

# Test-Gap-Analyse mit Teamscale live am Beispiel

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Thomas Pettinger  
Stefan Brand

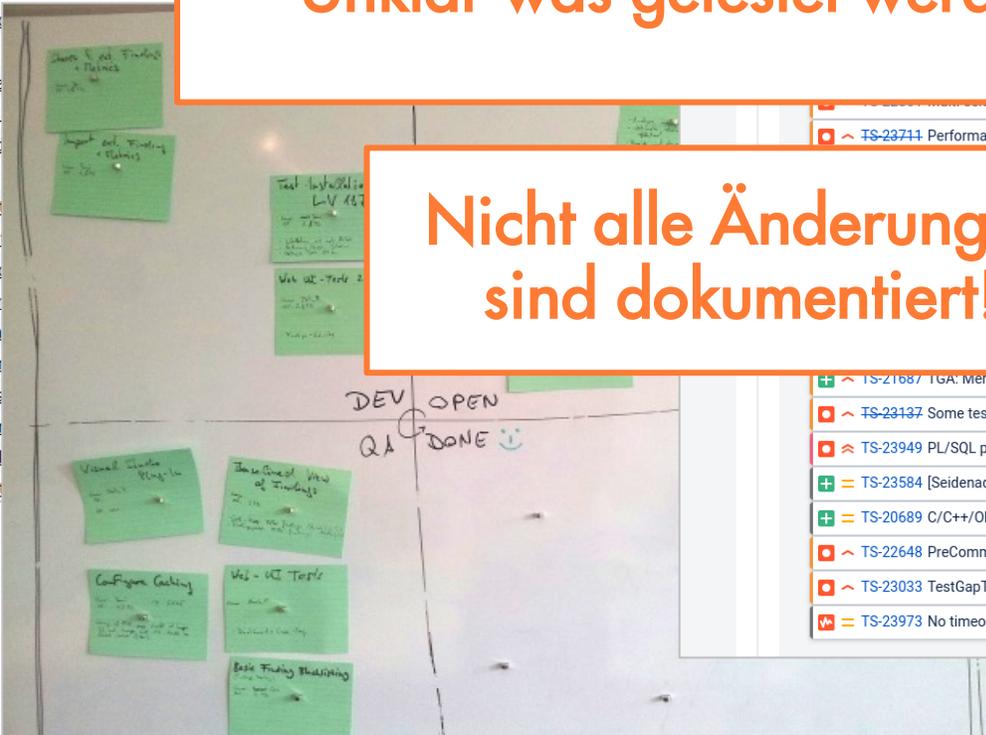
08.05.2024

» Wie hole ich in Anbetracht  
begrenzter Ressourcen das meiste  
aus meinem Test raus? «

Hide Search Description  
Status: UNCONFIRMED, NEW, ASSIGNED, REOPENED Product: clone Component: clone Alias: clone

83 bugs found.

ID	Summary
3382	Remove old filtering framework
4608	Improve progress monitoring for clone detection
3613	Make MetricOverview more flexible w.r.t. to database table names
3811	Incorrect offset reported by two-phased scanners
4610	Clone compare view does not open clone p
1000	Integrate ConQAT and Clone Detection to a
1013	Rebuild CloneDetective Pipeline as ConQAT
1014	Integrate cdct, clonedetective and bundles
872	Remove ClassFileColle
2397	Review cd_core
1824	More fine grained file e
1945	Consolidate identifiers
2199	Automatically close old
2216	Clone Tracking
2221	Consolidate normaliza
2223	Problem with gap posi
2327	Clean up old clone trac
2328	Add clone tracing for r
2367	Compute type of chan
2417	Create batch file gener
2428	Implement constraints
2431	Create Clone Detection
2439	Unload detection resul
2476	Improve parameteriza



Unklar was getestet werden muss!

Nicht alle Änderungen sind dokumentiert!

Jira Software

Backlog

Denali Sprint 4 20 issues ACTIVE

TS-23711	Performance of the process-based clang-tidy integration is low	Teamscale 6.1.3
TS-21687	TGA: Merge Commits should show method changes	merge-request-tga
TS-23137	Some tests fail with "Global Role Assignments" tab not clickable	Teamscale 6.0.9
TS-23949	PL/SQL parser: define not parsed correctly	Teamscale 6.1.3
TS-23584	[Seidenader EPS] Arch Editor Implement "Focus on transitive dependencies"	Teamscale 6.2
TS-20689	C/C++/Objective-C: Check for correct formatting string in log statement	Teamscale 6.2
TS-22648	PreCommitServiceTest.testDeletingFile fails/flickers	Teamscale 6.1.3
TS-23033	TestGapTreeMapWidgetTest.testCR20004 is flickering consistently	Teamscale 6.1.3
TS-23973	No timeouts for clang-tidy processes	Teamscale 6.1.3

# Wieviele Änderungen sind ungetestet?

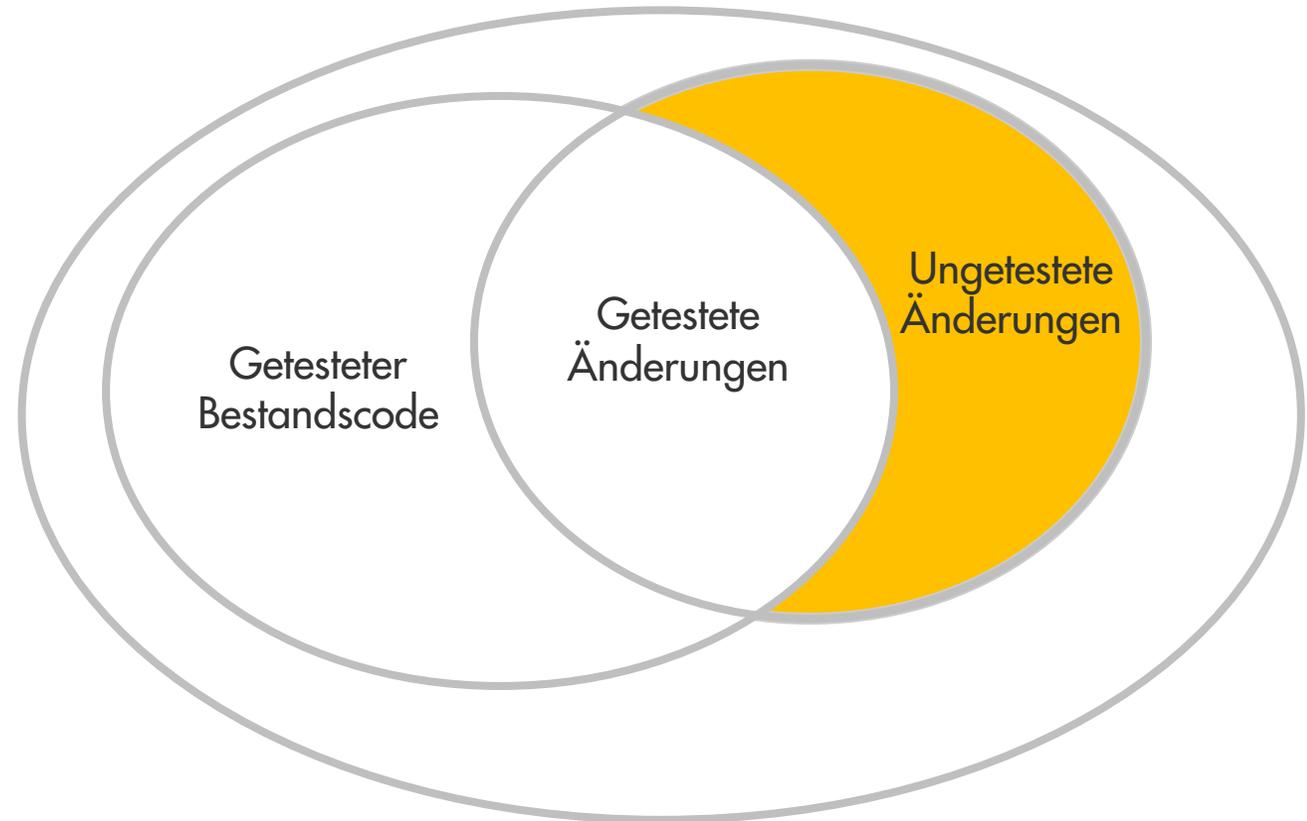
Studie: C# System @ Munich Re

## Release A:

15% Code neu/geändert,  
**>50% ungetestet**

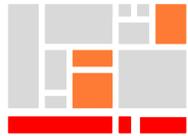
## Release B:

15% Code neu/geändert,  
**>60% ungetestet**



**Feldfehlerwahrscheinlichkeit 5x höher für ungetestete Änderungen!**

Änderungen



Test-Gap-Analyse



Ungetestete  
Änderungen

Ausführung



Manuelle &  
automatisierte Tests



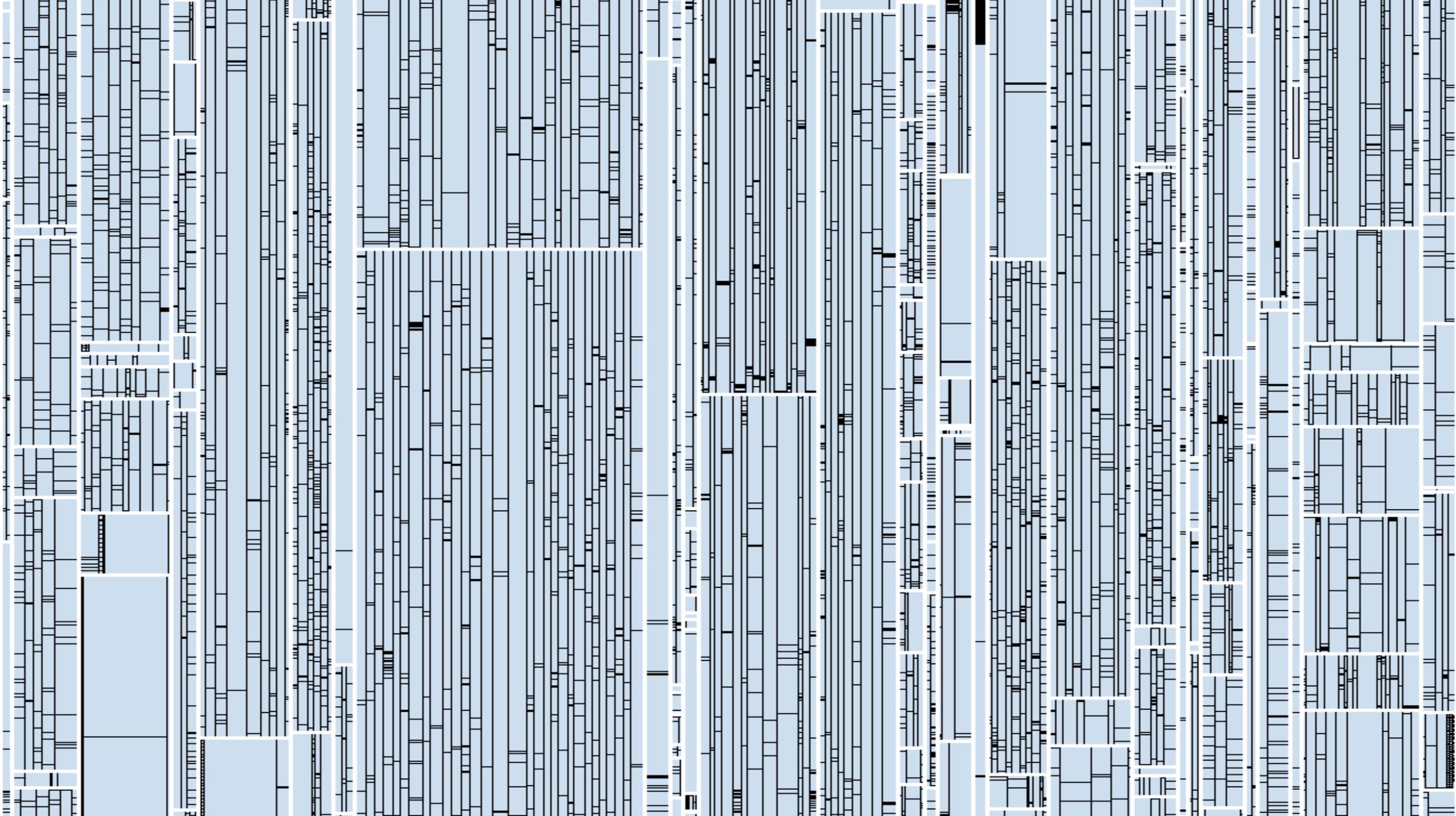
GUI.Dialogs

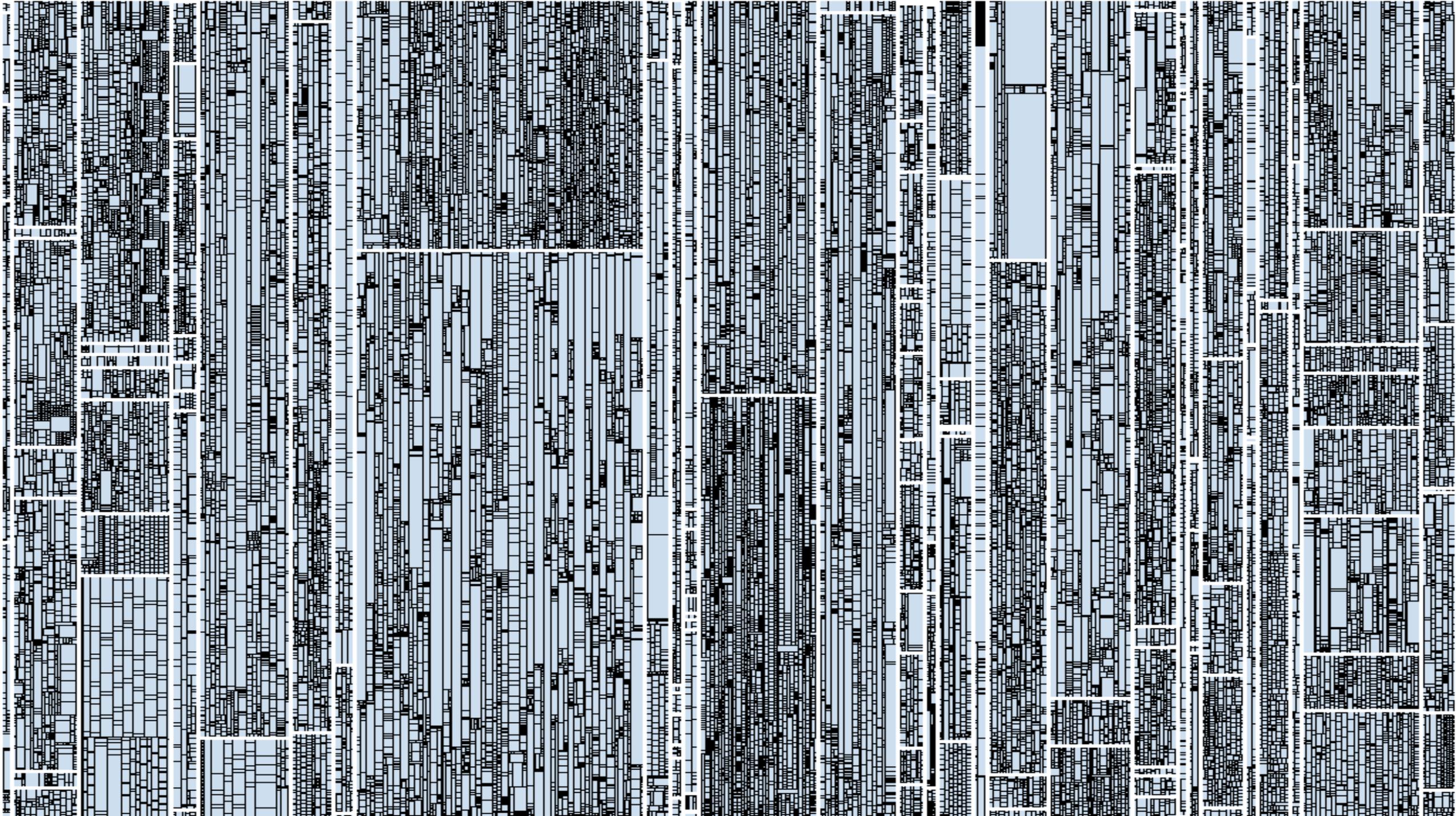
UI Controls

GUI.Base

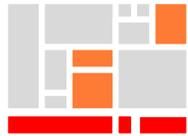
Authentication

Data Validation





Änderungen



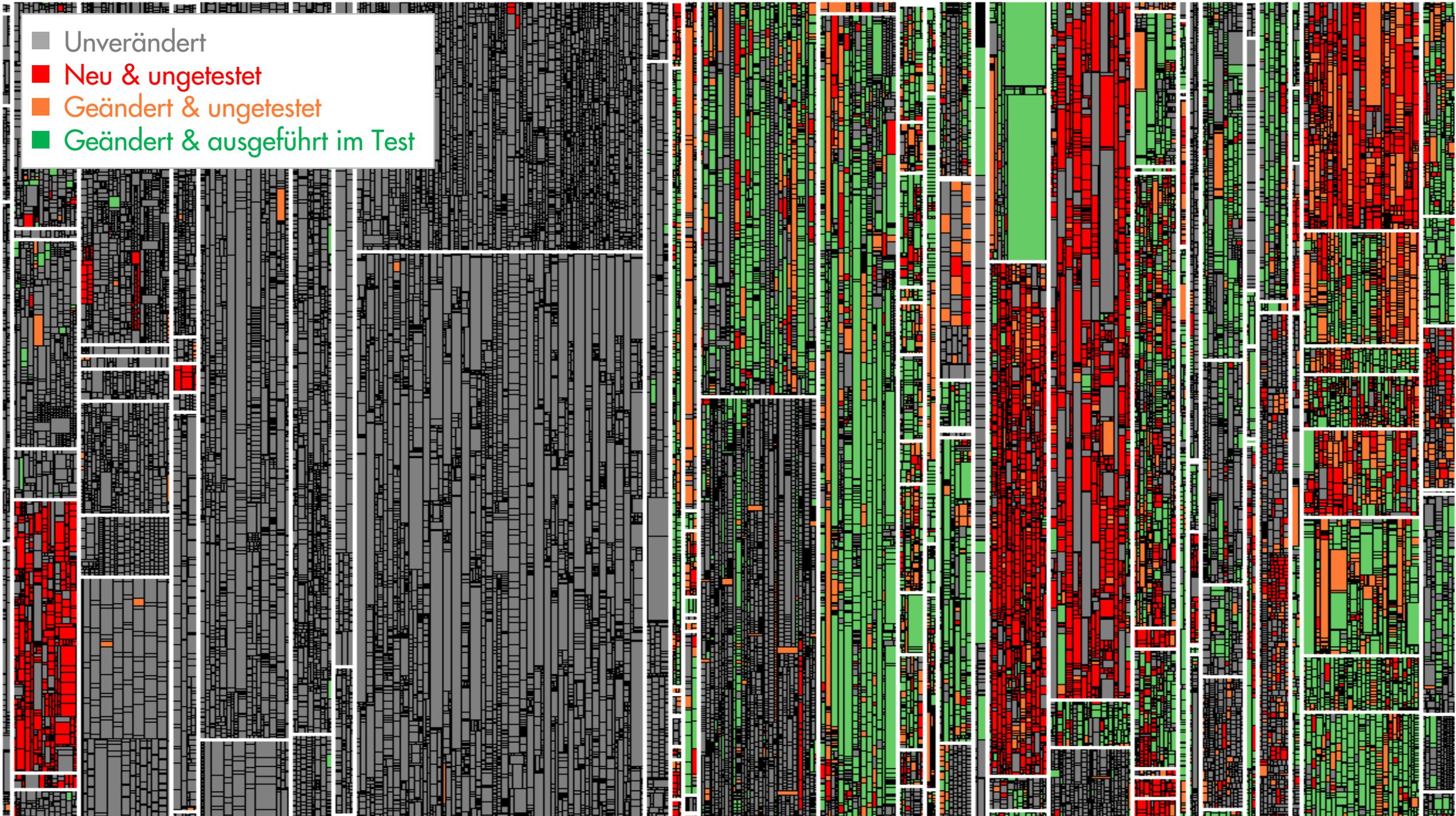
Test-Gap-Analyse

Ausführung



Ungetestete  
Änderungen

- Unverändert
- Neu & ungetestet
- Geändert & ungetestet
- Geändert & ausgeführt im Test



Änderungen



Test-Gap-Analyse

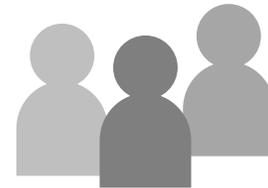


Ungetestete  
Änderungen

Ausführung

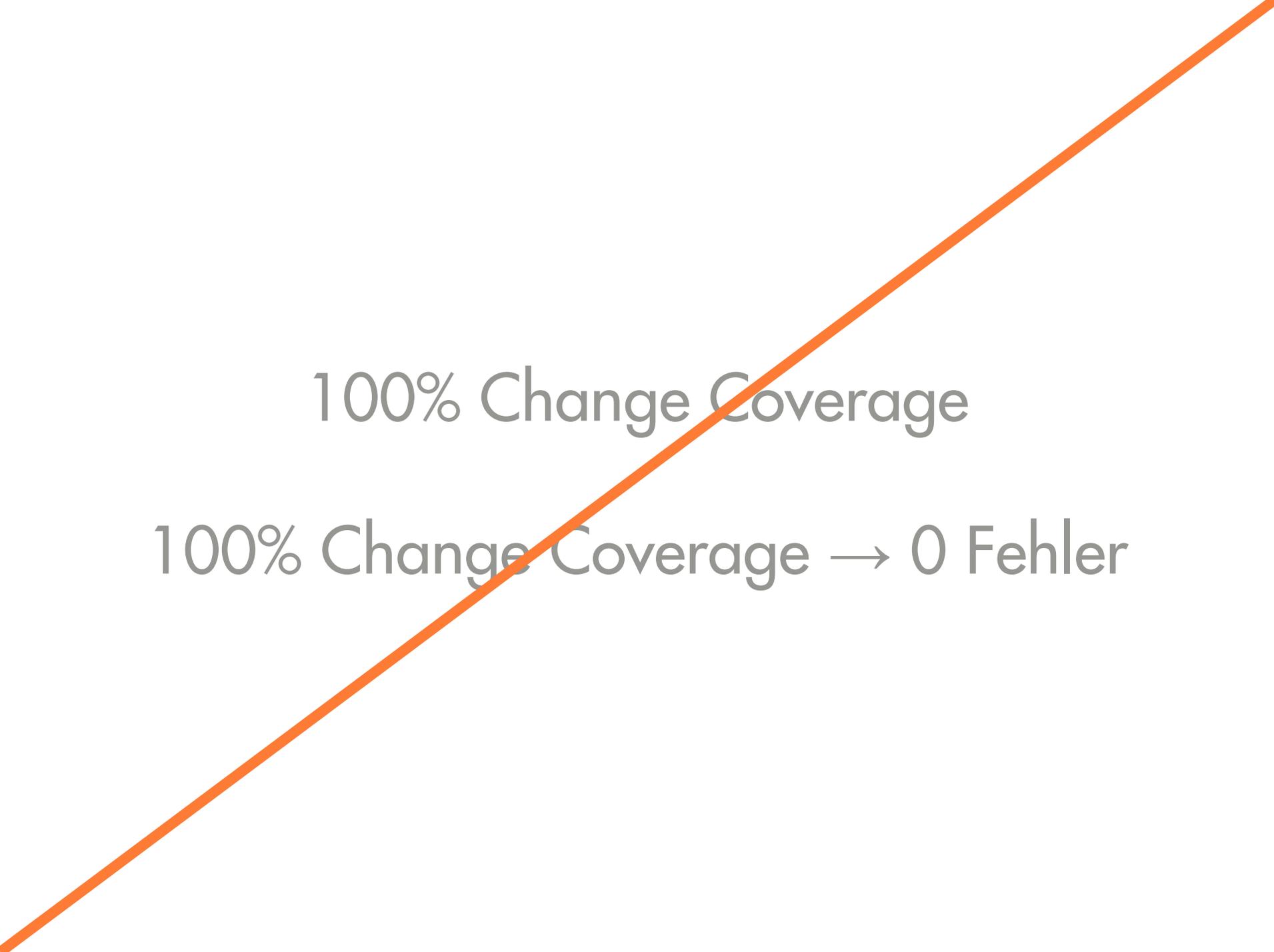


Testfälle



Entwickler, Tester, Testmanager





100% Change Coverage

100% Change Coverage → 0 Fehler

Issue # ▾	Subject	Done		Test Gap
<a href="#">TS-10549</a>	Undo/Redo for web-based architecture editor	Done		0% 
<a href="#">TS-10784</a>	Fix long method finding in TaintAnalysisRunner	Done		0% 
<a href="#">TS-10923</a>	Implement metric 'Nesting Depth' for Simulink	Done		29% 
<a href="#">TS-11364</a>	External findings are not registered during first upload	Done		14% 
<a href="#">TS-11942</a>	Manual test coverage upload during development	Done		43% 
<a href="#">TS-12262</a>	Cannot set or alter alias without reanalysis	Done		0% 
<a href="#">TS-13151</a>	Fetch parent relationship of TFS work items	Done		0% 

Issue # ▾	Subject		Test Gap
<a href="#">TS-14421</a>	Get rid of TestGapSynchronizer block	Done 	0% 
<a href="#">TS-14733</a>	Remove Dataflow blocks	Done 	22% 

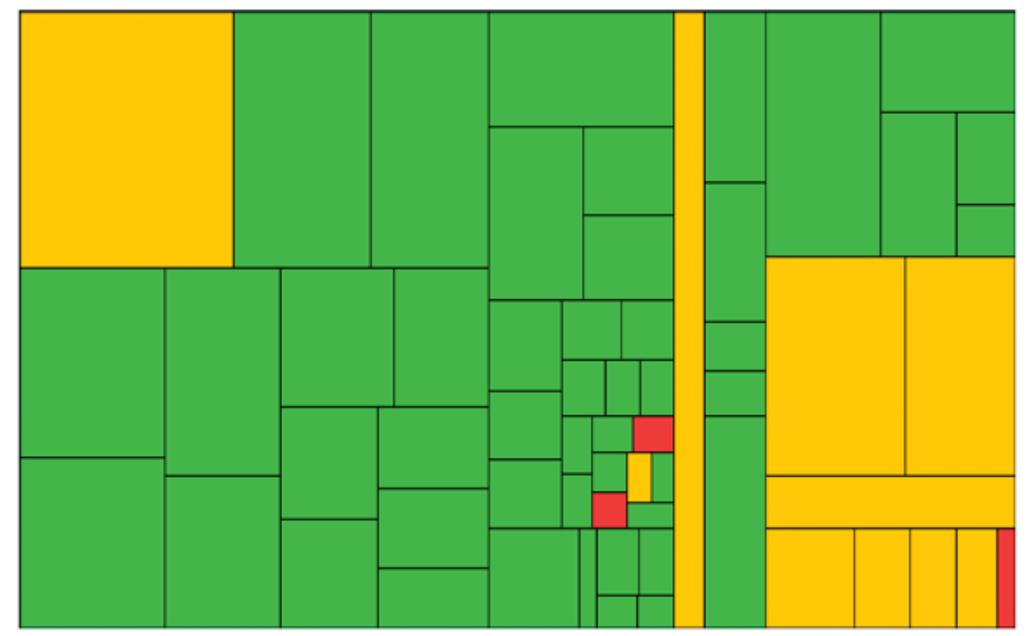
**Done Issue TS-14733 - Remove Dataflow blocks**

Creator:  (on Apr 06 2018 19:44) Last update: Aug 24 2018 09:32

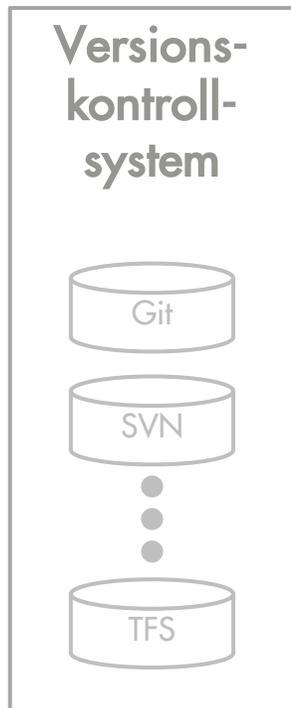
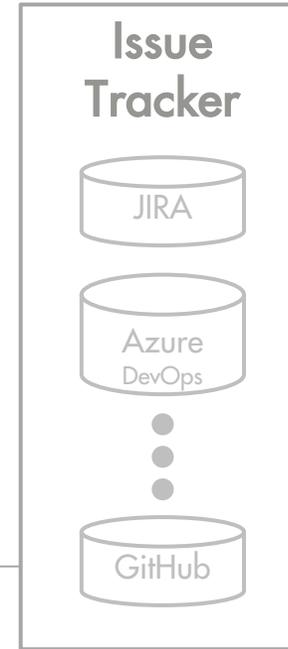
Assignee: 

Project	Type	Priority	Resolution	Fix Version
TS	Maintenance	Normal	Green	Teamscale 4.5
Component	Labels	Affected Version	Customer	Customer Issue
Backend	Performance			
Epic Name	Freshdesk URL	Merge Request		
		<a href="https://git.cqse.eu/cqse/teamscale/3621">https://git.cqse.eu/cqse/teamscale/3621</a>		

Aug 15 2018 12:37–Now | Test Gap: 22%



-  **TS-32161 Update description**  
Tobias Wiese authored 1 day ago
-  **TS-32169 remove unused method**  
Alexander von Rhein authored 1 day ago
-  **TS-32169 fix unused parameter finding**  
Alexander von Rhein authored 1 day ago
-  **TS-32157 fix test**  
Alexander von Rhein authored 1 day ago
-  **TS-0 Update all non-major npm dependencies**  
Renovate authored 1 day ago



Issue Test Gaps

```

public static synchronized void log(String methodIdentifier) {
    if (s_mode == LoggingMode.TESTING) {
        s_testingLog.add(methodIdentifier);
    } else if (s_mode == LoggingMode.FRAMING) {
        s_framingLog.add(methodIdentifier);
    } else {
        throw new IllegalStateException();
    }
}

public static synchronized Set<String> getFramingLog() {
    return s_framingLog;
}

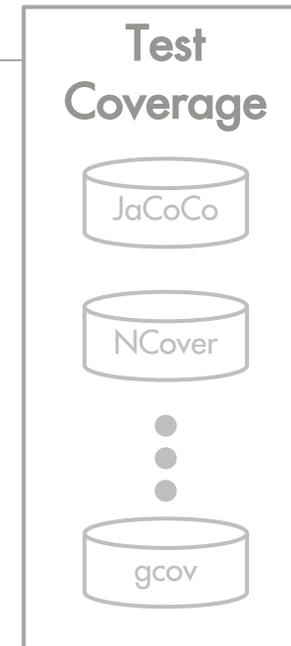
public static synchronized Set<String> getTestingLog() {
    return s_testingLog;
}

public static synchronized void reset() {
    s_testingLog.clear();
    s_framingLog.clear();
}

setMode(LoggingMode.FRAMING);
}

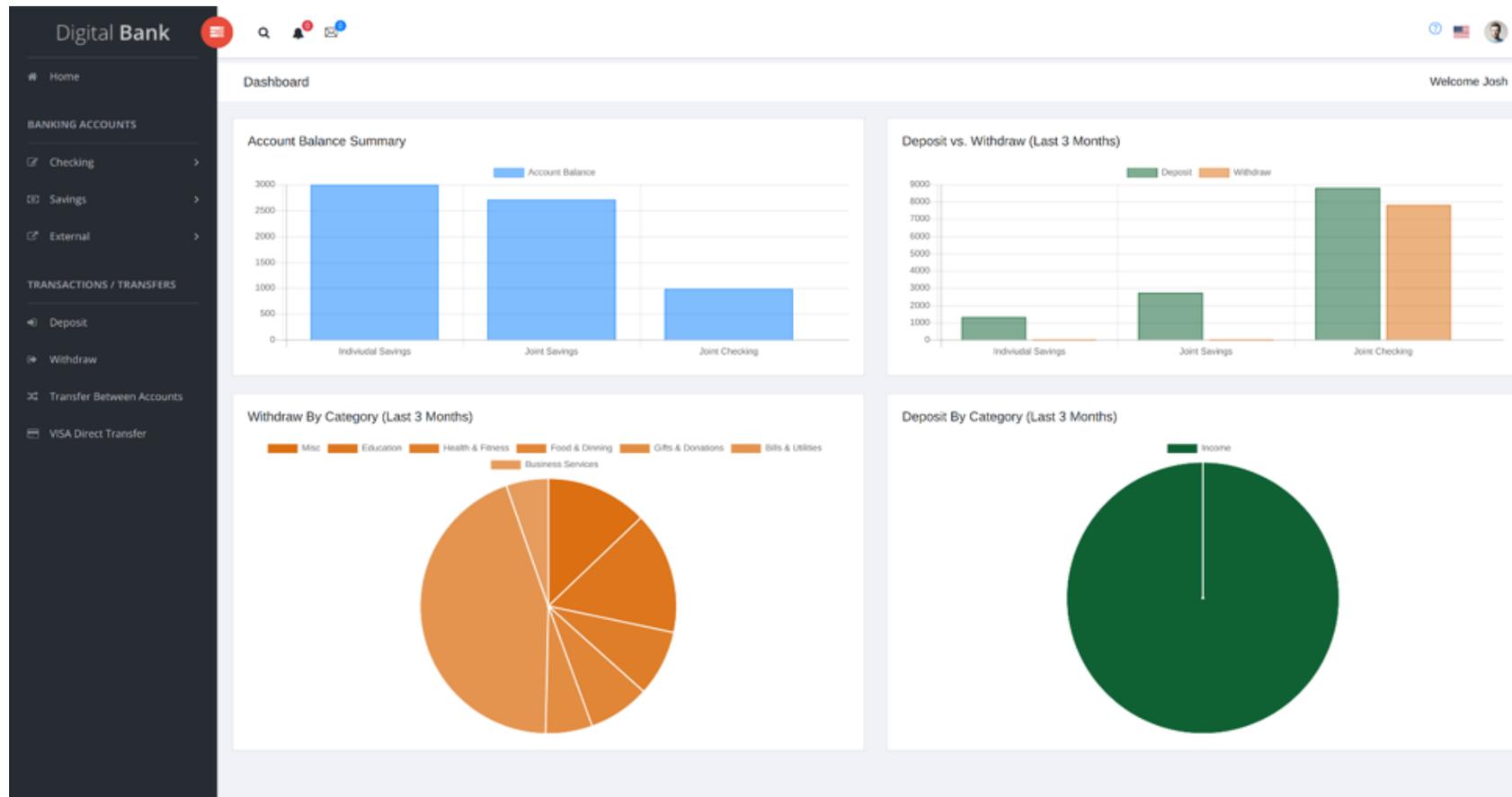
public static synchronized void setMode(LoggingMode newMode) {
    s_mode = newMode;
}

```



Demo

# Digital Bank: Open Source Online Banking Anwendung (Java)



ABAP

Ada

C#

C/C++

Cobol

Delphi

ESQL

Fortran

Go

Gosu

Groovy

HANA SQLScript / View

IEC 61131-3 ST

Java

JavaScript / TypeScript

Kotlin

Matlab

Objective-C

Open CL

OScript

PHP

PL/SQL

Python

Simulink / StateFlow

Swift

Transact-SQL

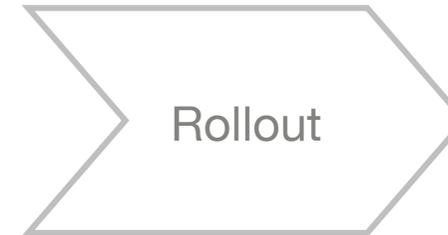
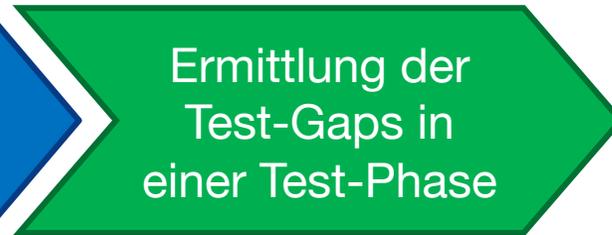
Visual Basic .NET

XML

Xtend

# Pilotierung

# Pilot Test-Gap-Analyse



## Ergebnis

Test-Gap-Analyse  
läuft bei Ihnen

Sie wissen, was  
Test-Gap-Analyse  
bei Ihnen bringt

Test-Gap-Analyse  
wird im täglichen  
Geschäft verwendet



## Garantierte Verfügbarkeiten

CQSE



Sie: Ansprechpartner Test



Sie: Ansprechpartner Entwicklung, Build, Serveradministration



## Test-Gap-Analyse

Ungetestete Änderungen im Quelltext aufdecken



25. September

10:30-12:00 Uhr

[tmscl.me/tga-2024-09-gtd-24](https://tmscl.me/tga-2024-09-gtd-24)



## Schnelles Feedback trotz langsamer Tests

Testselektion für historisch gewachsene Test-Suites



23. Oktober

10:30-12:00 Uhr

[tmscl.me/ts-2024-10-gtd-24](https://tmscl.me/ts-2024-10-gtd-24)



## Kontakt



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Besuchen Sie uns an unserem Stand!

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Vortragsfolien



Feedback