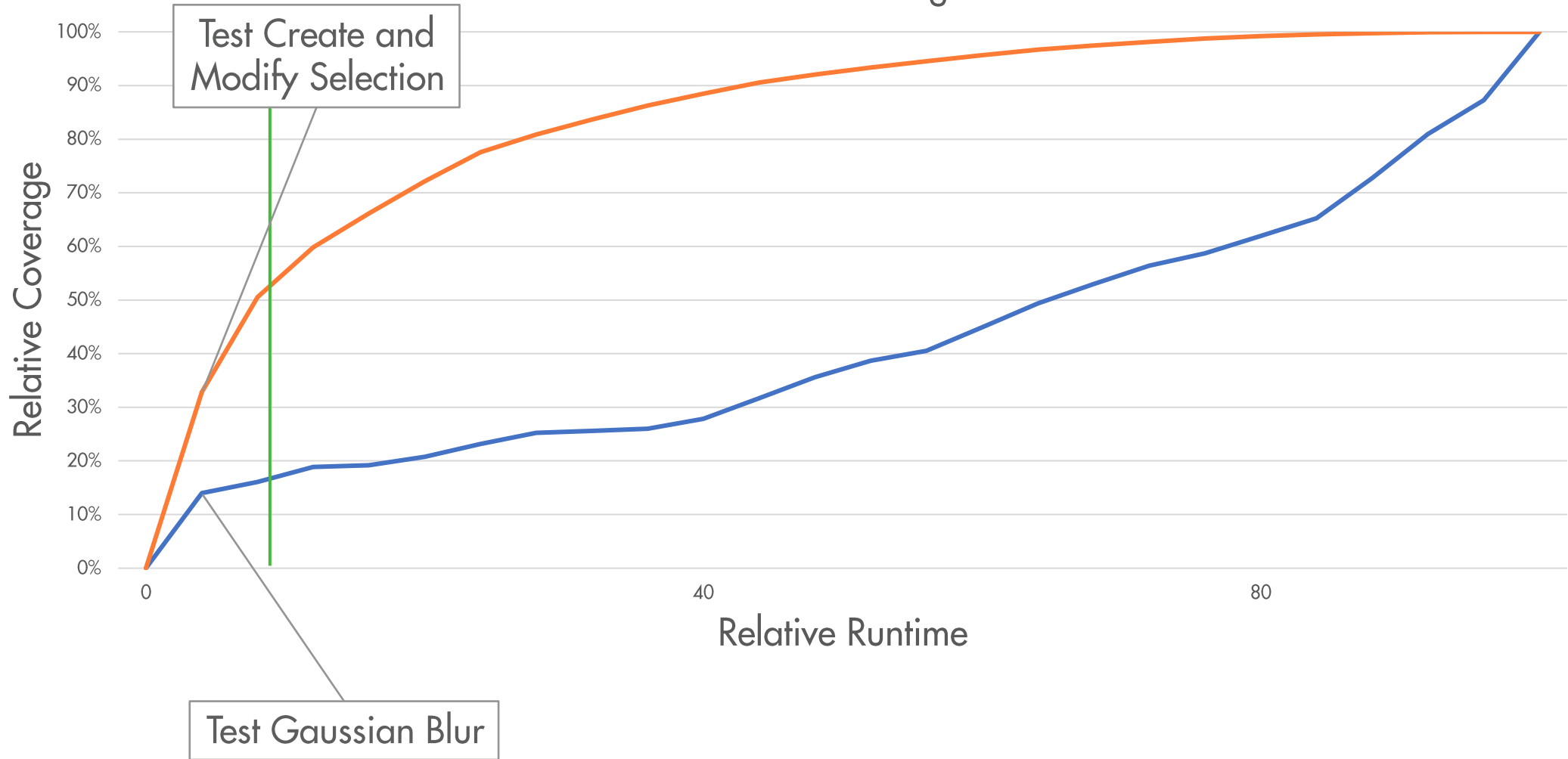
Test Second Layer

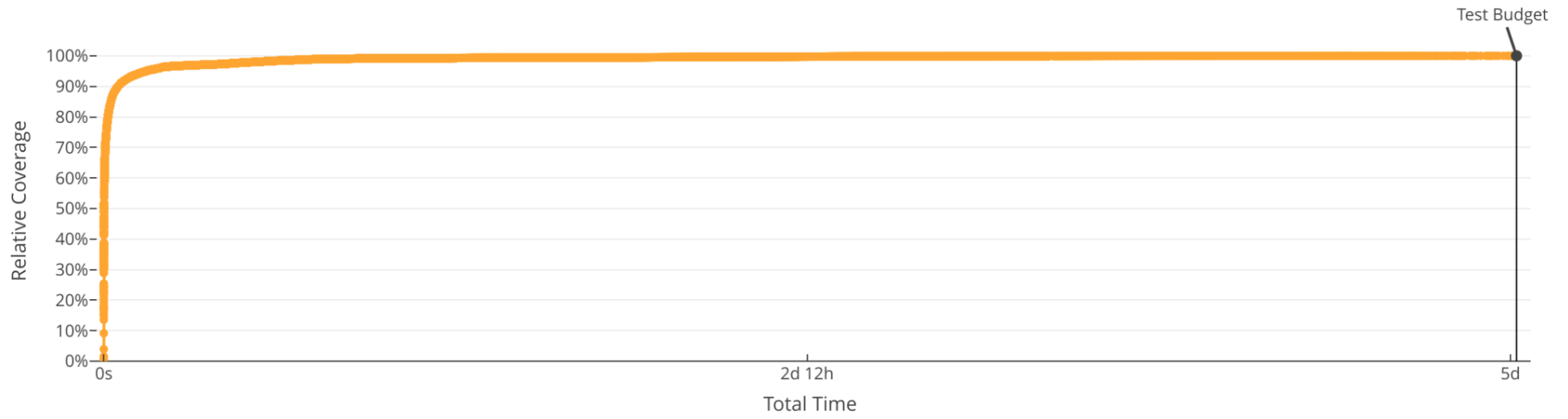
The image consists of a dense, overlapping grid of gray rectangles of various sizes and orientations. Scattered throughout this grid are several smaller rectangles in blue and green. The blue rectangles are more numerous and appear in various sizes and orientations, often forming small clusters. The green rectangles are fewer in number and also appear in various sizes and orientations, some appearing as single blocks and others as small groups. The overall effect is a complex, textured pattern of gray, blue, and green rectangles.

Test Save Image



Time vs Code Coverage

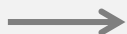




Initiale Aufzeichnung aller Tests



Ausführung
aller Tests



Coverage & Laufzeit
für alle Tests

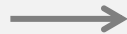


Test-Impact-Analyse

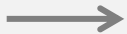
CI Pipeline



VCS

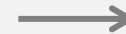


Codeänderung



- Test-Selektion
- Test-Priorisierung

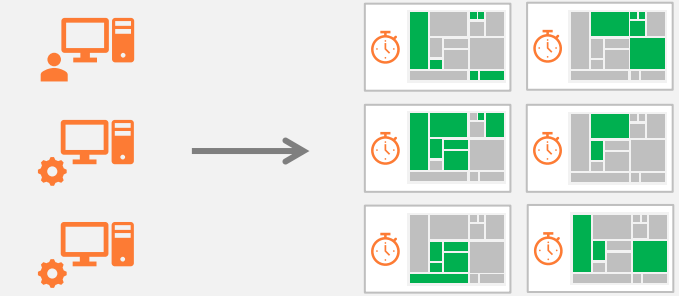
Test-Impact-Analyse



Änderungsrelevante und
sortierte Testfälle



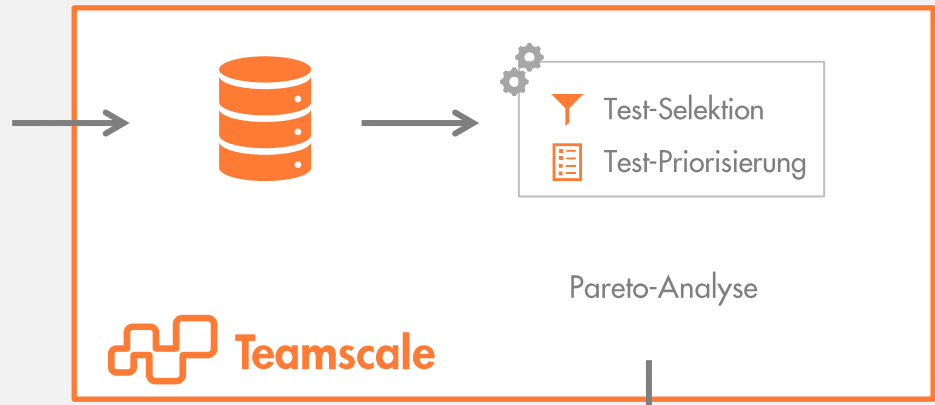
Initiale Aufzeichnung aller Tests



Ausführung aller Tests

Coverage & Laufzeit für alle Tests

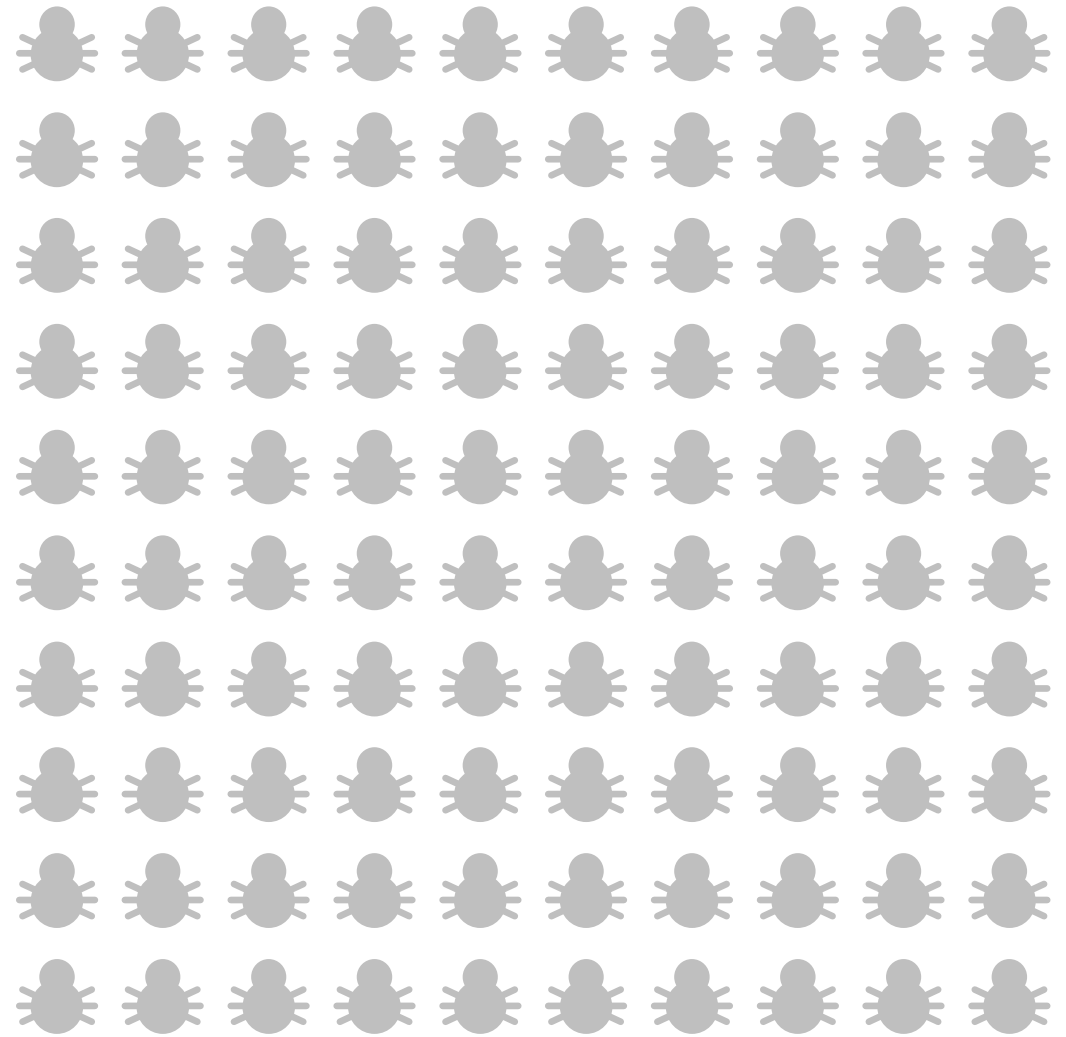
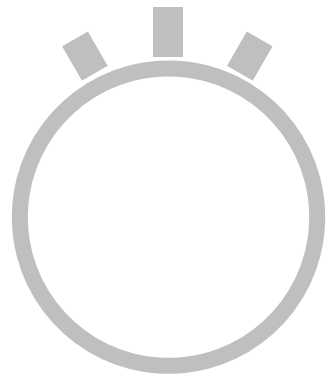
Pareto-Testliste

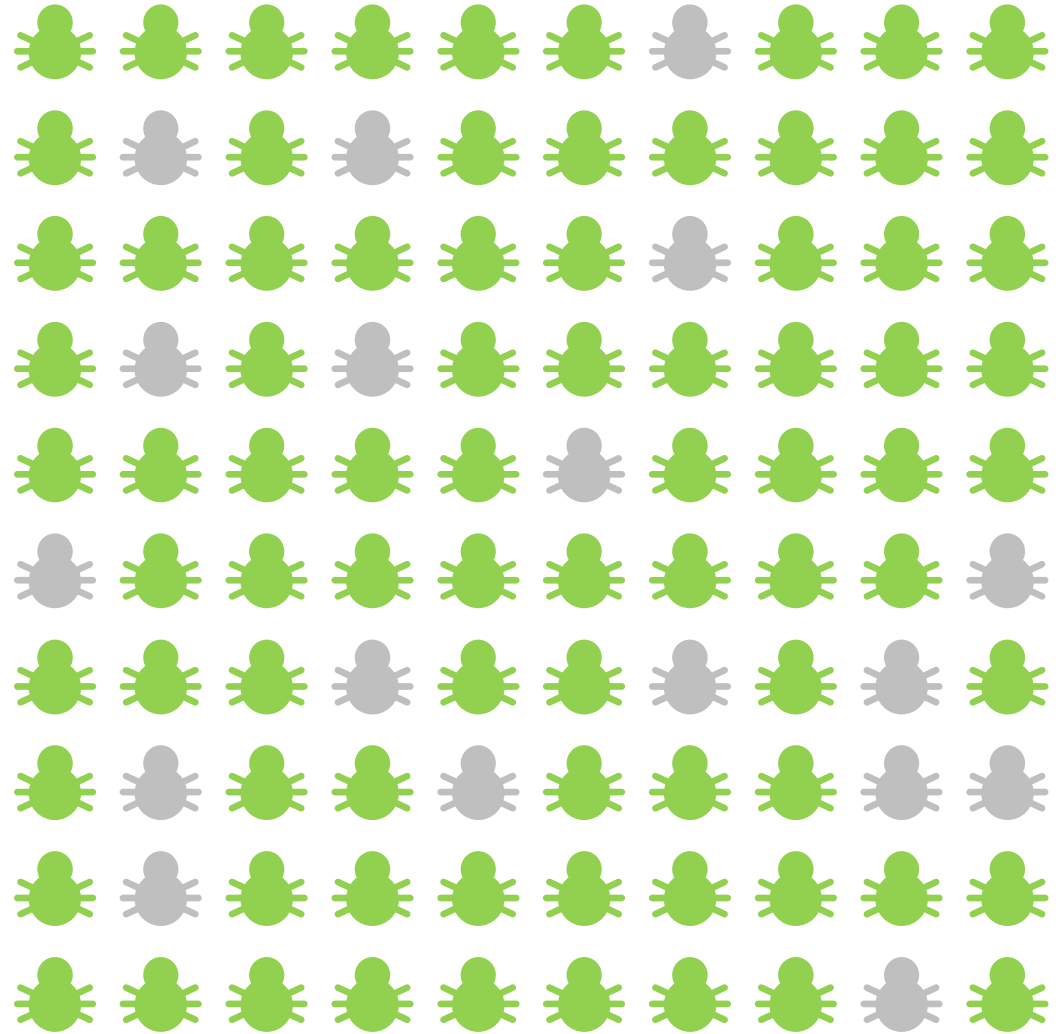


CI Pipeline

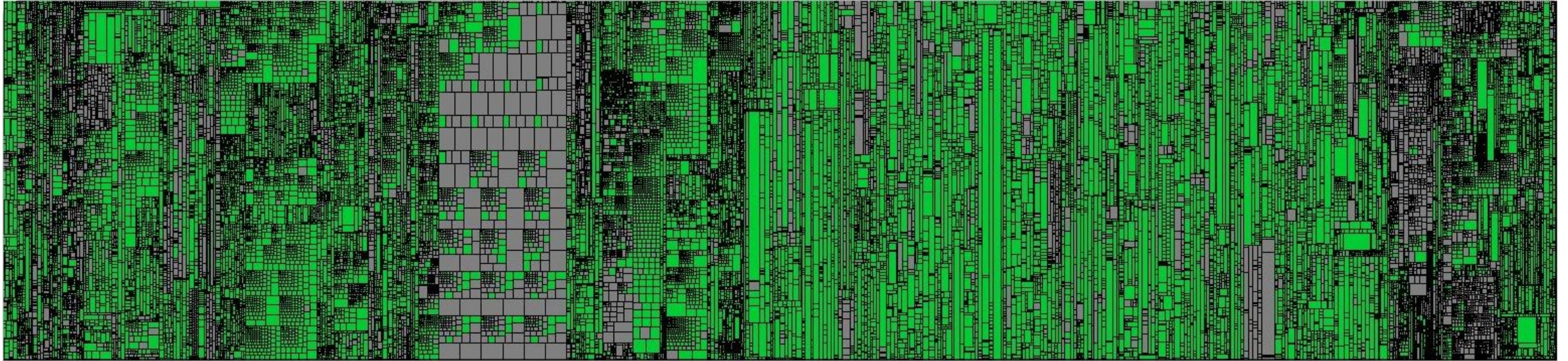


Sortierte Teilmenge der Tests

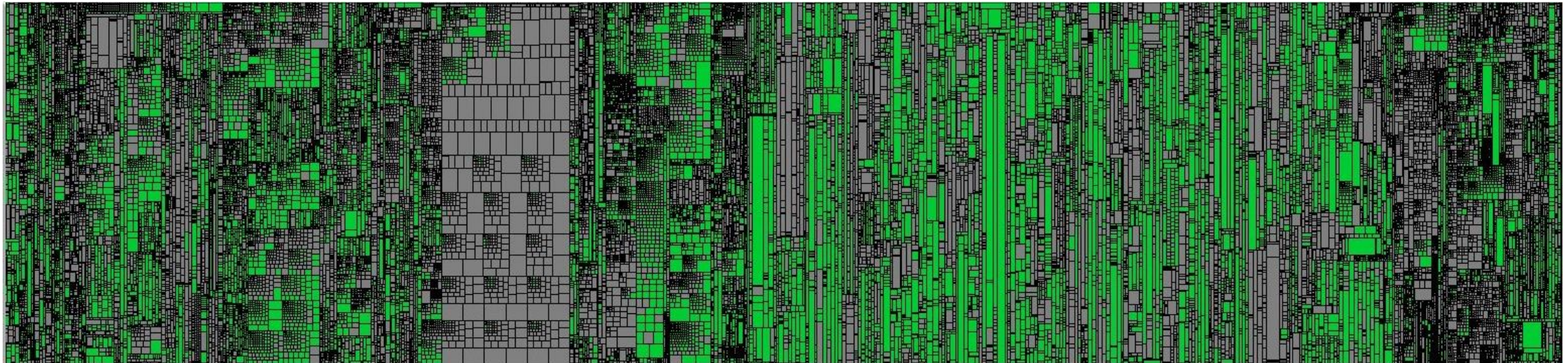


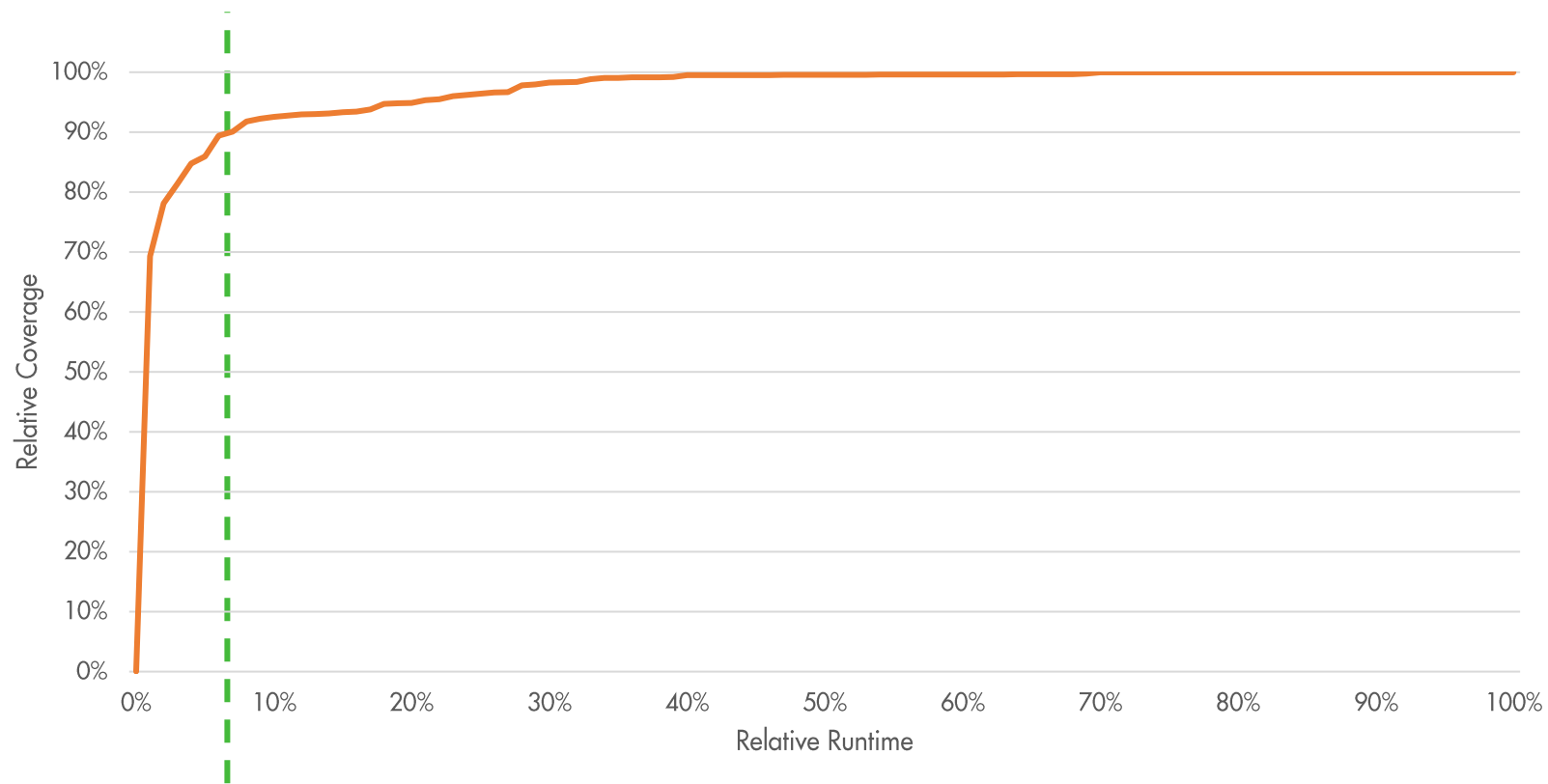


400+ Stunden Testausführung



1 Stunde Testausführung: >50% Coverage





Mit 1h Testlaufzeit erreichen wir bereits **91,8%** relative Zeilen-Coverage

Mit nur 5% der
Testlaufzeit finden wir
**70% der
fehlgeschlagenen
Commits**



Test-Impact-Analyse

Tests werden für jeden Lauf **passend zu Änderungen** ausgewählt

90% der Fehler in 2% der Zeit

Erfordert kontinuierliche Messung der Coverage und Integration der Test-Auswahl in die CI / Testautomatisierung.

Stärkere Beschleunigung des Feedbacks (bei höherem Aufwand)

Pareto-Optimierung

Tests werden **unabhängig von Änderungen** ausgewählt

90% der Fehler in 11% der Zeit

Einmalige Messung der Coverage reicht aus.

Viel geringerer Aufwand

Präzise wie ein Uhrwerk

Mit 80.000 Tests sorgt die ATOSS Software AG für reibungsloses Digital Workforce Management

online & kostenlos

Mittwoch, 20. September 2023
10:30 bis 12:00 Uhr

Dr. Bernd Vogel
ATOSS Software AG

Raphael Nömmer
CQSE GmbH



CQSE Software Intelligence Talk

Kontakt – Ich freue mich auf Fragen 😊



Dr. Elmar Jürgens · juergens@cqse.eu · +49 179 675 3863

CQSE GmbH
Centa-Hafenbrädl-Str 59
81249 München
www.cqse.eu



Slides

CQSE