

Vom Wiegen allein wird die Sau nicht fett

Von Qualitätsanalyse zu wirksamer Qualitätsverbesserung

Über Mich

Forschung

- Statische Analyse, Test-Gap-Analyse, ...
- PC Mitglied von MSR, ICPC, ... OOP, QS-Tag, ...

Beratung

- Gründer und Mitglied der Geschäftsleitung

Junior-Fellow der Gesellschaft für Informatik



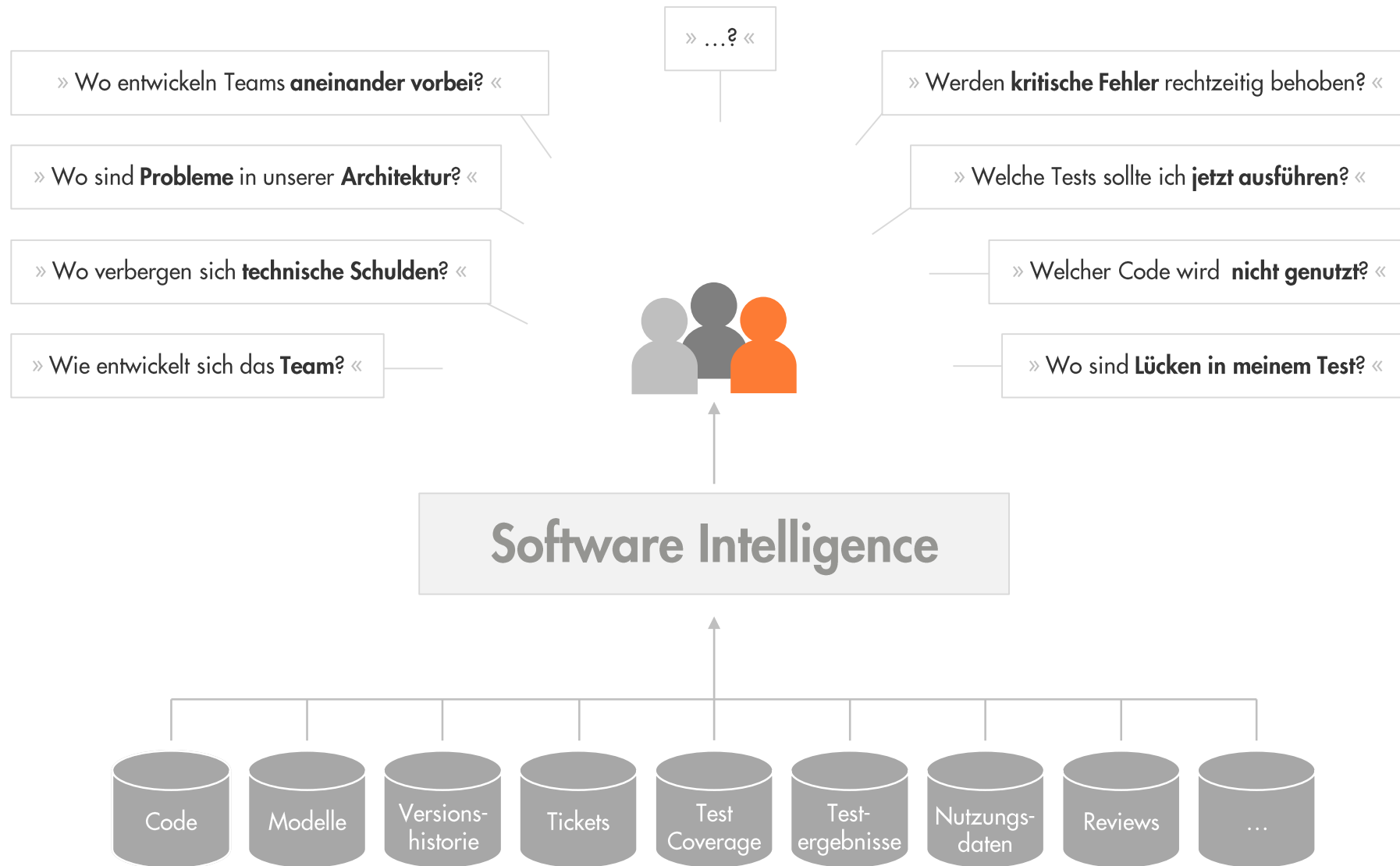


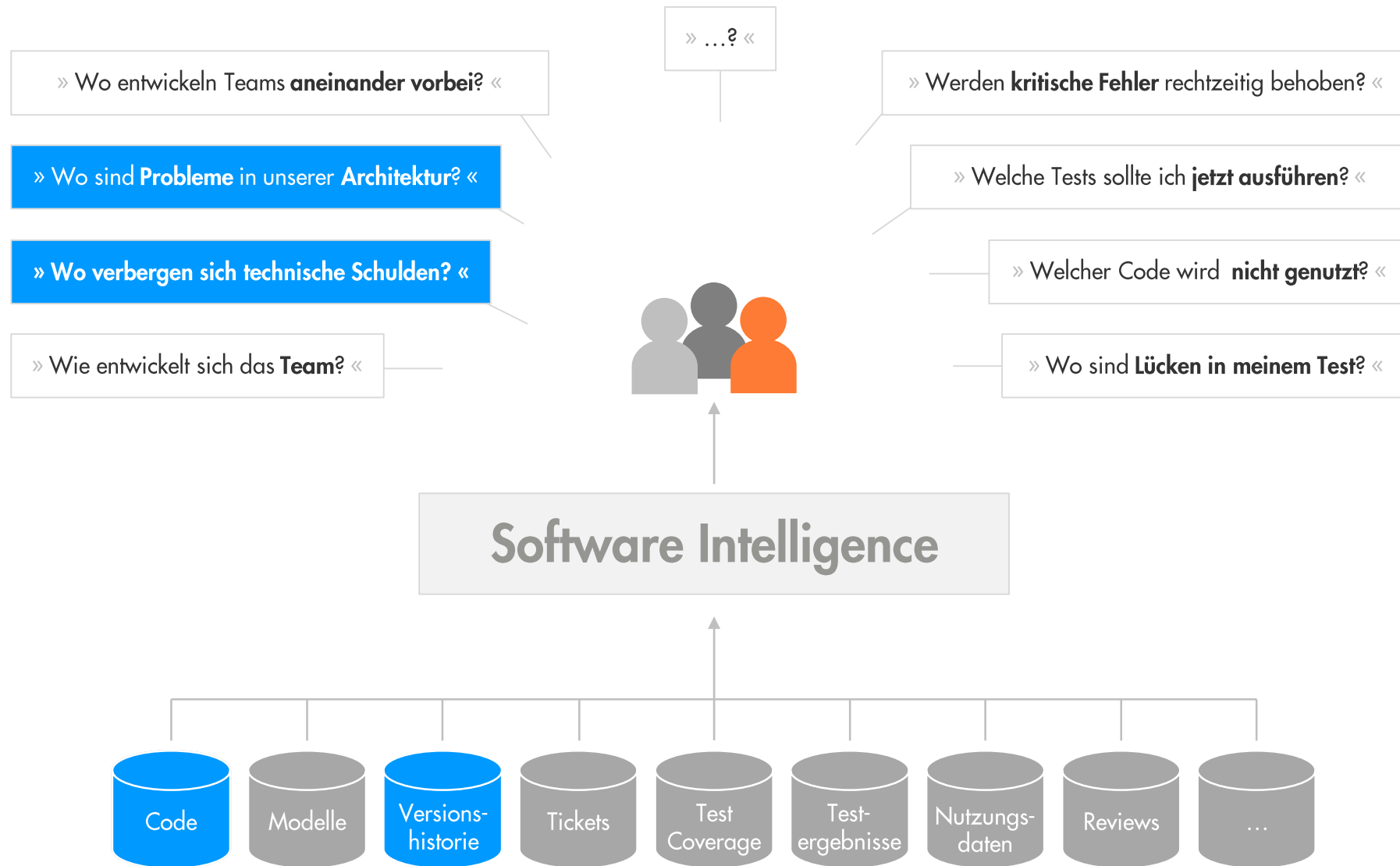
Requirement
Engineers



User







Clone from FreeRTOS

```
/* Process the input string received prior to the
newline. */
do
{
    /* Pass the string to FreeRTOS+CLI. */
    xMoreDataToFollow = FreeRTOS_CLIProcessCommand( cInputString, cO

    /* Send the output generated by the command's
    implementation. */
    sendto( xSocket, cOutputString, strlen( cOutputString ), 0, ( S

} while( xMoreDataToFollow != pdFALSE ); /* Until the command does n

/* All the strings generated by the command processing
have been sent. Clear the input string ready to receive
the next command. */
cInputIndex = 0;
memset( cInputString, 0x00, cmdMAX_INPUT_SIZE );

/* Transmit a spacer, just to make the command console
easier to read. */
sendto( xSocket, "\r\n", strlen( "\r\n" ), 0, ( SOCKADDR * ) &xClie

}
else
{
    if( cInChar == '\r' )
    {
        /* Ignore the character. Newlines are used to
        detect the end of the input string. */
    }
    else if( cInChar == '\b' )
    {
        /* Backspace was pressed. Erase the last character
        in the string - if any. */
        if( cInputIndex > 0 )
        {
            cInputIndex--;
            cInputString[ cInputIndex ] = '\0';
        }
    }
    else
    {
```

...

```
/* Process the input string received prior to the
newline. */
do
{
    /* Pass the string to FreeRTOS+CLI. */
    xMoreDataToFollow = FreeRTOS_CLIProcessCommand( cInputString,

    /* Send the output generated by the command's
    implementation. */
    sendto( xSocket, cOutputString, strlen( cOutputString ), 0,

} while( xMoreDataToFollow != pdFALSE ); /* Until the command doe

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memset( cInputString, 0x00, cmdMAX_INPUT_SIZE );

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easier to read. */
sendto( xSocket, "\r\n", strlen( "\r\n" ), 0, ( SOCKADDR * ) &xCl

}
else
{
    if( cInChar == '\r' )
    {
        /* Ignore the character. Newlines are used to
        detect the end of the input string. */
    }
    else if( ( cInChar == '\b' ) || ( cInChar == cmdASCII_DEL ) )
    {
        /* Backspace was pressed. Erase the last character
        in the string - if any. */
        if( cInputIndex > 0 )
        {
            cInputIndex--;
            cInputString[ cInputIndex ] = '\0';
        }
    }
    else
    {
```

...

```

/* Process the input string received prior to the
newline. */
do
{
    /* Pass the string to FreeRTOS+CLI. */
    xMoreDataToFollow = FreeRTOS_CLIProcessCommand( cInputString, cOutputString );

    /* Send the output generated by the command's
implementation. */
    sendto( xSocket, cOutputString, strlen( cOutputString ), 0, ( SOCKADDR * ) &xClient );

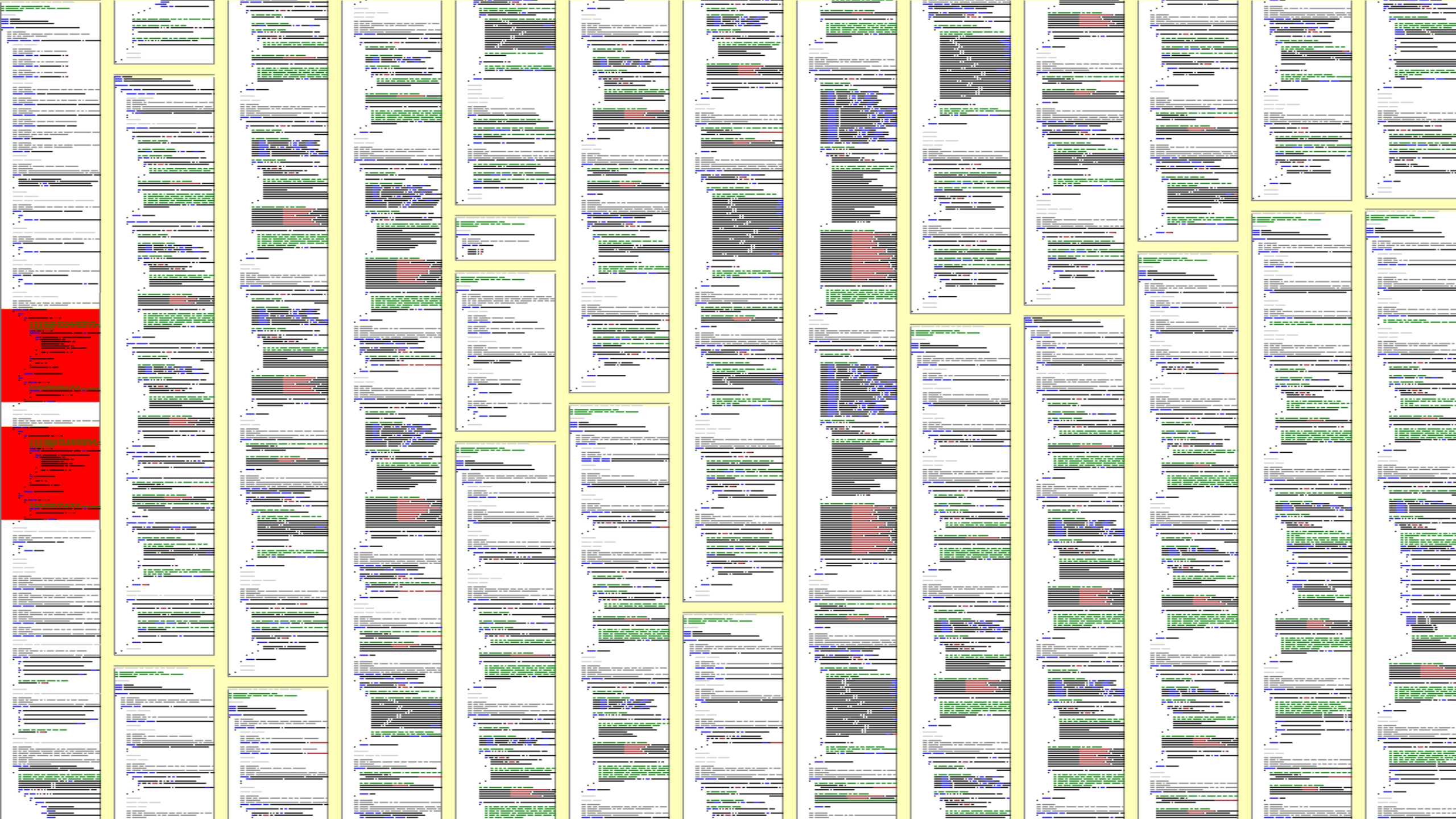
} while( xMoreDataToFollow != pdFALSE ); /* Until the command does not return more data.

/* All the strings generated by the command processing
have been sent. Clear the input string ready to receive
the next command. */
cInputIndex = 0;
memset( cInputString, 0x00, cmdMAX_INPUT_SIZE );

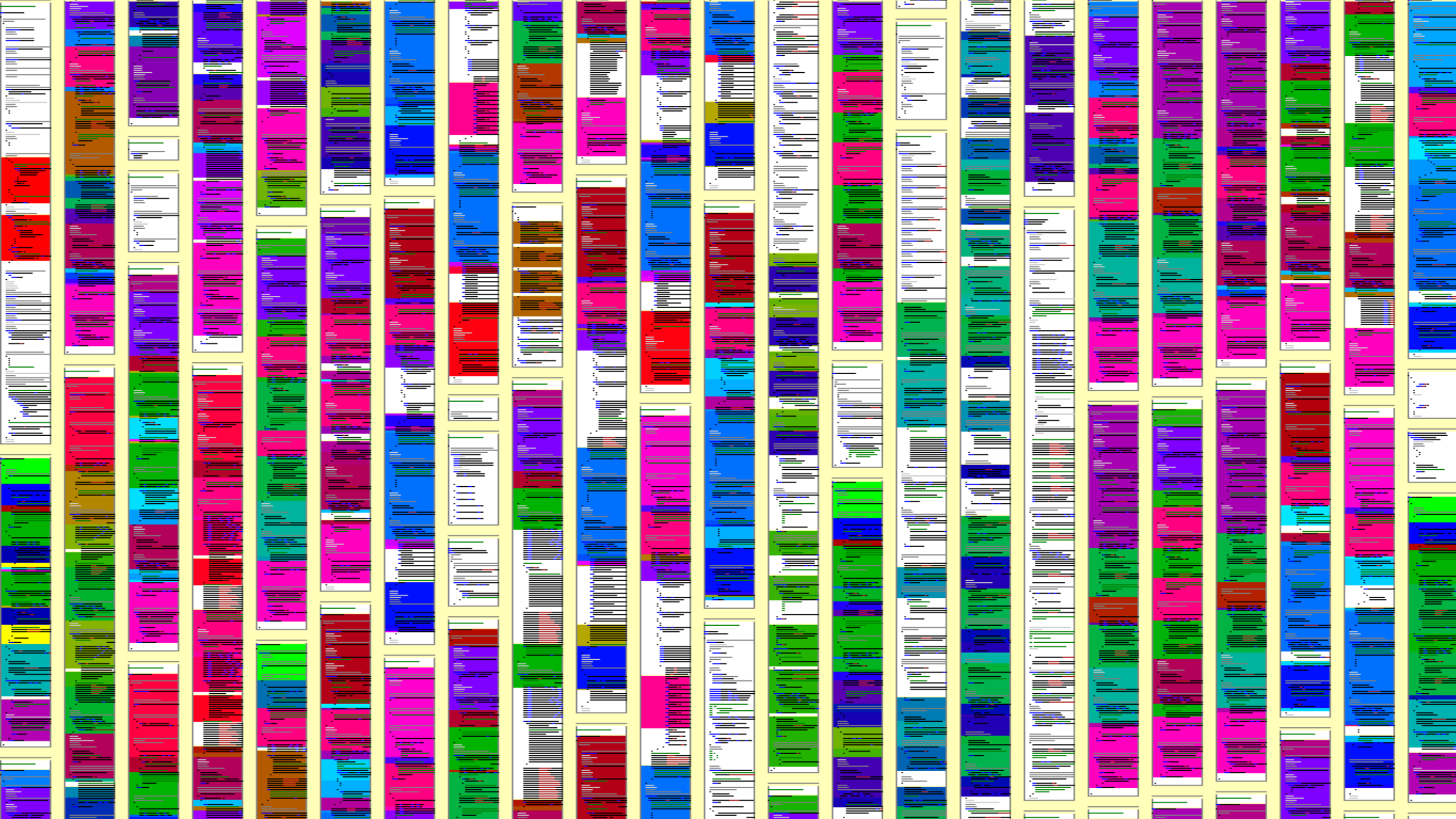
/* Transmit a spacer, just to make the command console
easier to read. */
sendto( xSocket, "\r\n", strlen( "\r\n" ), 0, ( SOCKADDR * ) &xClient );
}
else
{
    if( cInChar == '\r' )
    {
        /* Ignore the character. Newlines are used to
detect the end of the input string. */
    }
    else if( cInChar == '\b' )
    {
        /* Backspace was pressed. Erase the last character
in the string - if any. */
        if( cInputIndex > 0 )
        {
            cInputIndex--;
            cInputString[ cInputIndex ] = '\0';
        }
    }
    else
    {

```









Studie

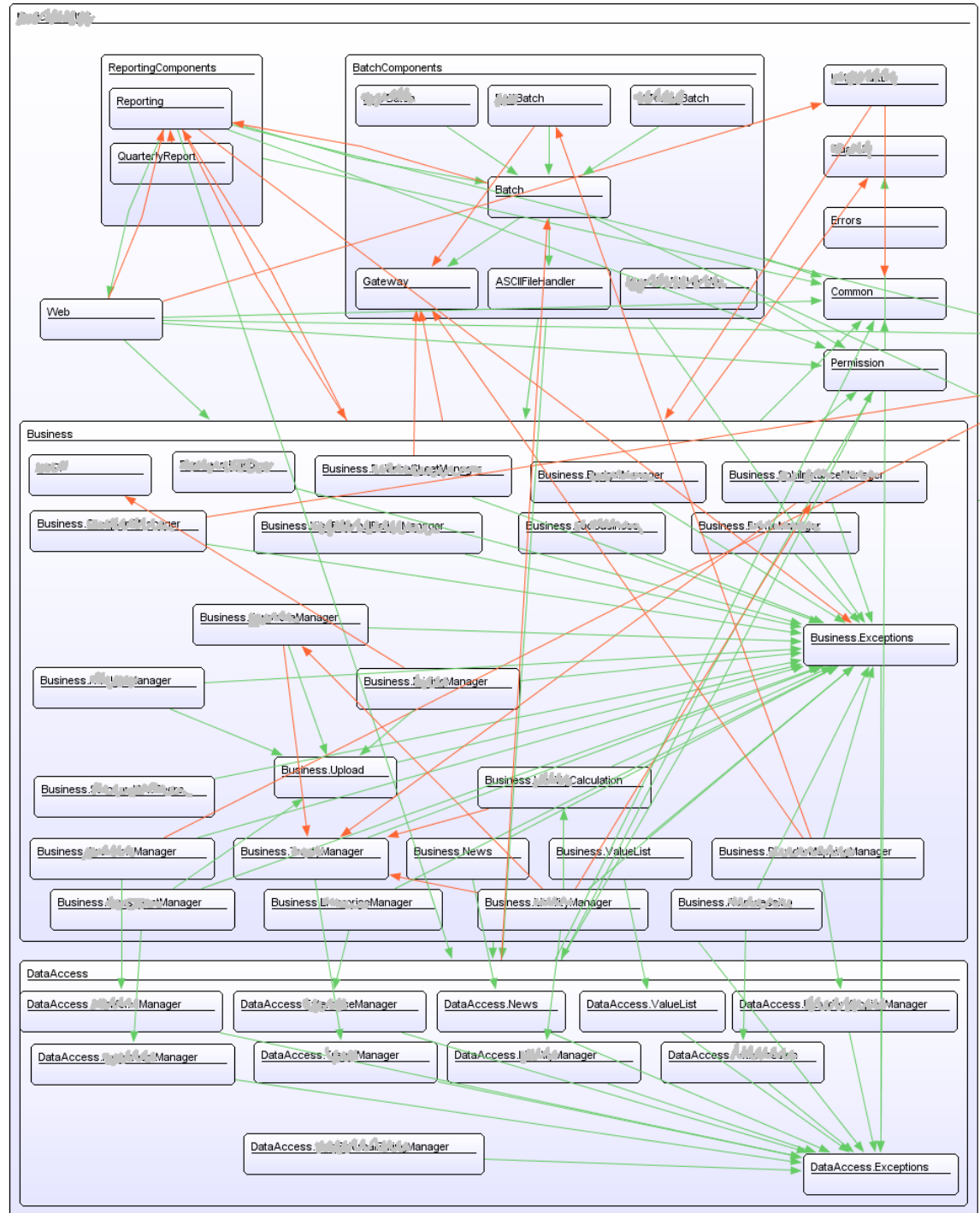
Munich Re 

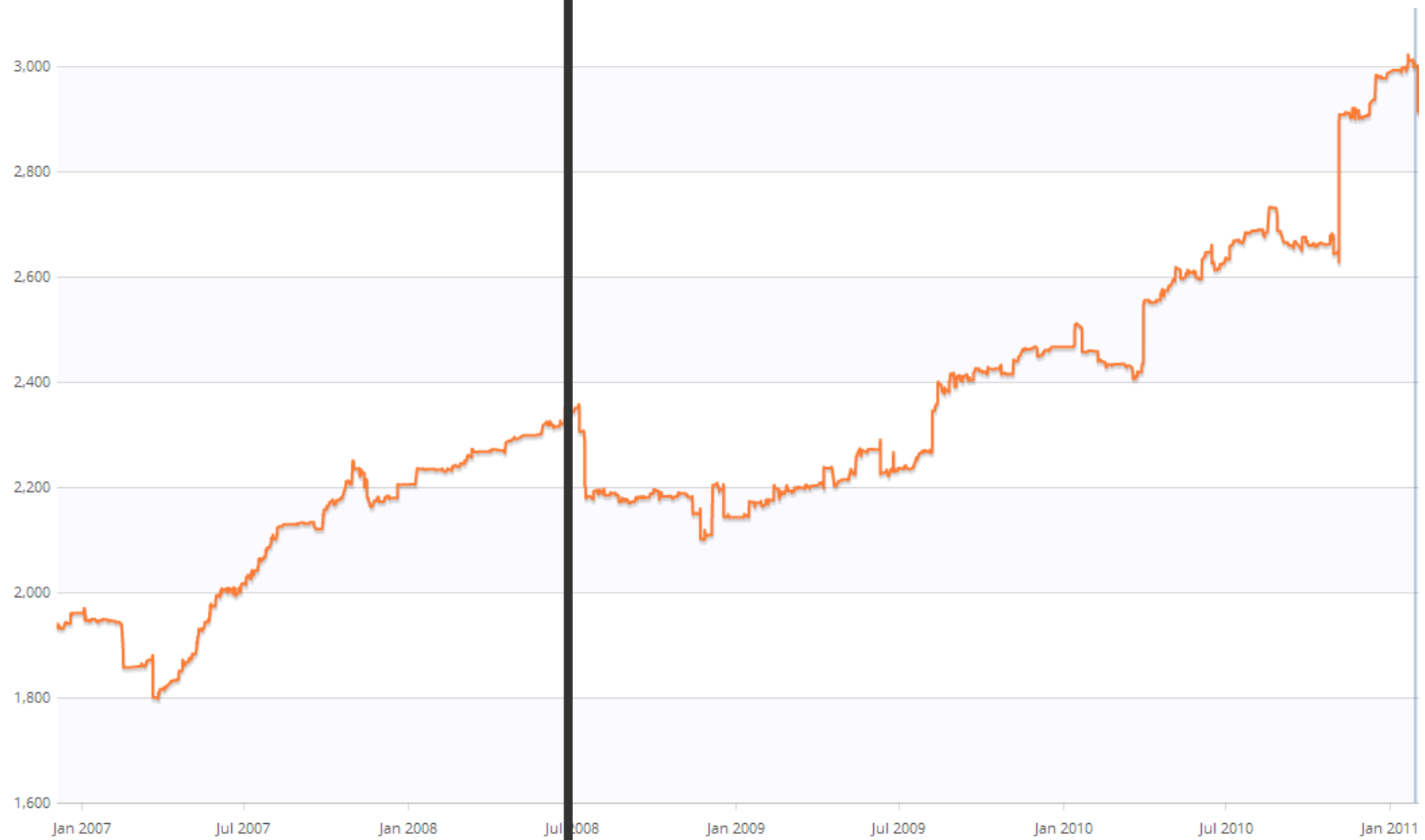
- Über 100 Fehler in produktiver Software



- 52% aller ungewollten Unterschiede fehlerhaft

Juergens, Deissenboeck et al: *Do Code Clones Matter?* ICSE 2009







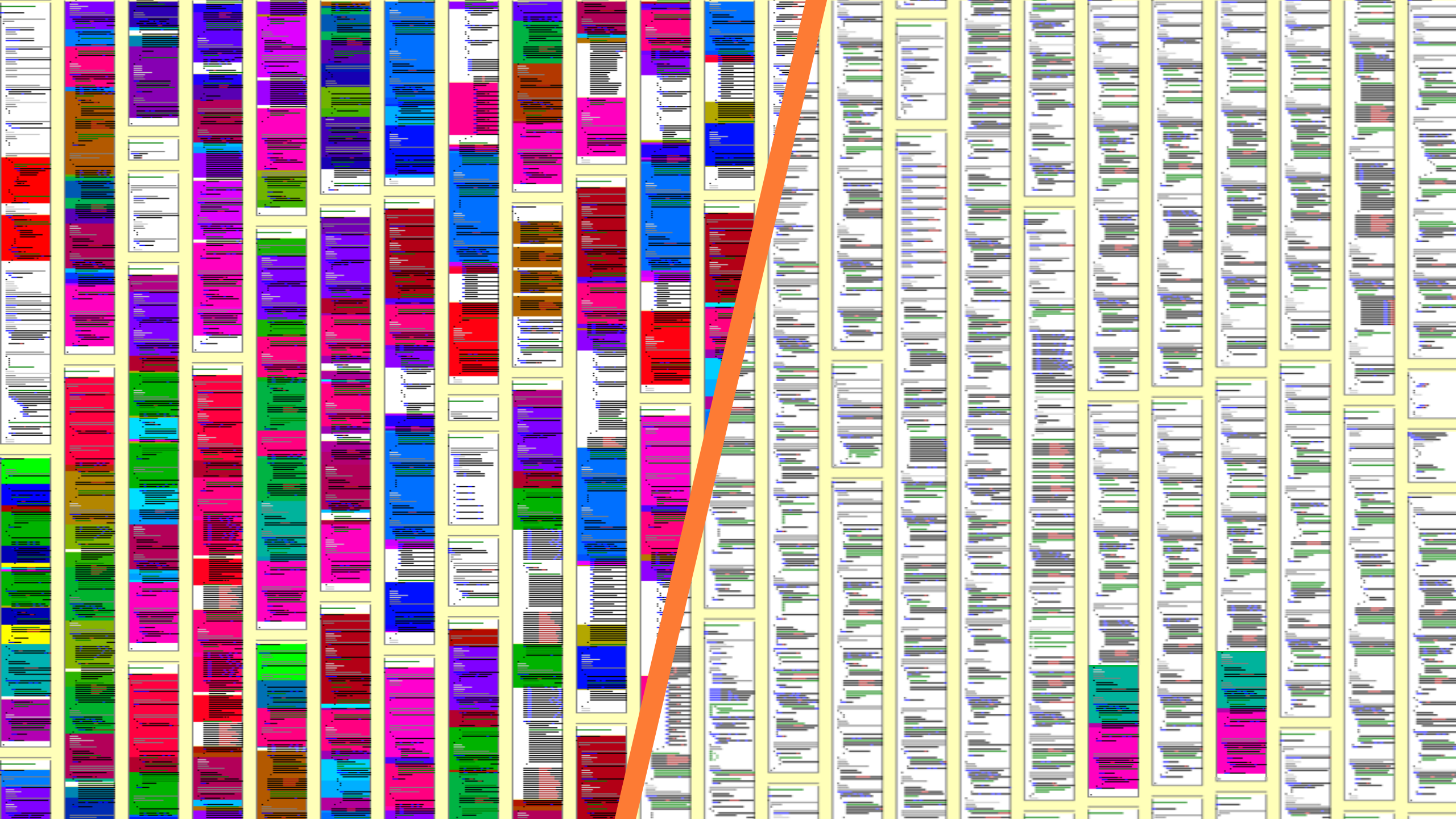
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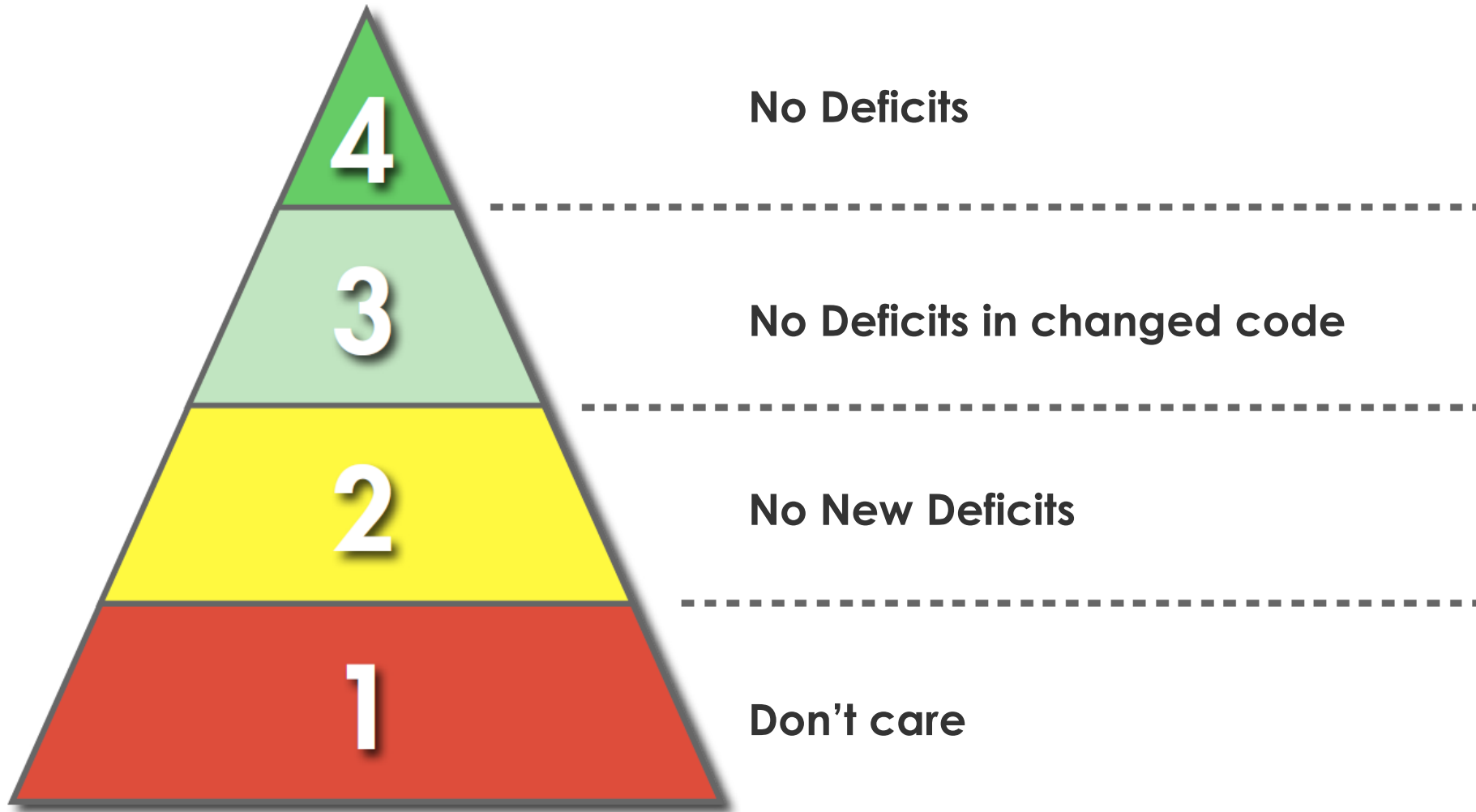


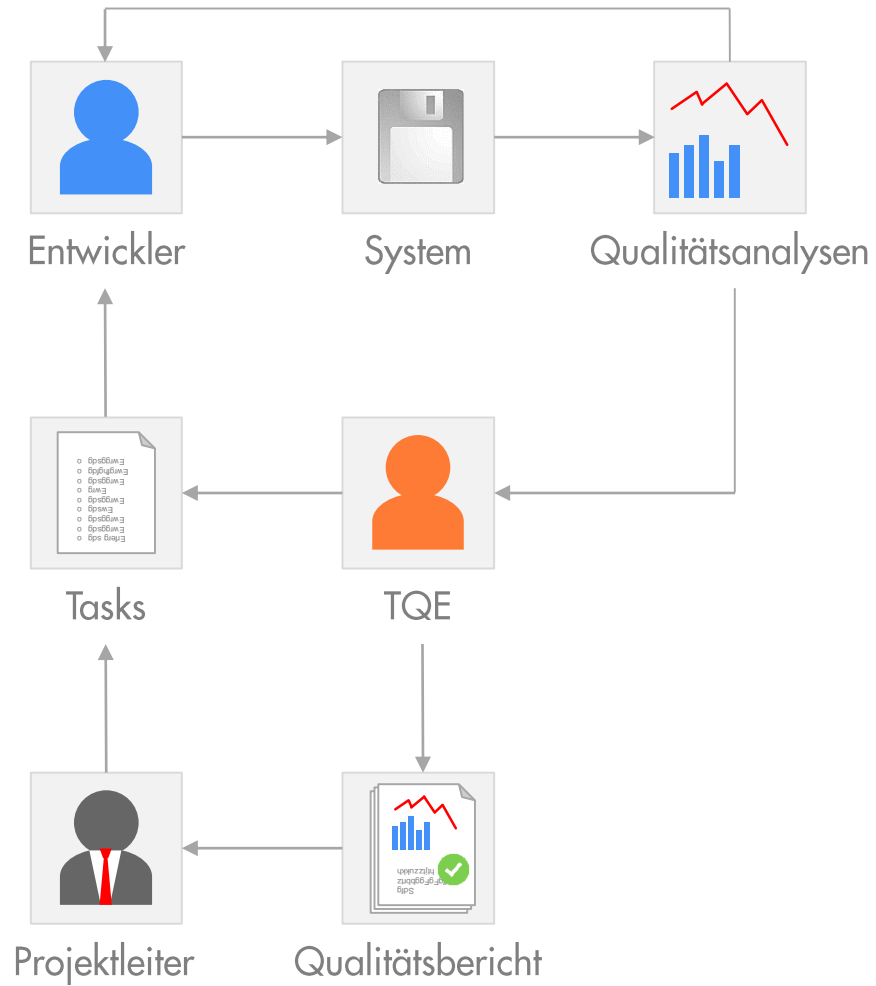
=











Schnelles Feedback

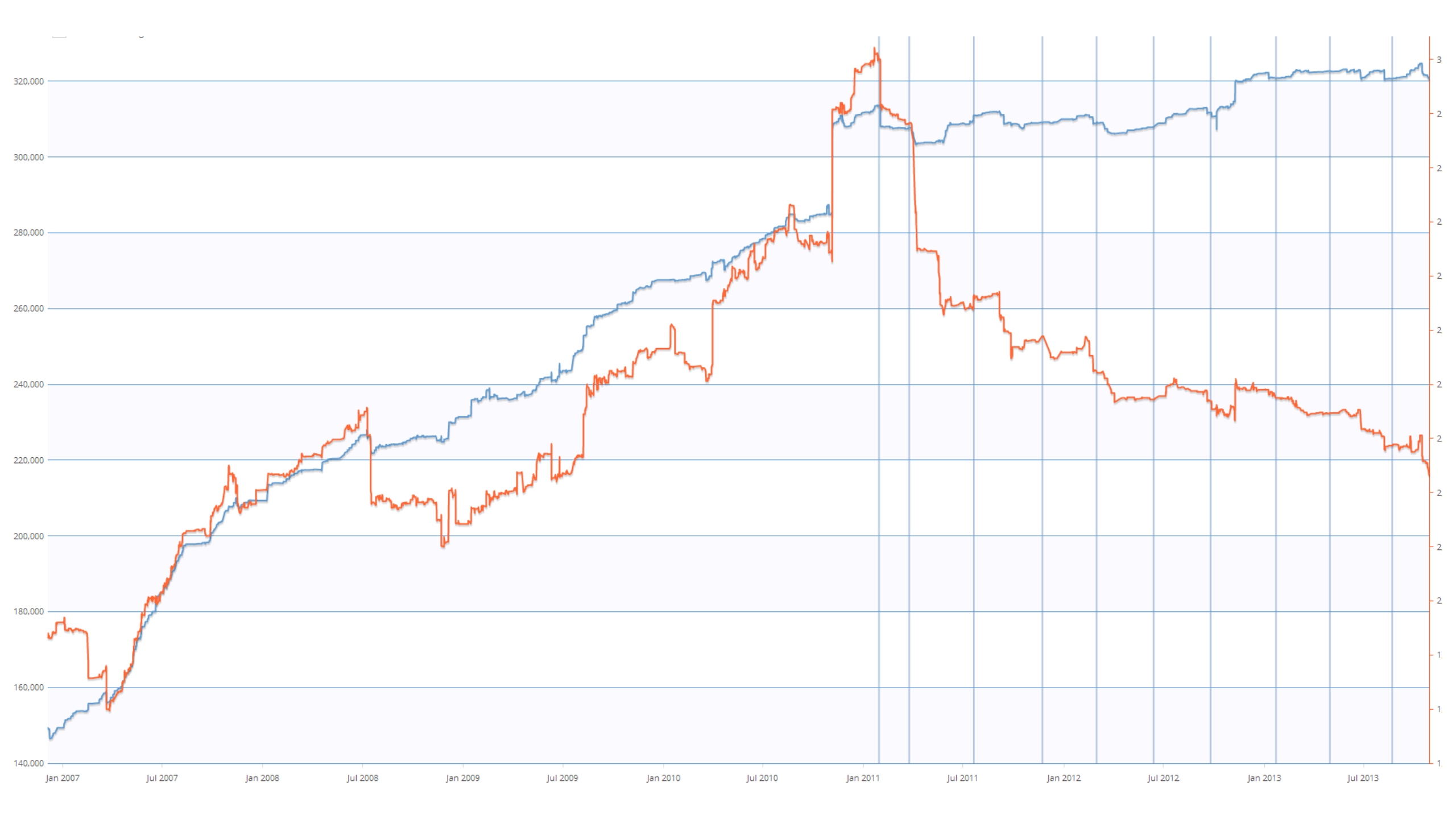
Unmittelbare Reaktion auf
Qualitätsdefizite

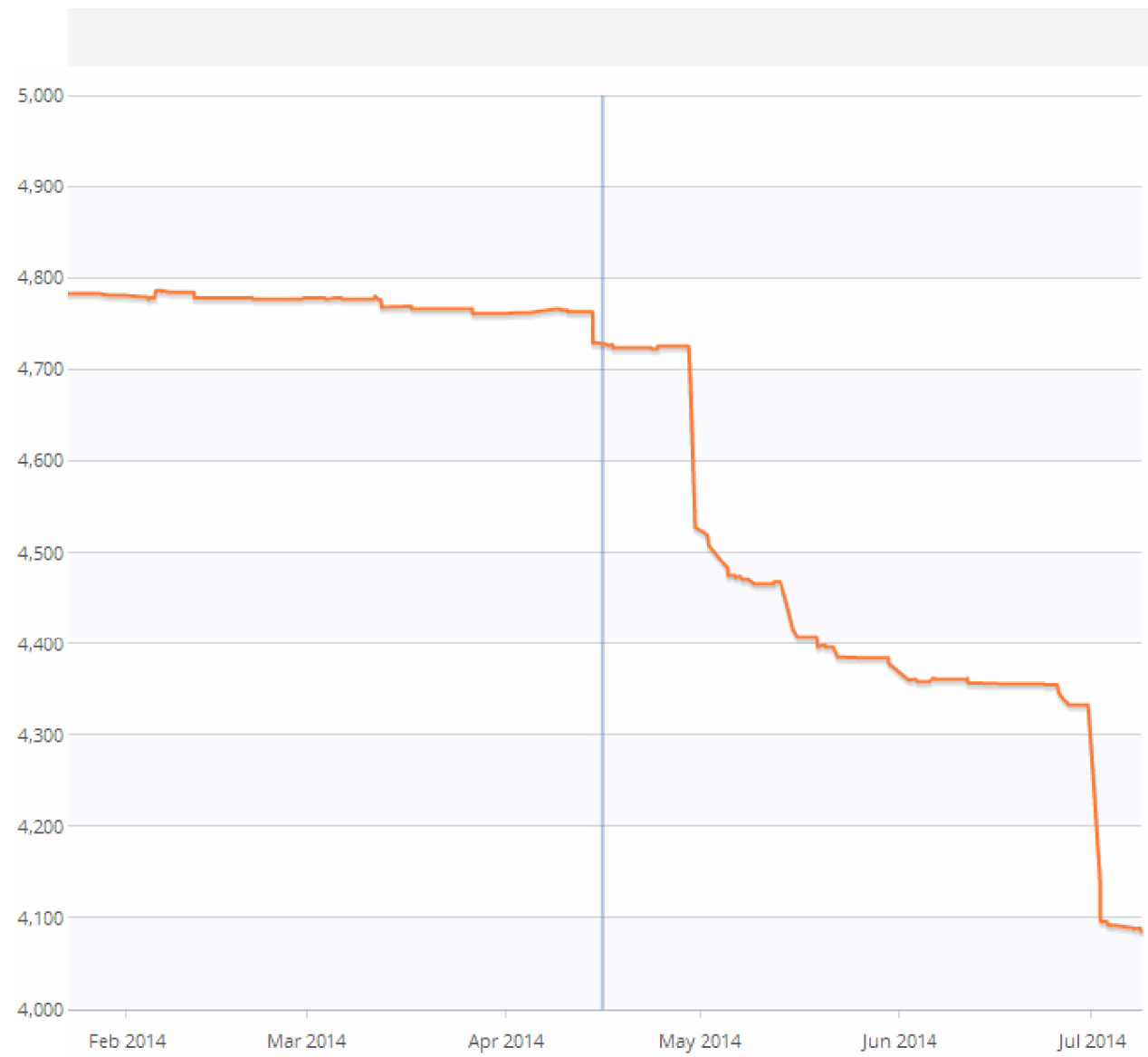
Konkrete Verbesserungen

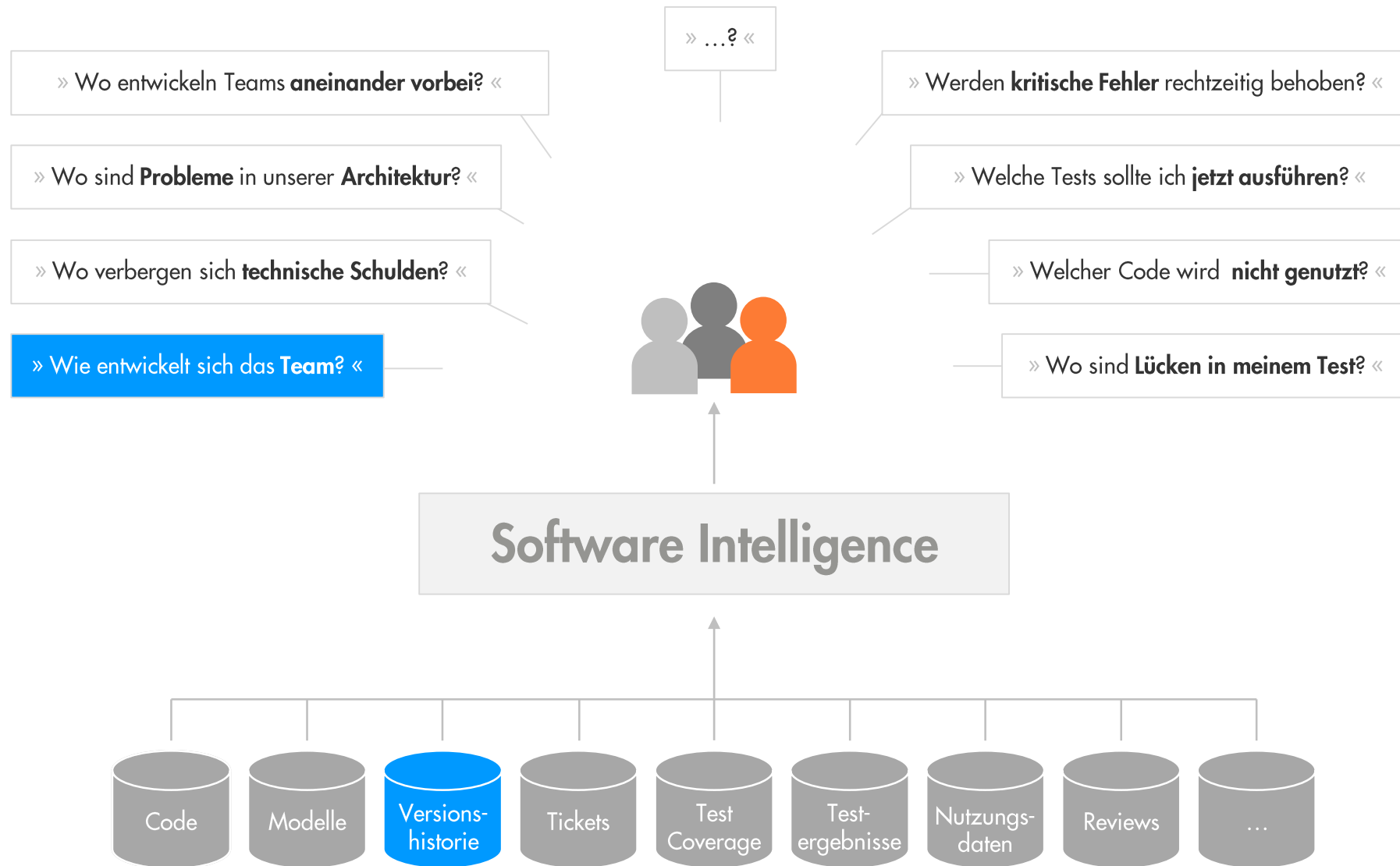
Definition von Tasks

Hohe Transparenz

»Features vs. Qualität«-
Entscheidungen

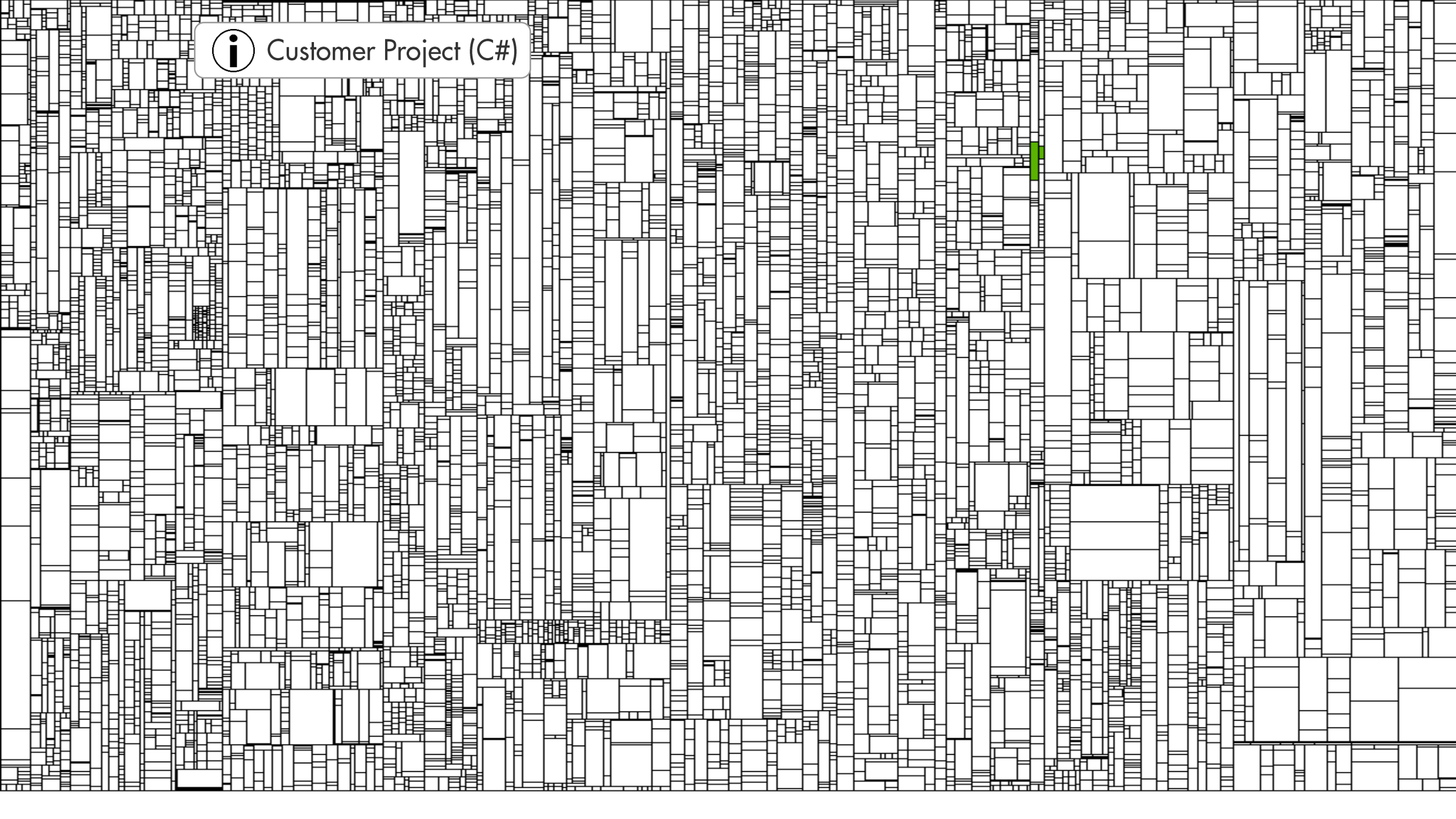








Customer Project (C#)

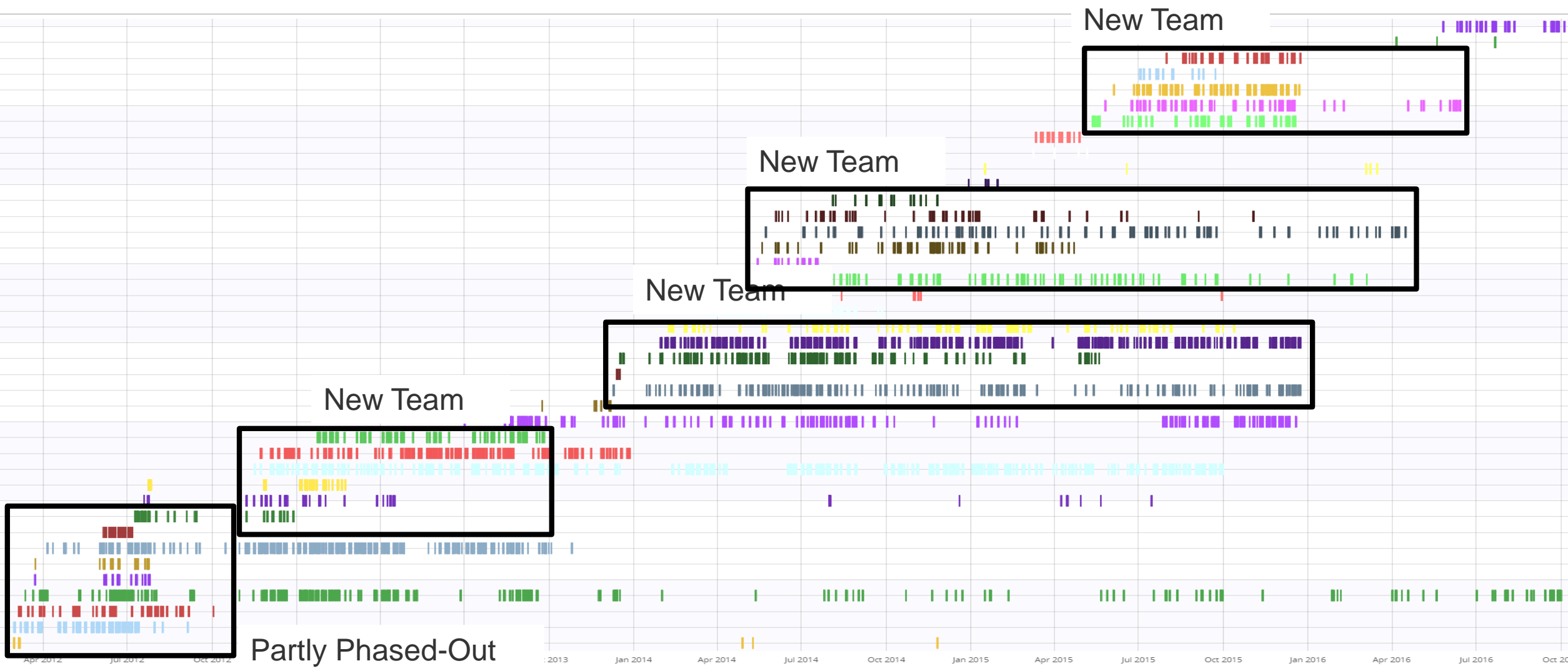




Phase-In
aborted

New Team

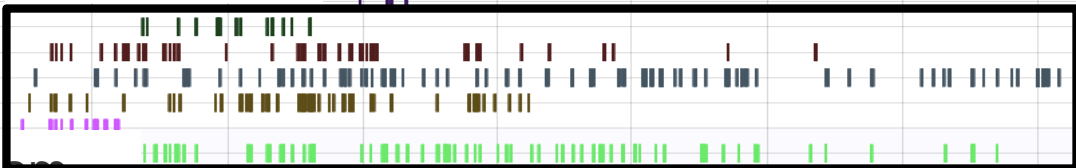
Knowledge-Transfer



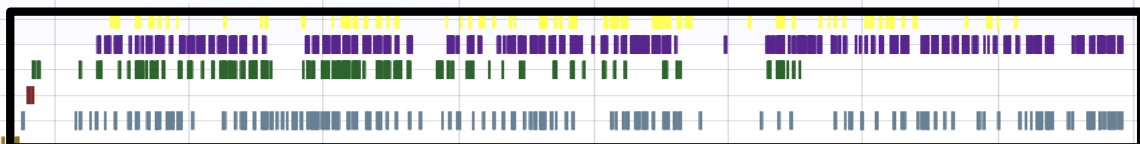
New Team



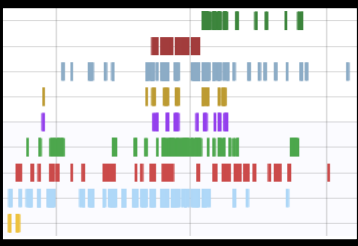
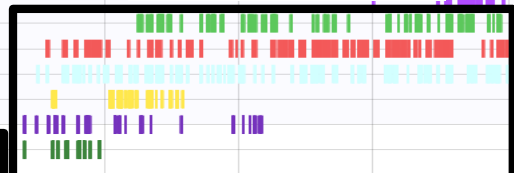
New Team



New Team

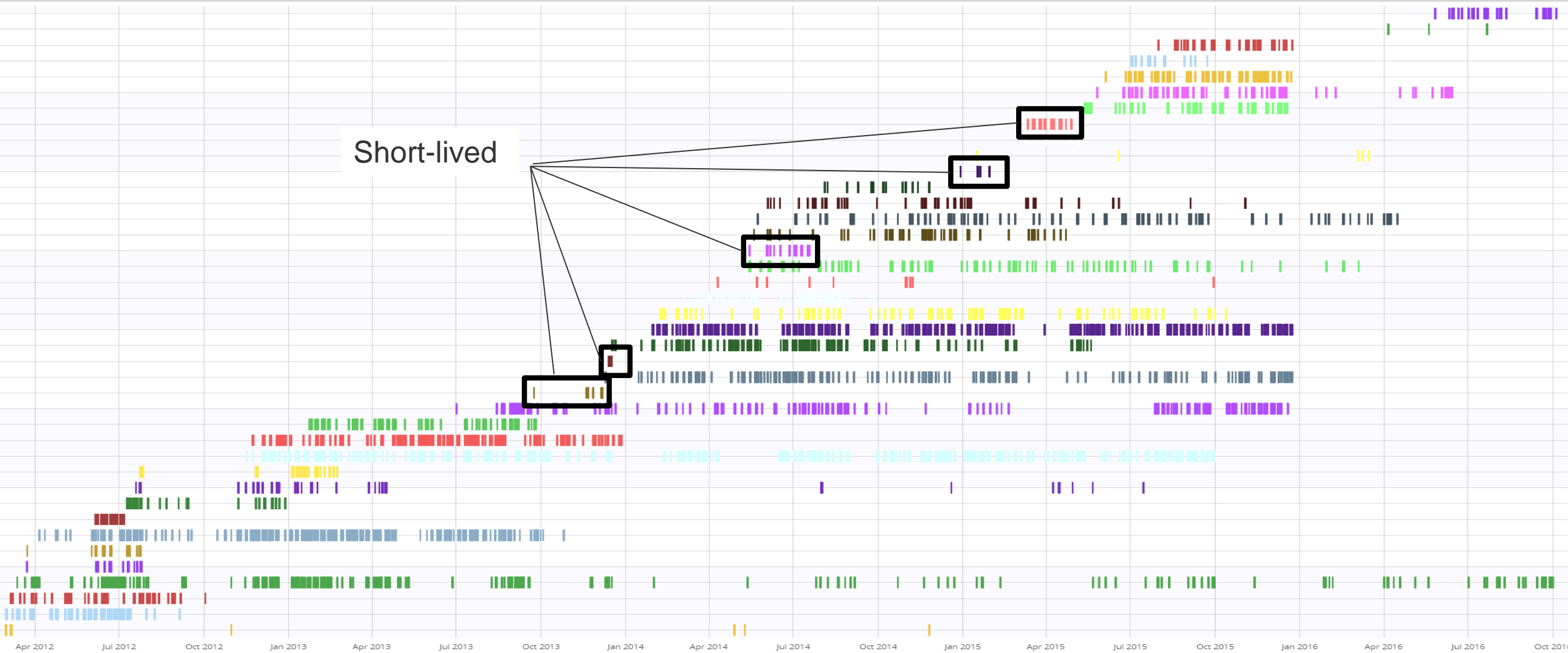


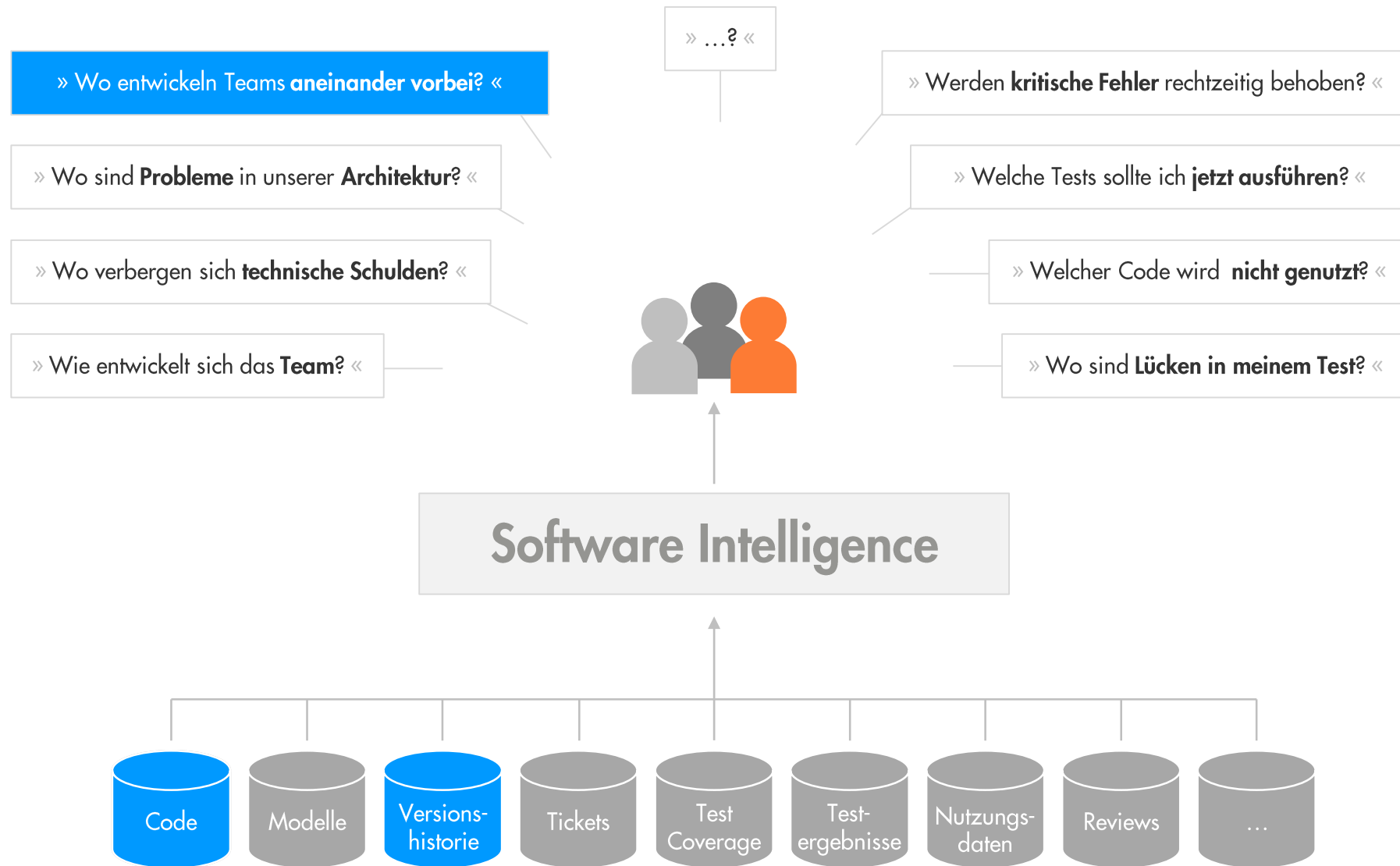
New Team

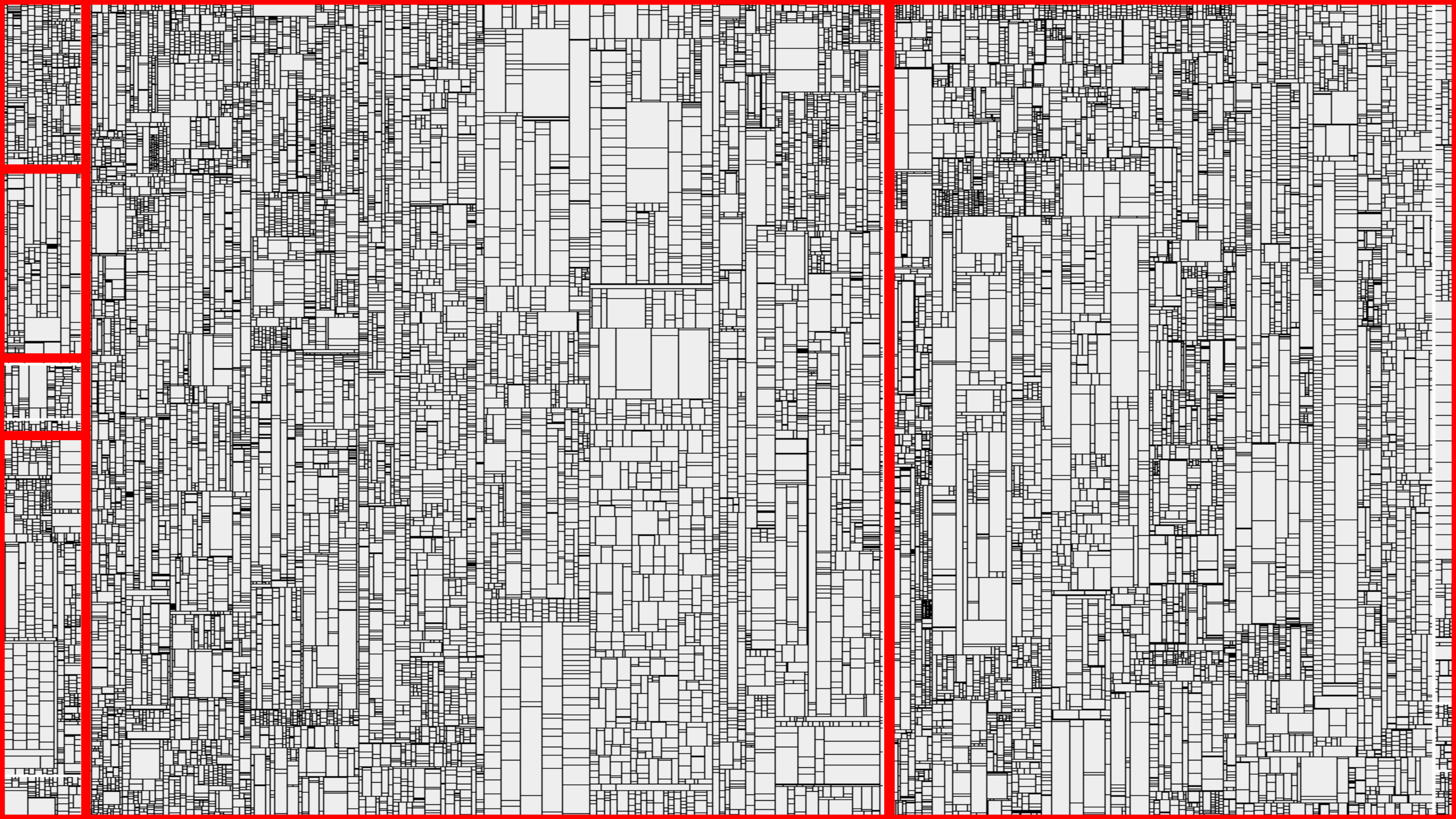


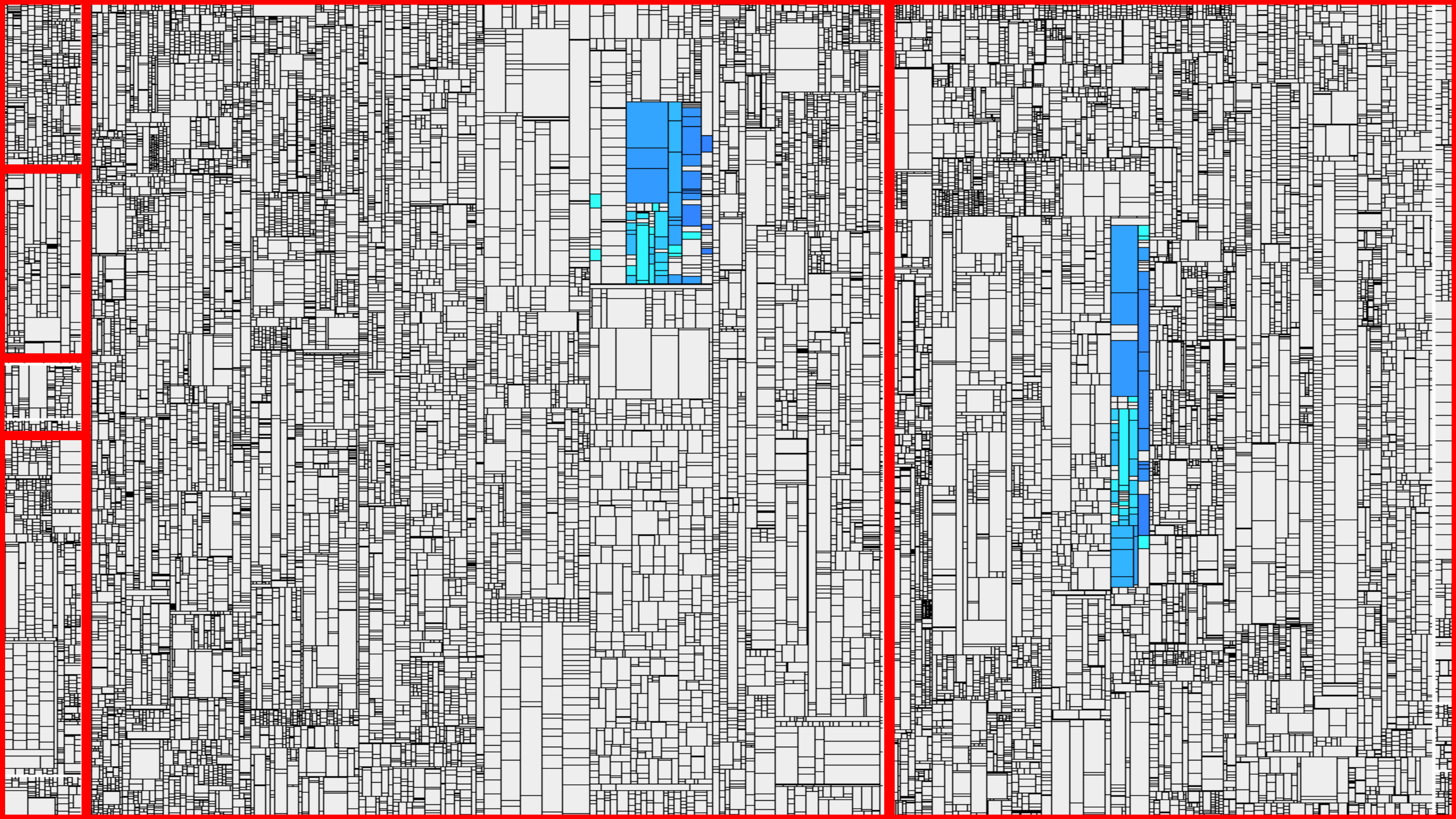
Partly Phased-Out

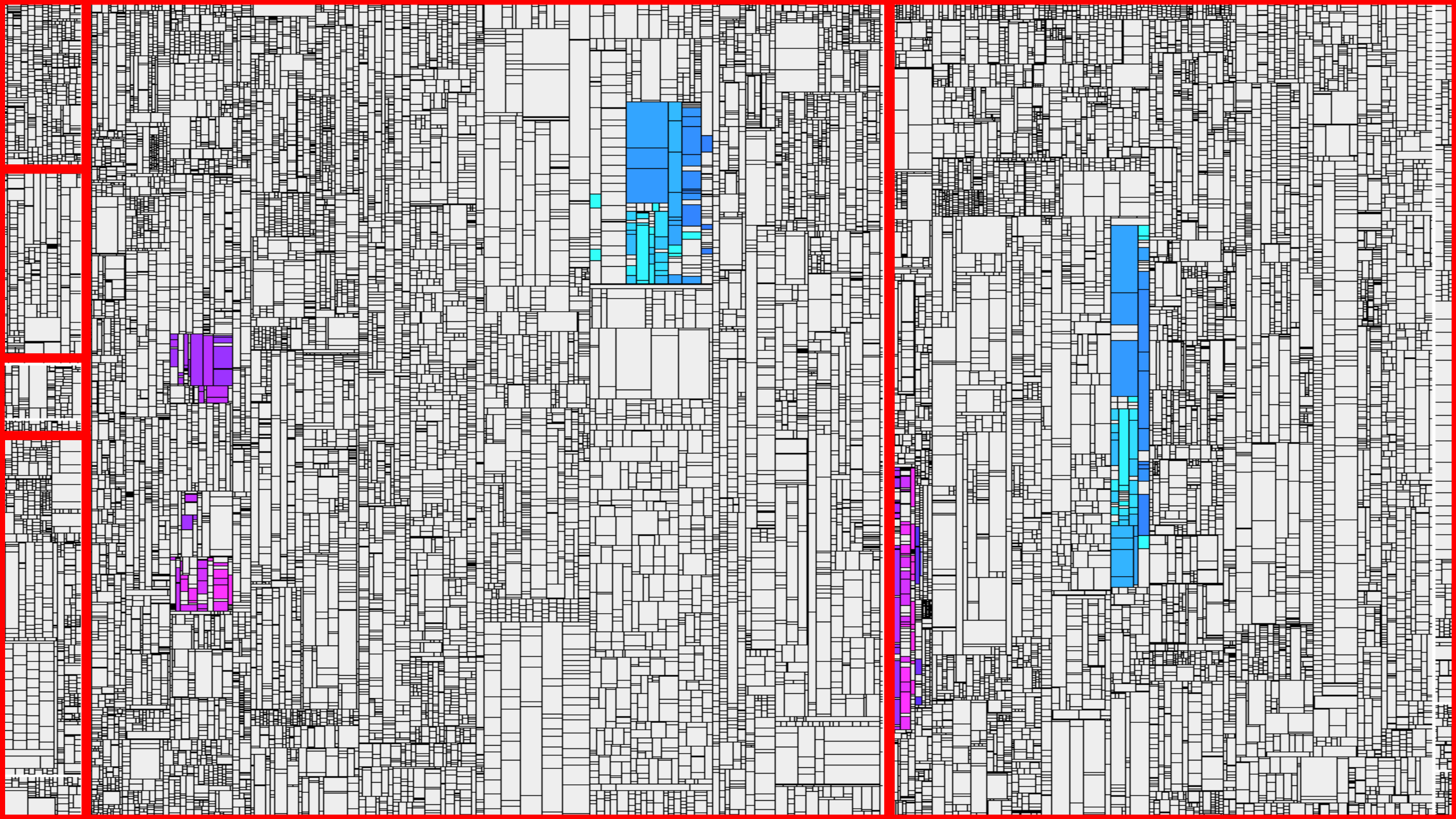
Short-lived

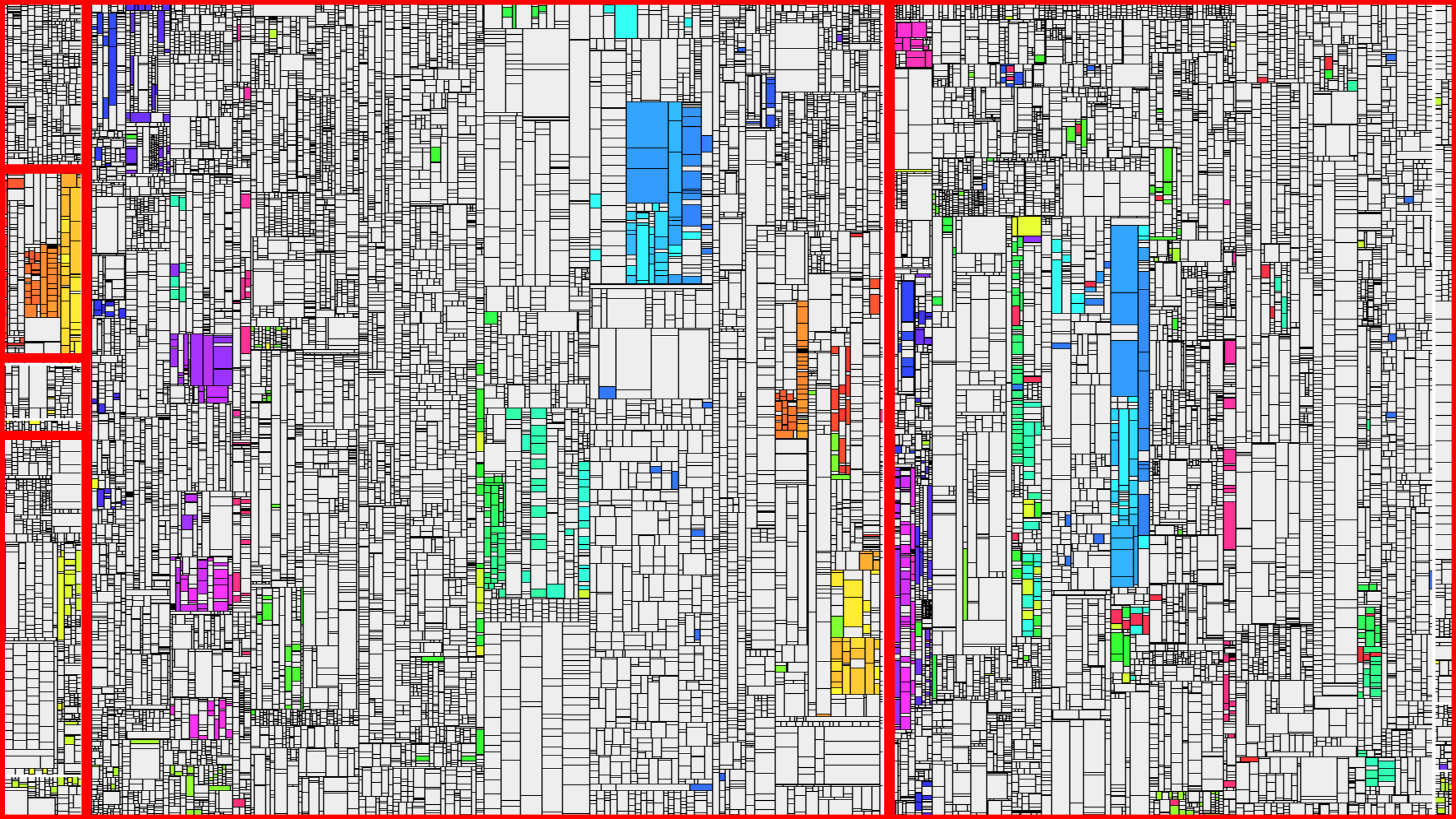


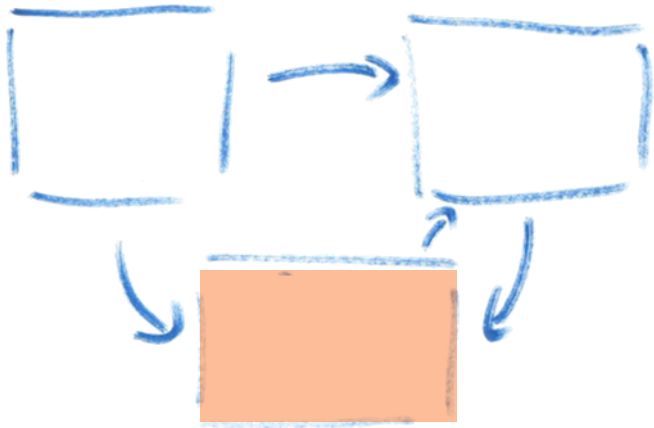
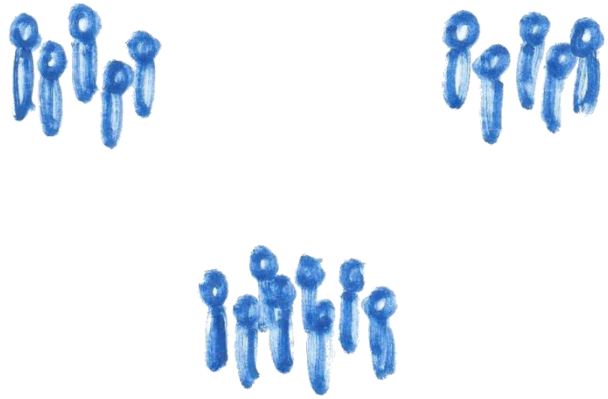


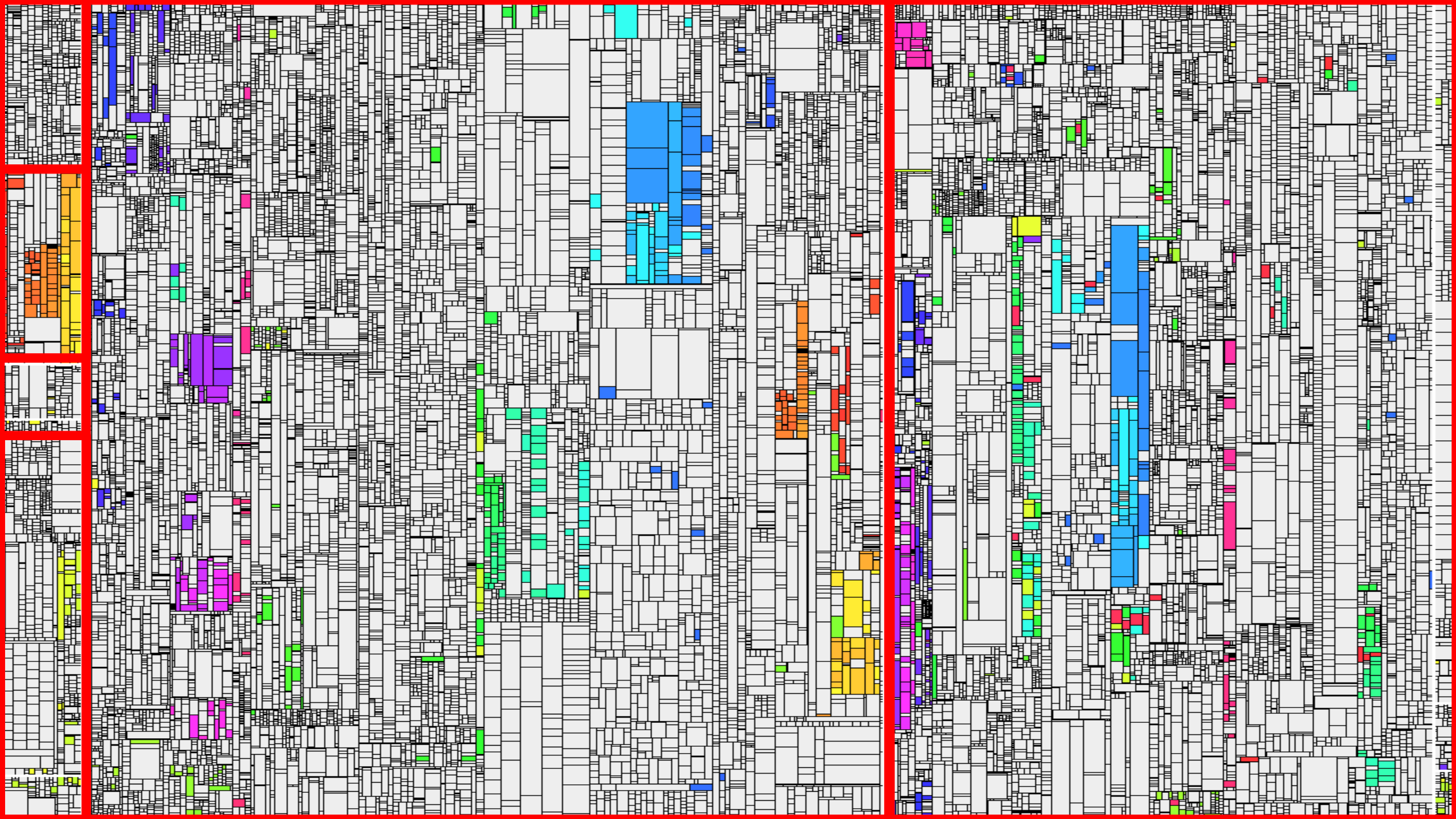


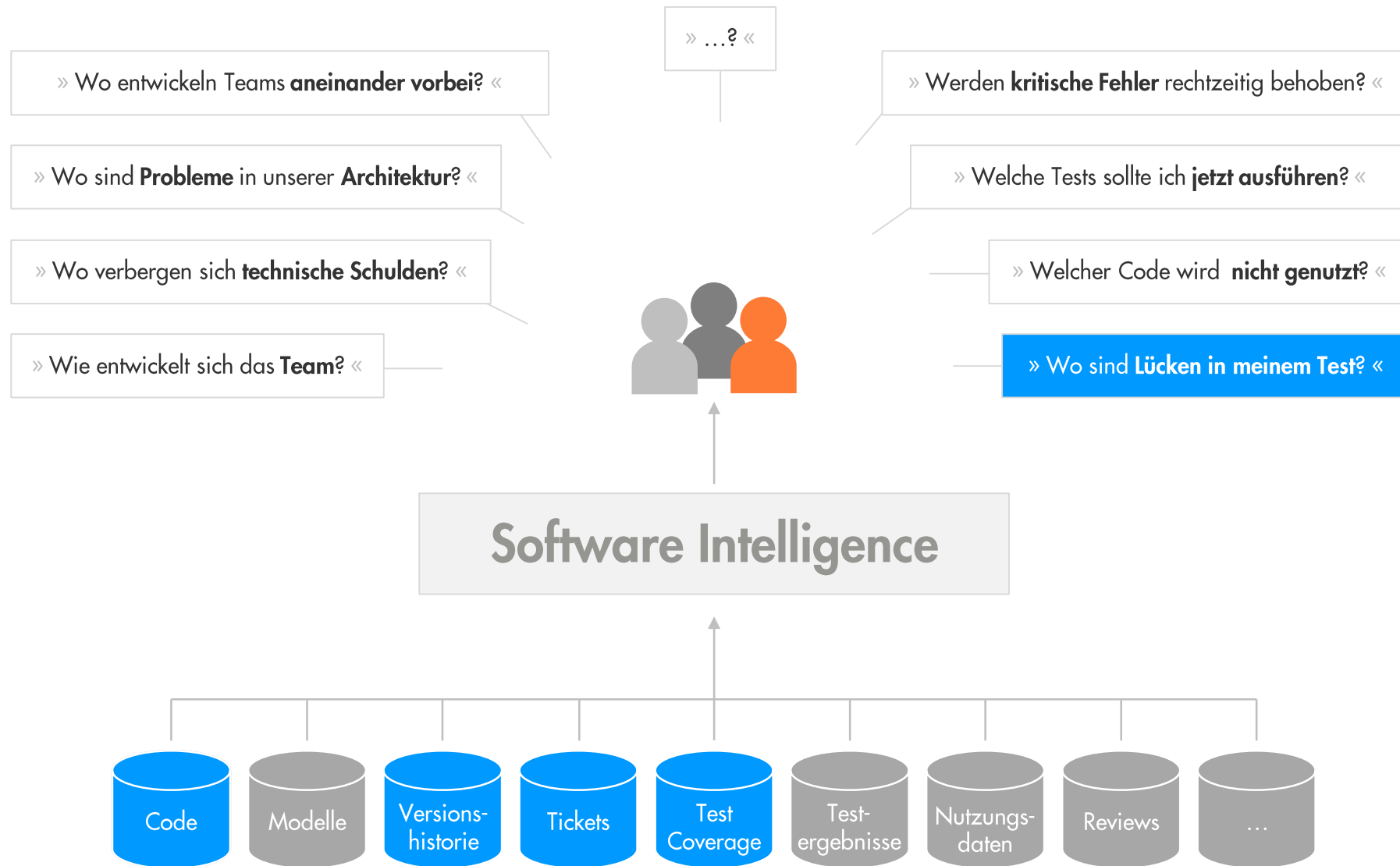












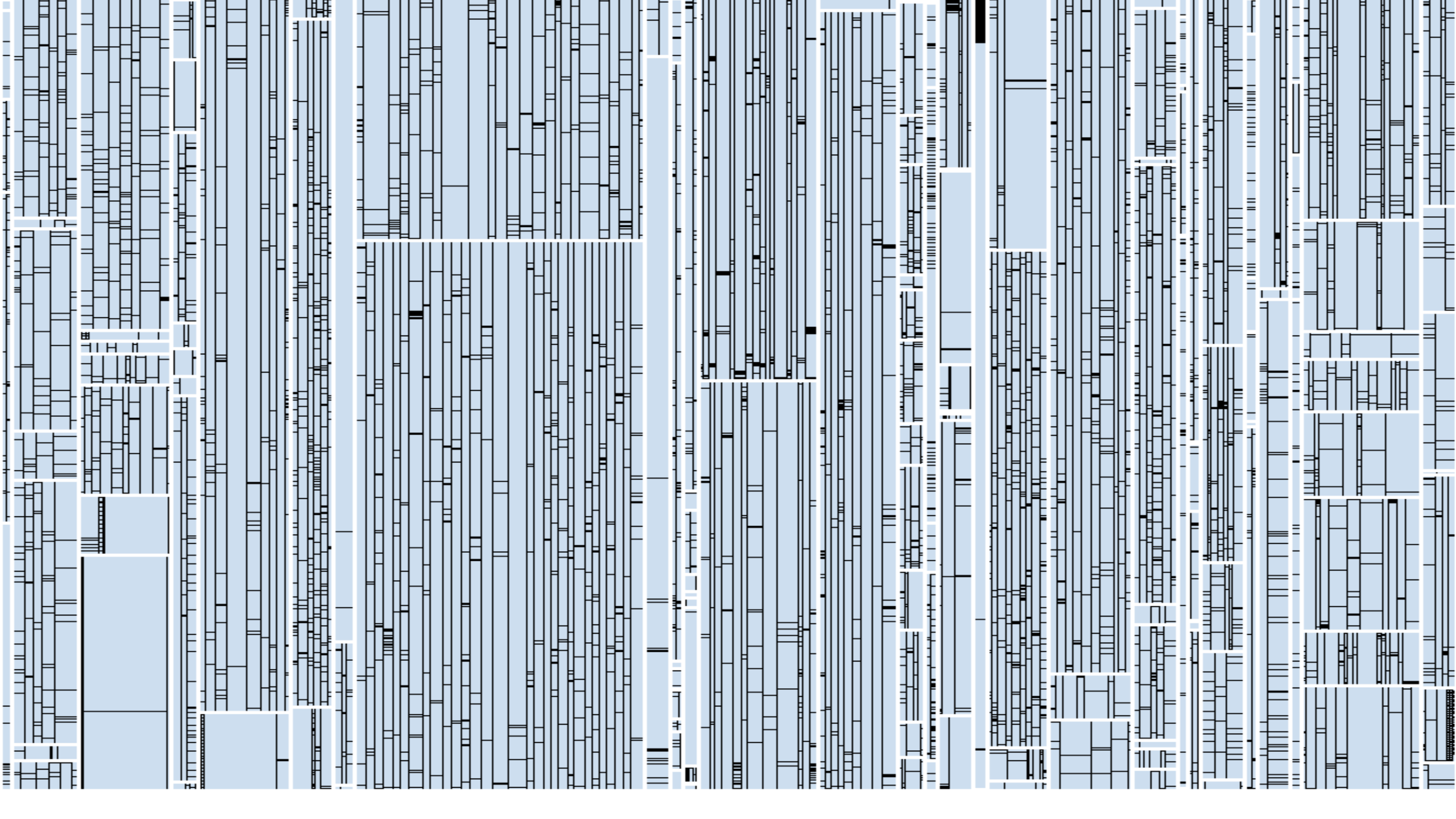
UI Controls

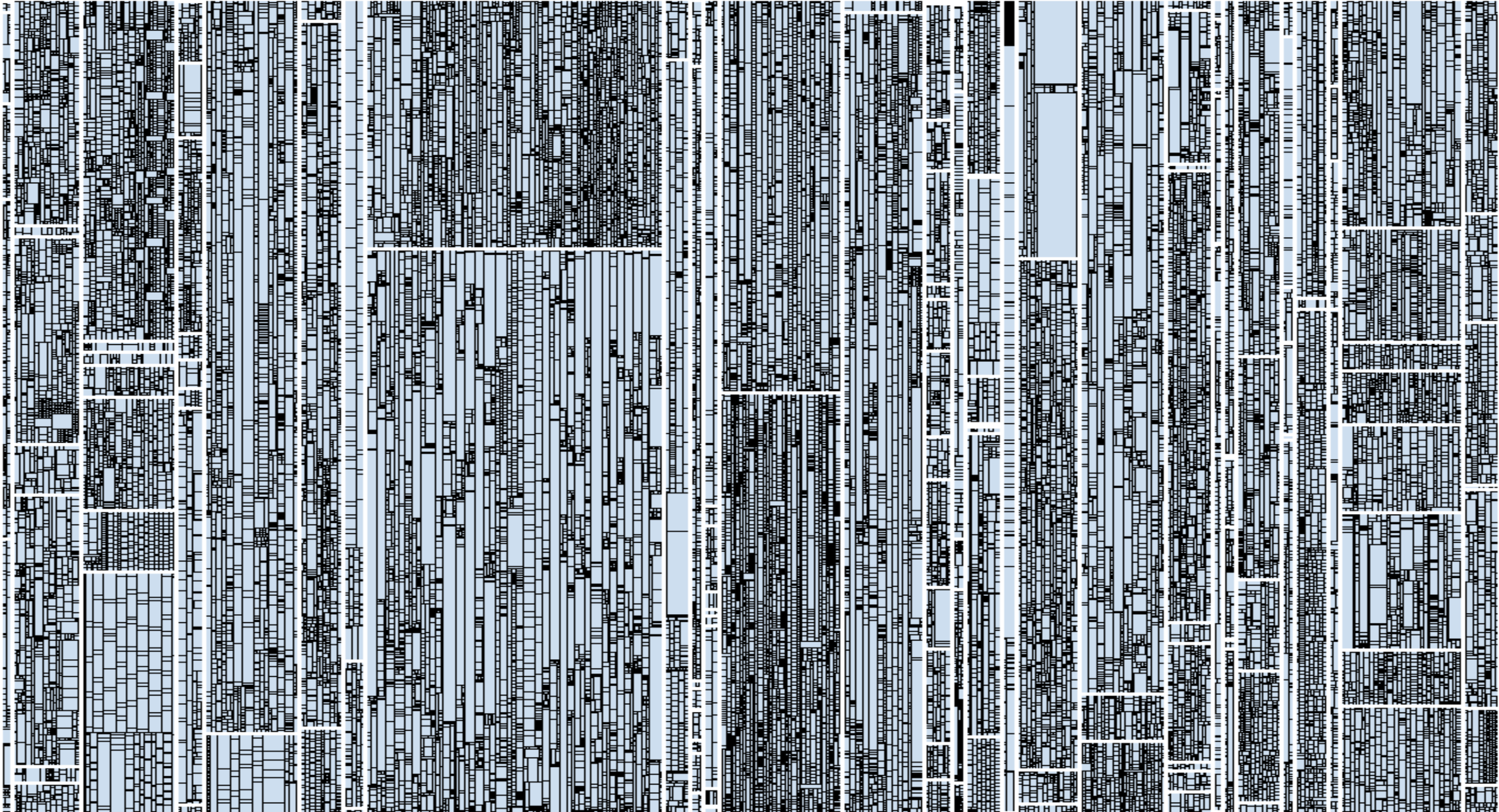
GUI.Dialogs

GUI.Base

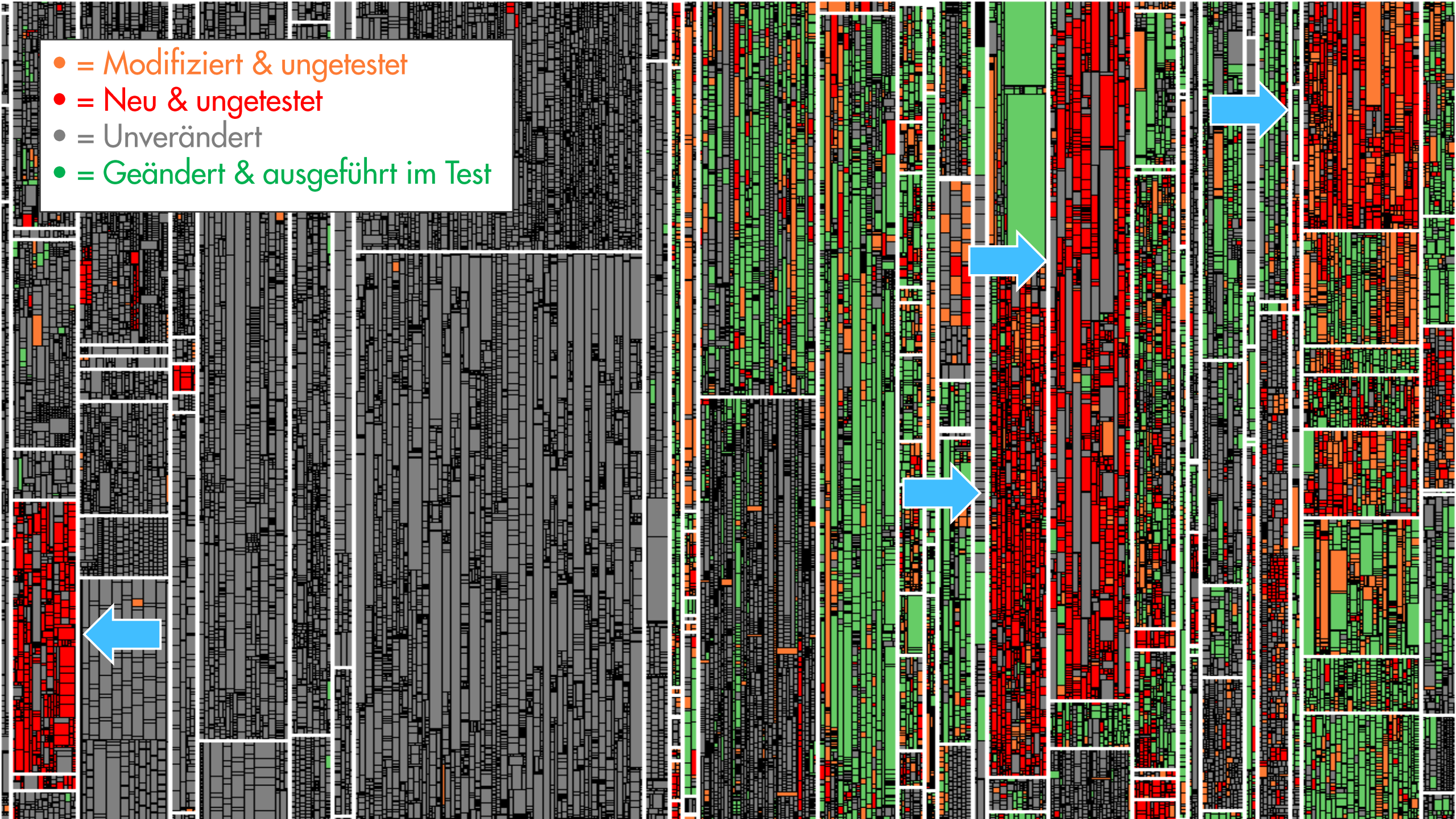
Authentication

Data Validation

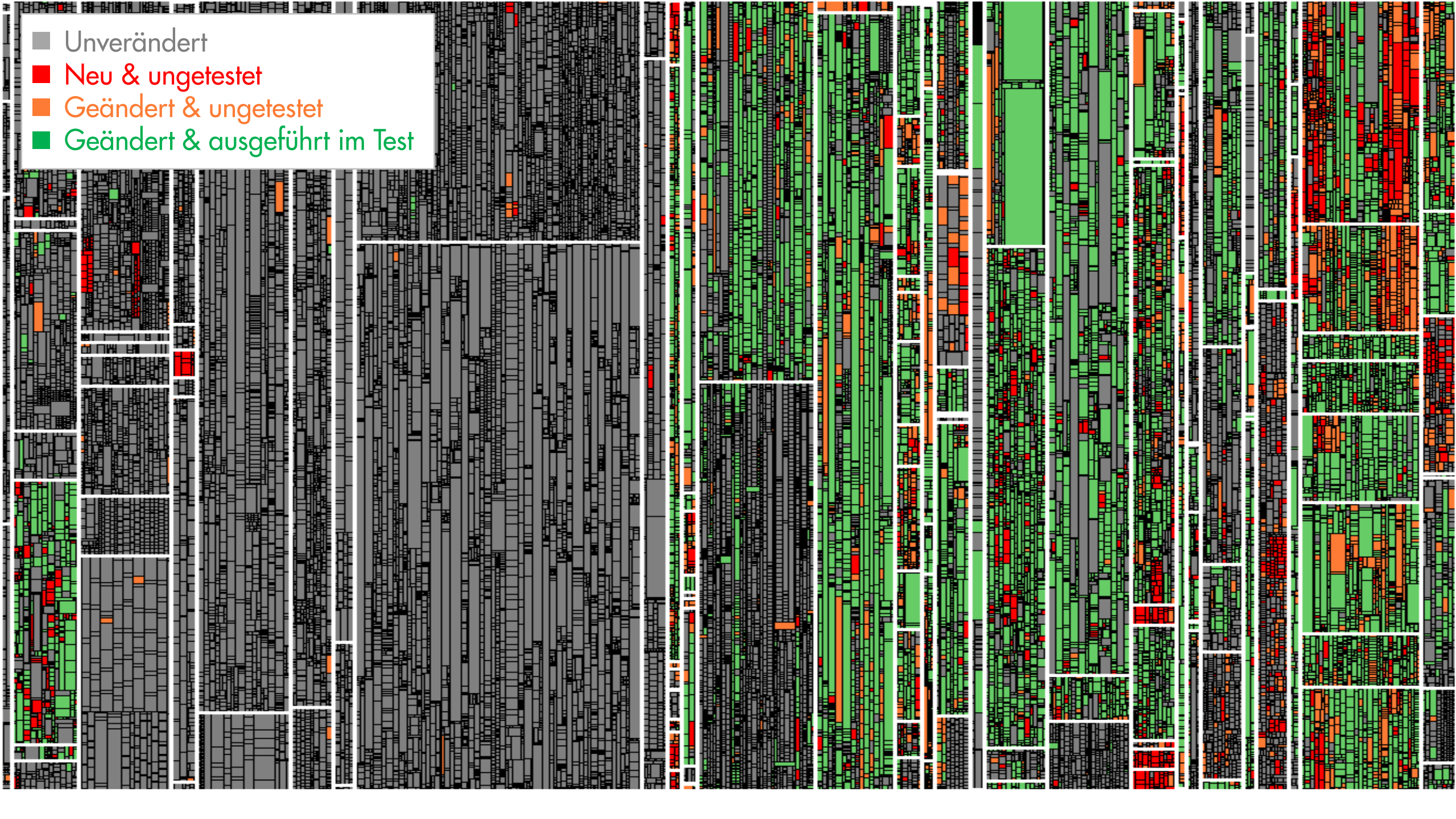
























- = Modifiziert & ungetestet
- = Neu & ungetestet
- = Unverändert
- = Geändert & ausgeführt im Test




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




Issue # ▼	Subject	Done		Test Gap
TS-10549	Undo/Redo for web-based architecture editor	Done		0% 
TS-10784	Fix long method finding in TaintAnalysisRunner	Done		0% 
TS-10923	Implement metric 'Nesting Depth' for Simulink	Done		29% 
TS-11364	External findings are not registered during first upload	Done		14% 
TS-11942	Manual test coverage upload during development	Done		43% 
TS-12050	Tool for transferring findings blacklists and tasks	Done		50% 
TS-12262	Cannot set or alter alias without reanalysis	Done		0% 
TS-13151	Fetch parent relationship of TFS work items	Done		0% 

Issue # ▾	Subject		Test Gap
TS-14421	Get rid of TestGapSynchronizer block	Done 	0% 
TS-14733	Remove Dataflow blocks	Done 	22% 

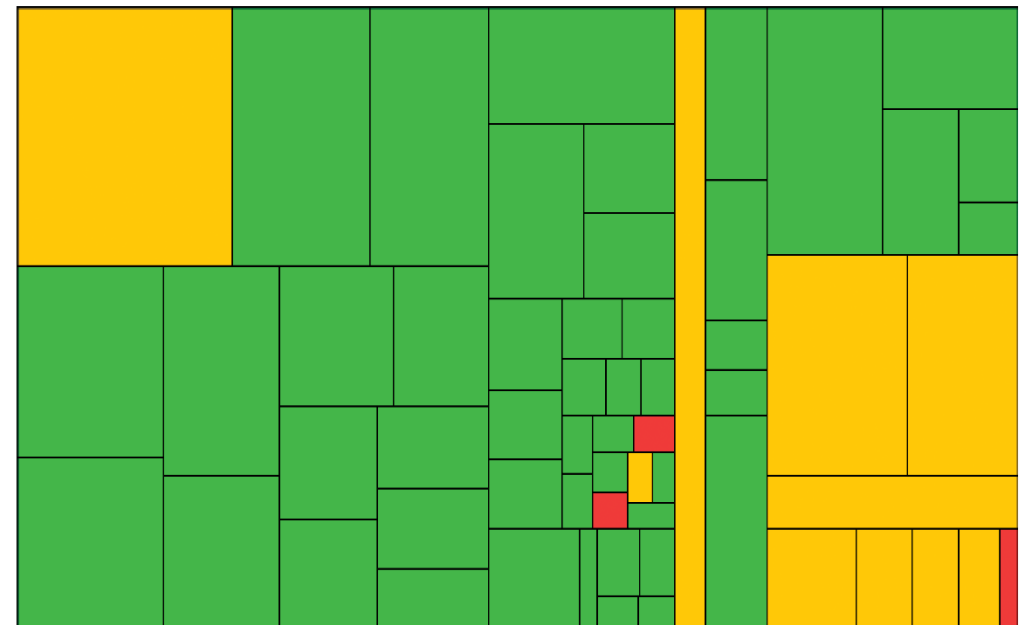
Done Issue TS-14733 - Remove Dataflow blocks

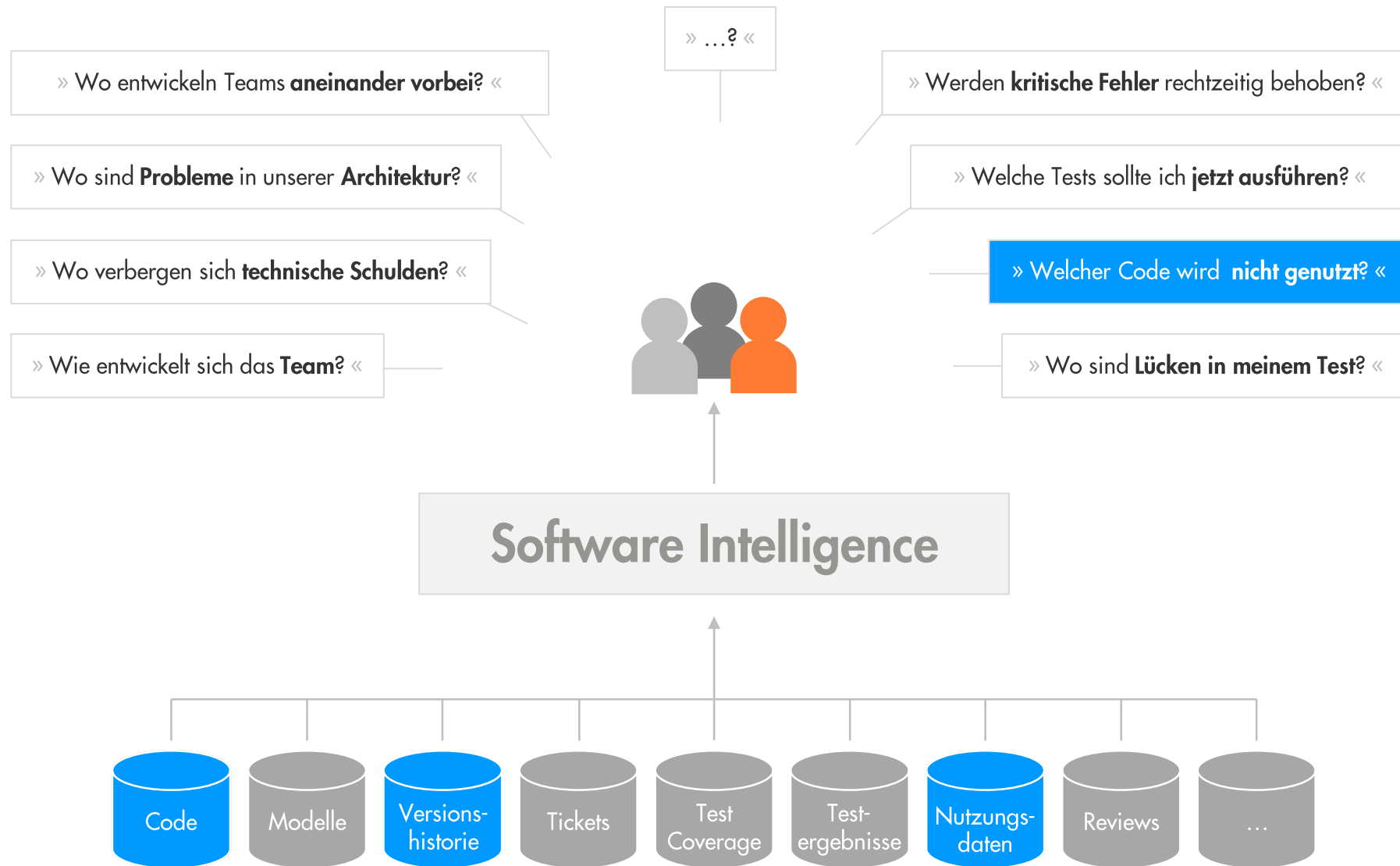
Creator:  (on Apr 06 2018 19:44) Last update: Aug 24 2018 09:32

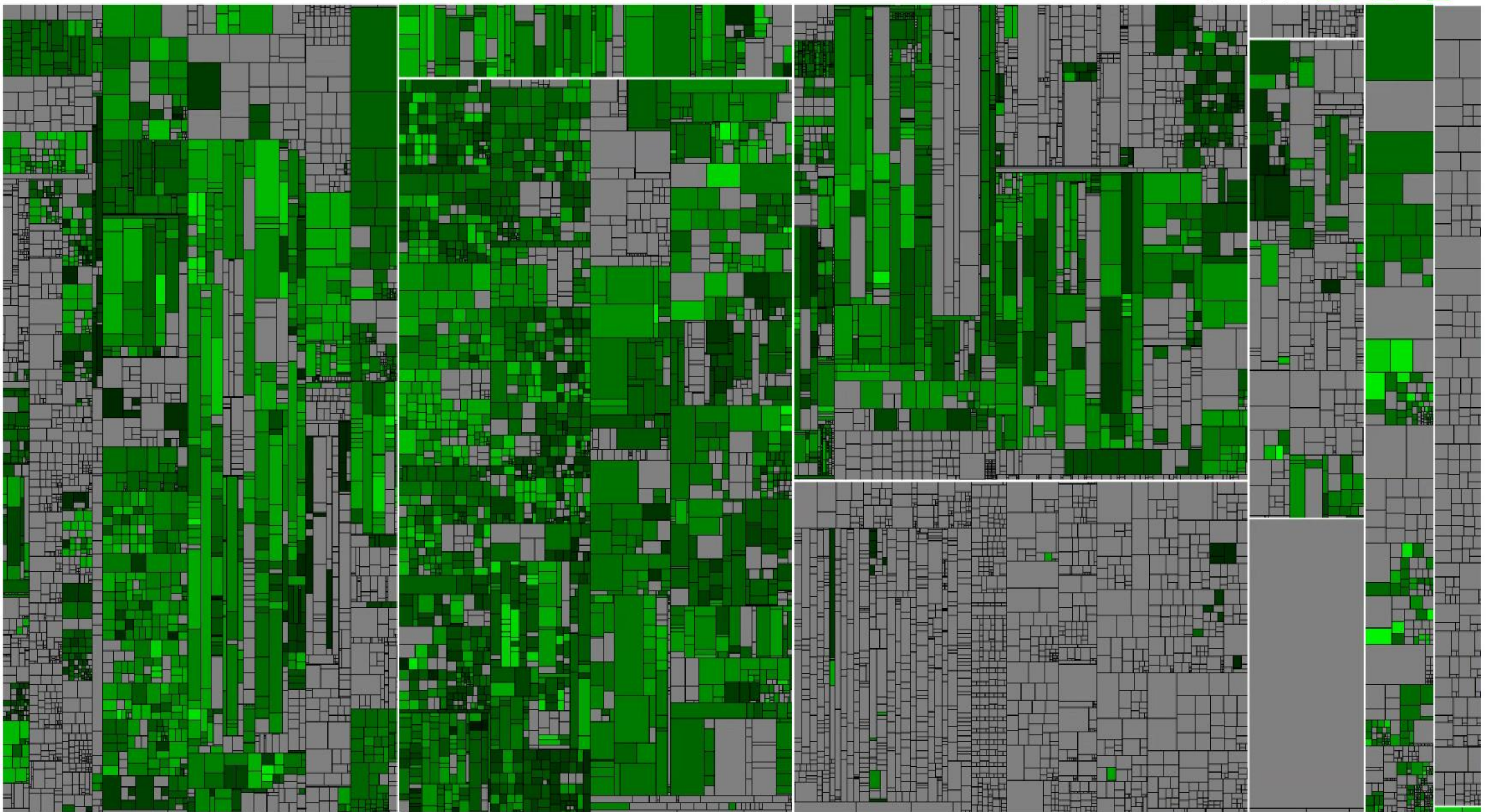
Assignee: 

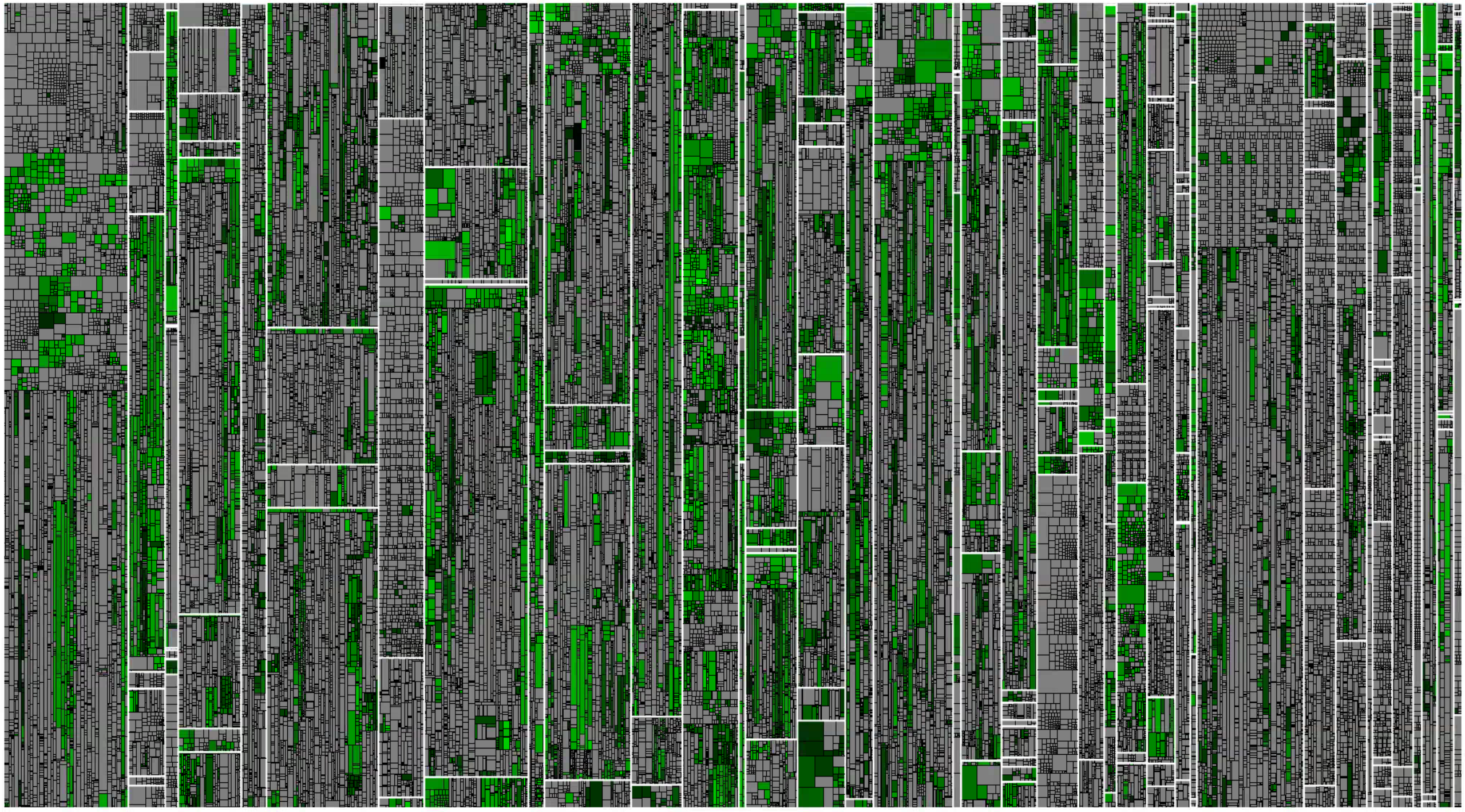
Project	Type	Priority	Resolution	Fix Version
TS	Maintenance	Normal	Green	Teamscale 4.5
Component	Labels	Affected Version	Customer	Customer Issue
Backend	Performance			
Epic Name	Freshdesk URL	Merge Request		
		https://git.cqse.eu/cqse/teamscale/3621		

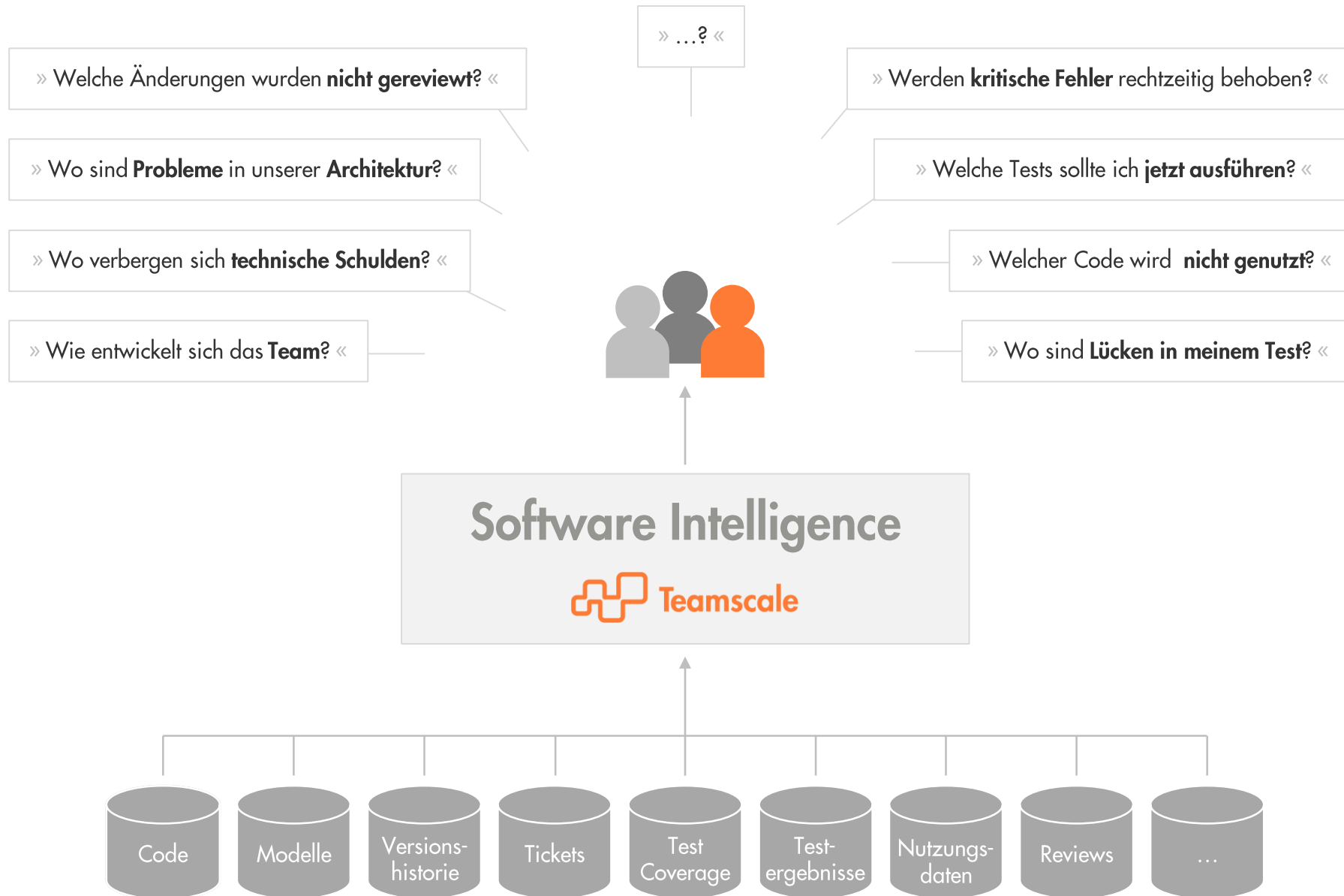
Aug 15 2018 12:37–Now | Test Gap: 22%











Zusammenfassung

Für langfristig erfolgreiche Software müssen viele Qualitätsaspekte gemeinsam erfüllt sein, die über funktionale Anforderungen hinausgehen.

Es gibt nützliche dynamische und statische Analysen, die Symptome ermitteln können, damit Ursachen früh abgestellt werden können, bevor sie zu viel Schaden verursachen.

Sie sind zu einem großen Grad automatisiert, erfordern aber Erfahrung in Konfiguration und Interpretation. Ich stehe gerne für Erfahrungsaustausch zur Verfügung.

Kontakt – Ich freue mich auf Diskussionen 😊



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