

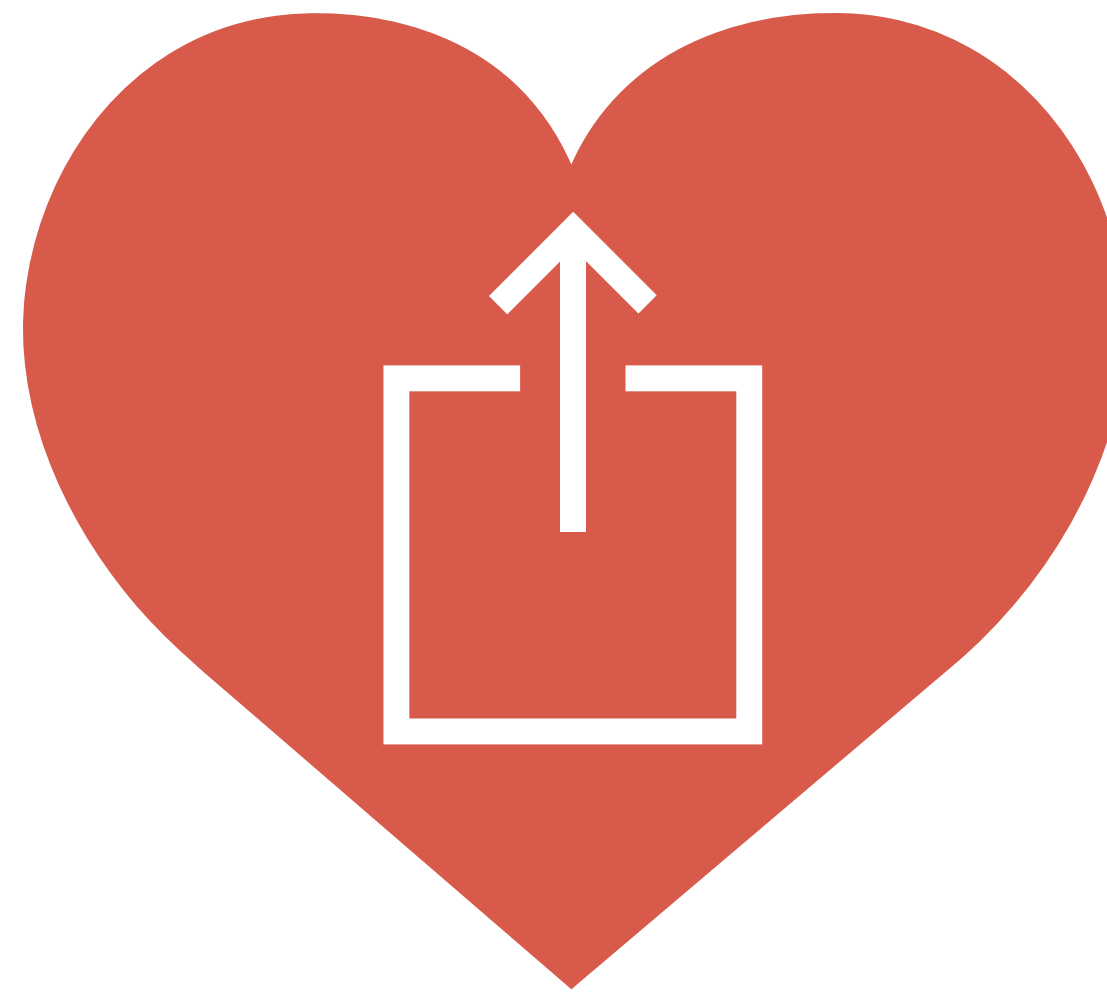
Macoun

Meistern des Alltäglichen

Patrik Schmittat
@cipherCOM



Meistern des Alltäglichen



Typische Probleme in Projekten

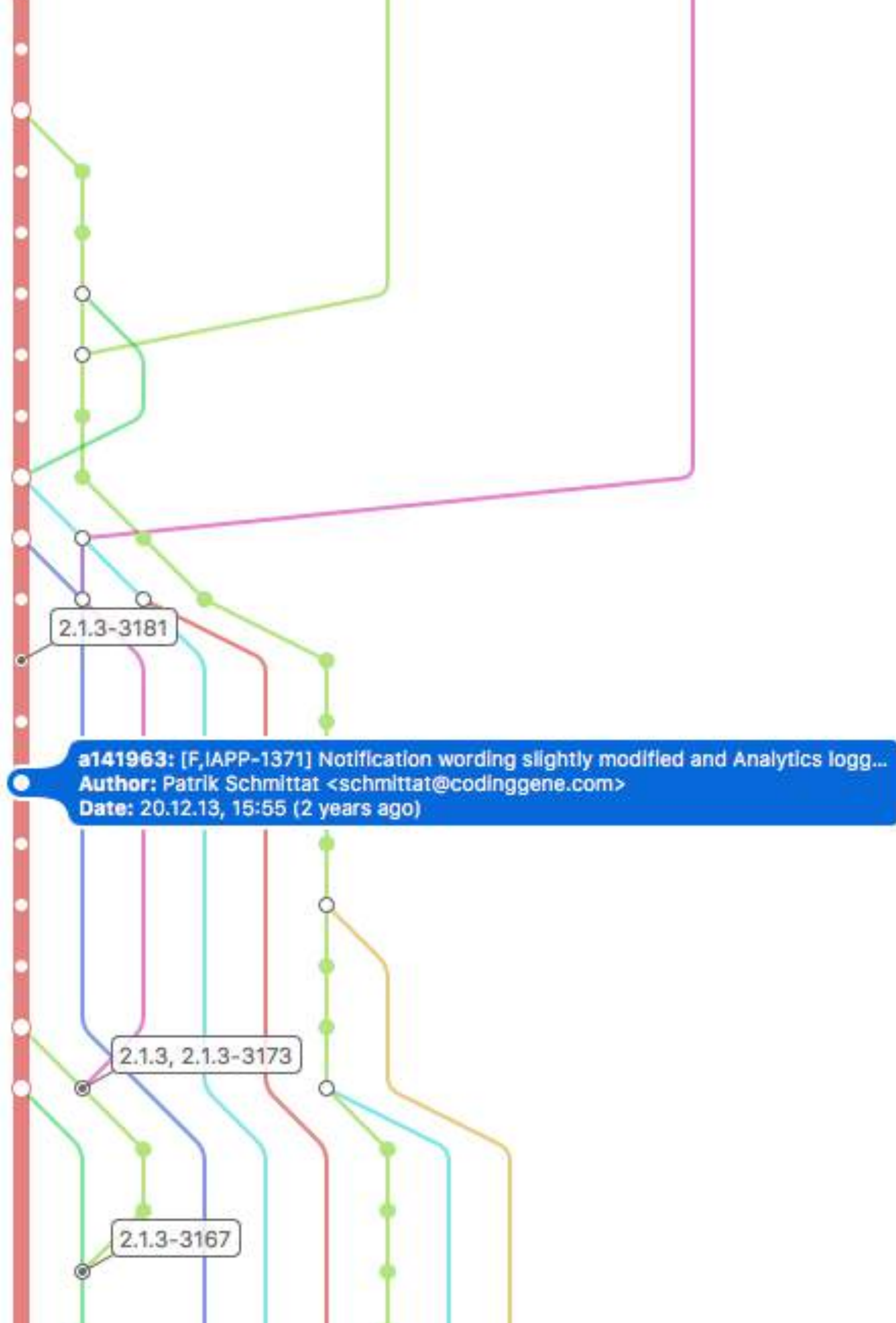
- `git commit -m "some fixes"`
- Coderuinen an die sich niemand mehr heran traut
- Langwierige Analyse von Bugs (im Netzwerkbereich)
- Arbeit die Affen erledigen könnten
- Aufwändige Arbeiten an Prototypen oder Mockups
- Neu erfundene alte Räder
- Keinerlei Testabdeckung oder lediglich Tests für das Modell

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Commits mit Semantik

die Bedeutung einfangen

e816bdc pod update. Changed Calendar Editor View
93b1b05 pod update.
4967be4 built and uploaded live version.
06ac7e0 built and uploaded test version.
7b68a30 pod update.
76efa0e pod update.
ecffcd0 added new stuff.
902c699 Changed copyright owner and launch screens app
d269651 pod update.
4afc9e4 built and uploaded test and live version.
cab5c0d pod update.
d0f4a1c built and uploaded live version.
88c0396 built and uploaded test version.
9f05c3a pod update.
841faf6 ui update.
c13bacc Built and uploaded test version.
538e922 pod update.
a88e75e Added ressource files of temporary
7c673ae pod update.
6dc9d60 updated app icon.
e82d542 Initial commit

You're doing it wrong!

177b1
32ed1 4afc9e4 built and uploaded test and live version.
b5453 cab5c0d pod update.
e0f32 d0f4a1c built and uploaded live version.
7d895 88c0396 built and uploaded test version.
fa2a3 9f05c3a pod update.
d6385 841faf6 ui update.
6a777
e297a
46da9
9cd2e
5e1c816 built and uploaded test version.
59ca8af pod update.
10a5379 built and upload test version.
fd637ae fixed build number shell script.
eeb6cdd pod update

34e0045 [ABC-1244] Added localization. Added error
0bc756f [ABC-1244] Extracted protocol to a separate
b705818 [F, ABC-1241] Pod Update title label linked
283a3f7 [ABC-1244] Implemented configuration via data
aa876db [B] Fixed pods project.
0a3a53e [ABC-1244] Implemented loading and saving.
106922e [F, ABC-1241] Settings Custom Tile List added
cce0123 [ABC-1244] Combined menu structure of 1244
2779506 [B] Fixed problem with web view buttons in
e26c810 [ABC-1321] Improved wiggle animation for
8eaf74b [F,ABC-1244] Added module visibility
46d28f5 [F,ABC-1241] Added custom module to app
e0b5c98 [M] Fixed ABCDefines for alpha
ad3279b [F, ABC-1241] Add Actions
be63102 [F, ABC-1241] Settings Custom Tile Cell added
5d60f0b [F,ABC-1242] Added delete button to tiles
2fd0d30 [F, ABC-1241] validation improved delete
9eacb39 [ABC-1244] Implemented basic ui classes and
c9bfd63 [F,ABC-1321] Added error handling to module
b086ca8 [F, ABC -1241] url validate improved
cf20bcb [F,ABC-1321] Added save API for user

Viel bessere Kommunikation!

edf5d
4d970 be63102 [F,ABC-1241] Settings Custom Tile Cell added
3153d 5d60f0b [F,ABC-1242] Added delete button to tiles
ae1a0 2fd0d30 [F,ABC-1241] validation improved delete
143fc 9eacb39 [ABC-1244] Implemented basic ui classes and
1a535 c9bfd63 [F,ABC-1321] Added error handling to module
a7e95 b086ca8 [F,ABC-1241] url validation improved
679c6
8290b
c1ff3

86a4912 [F,ABC-1321] Added calls for
a2c0b32 [R,ABC-1321] Changed class type of calendar
582fe0e [M] 1.1.200-3913
098e6c0 [F,ABC-856] Changed sorting of video messages
01a9fee [F,ABC-1321] Added sort functionality for
42806cf [B,ABC-1164] Re-added play button image to

Format von Commit Messages

- `[X,ABC-123] Message`
- `X` → (F)eature, (B)ug, (M)eta, (R)efactoring, (T)est, (G)raphic, (C)omment
- `ABC-123` → Ticketnummer oder sonstige Referenz
- Natürlich sollte die Message den Inhalt kommunizieren

GitUp

- + Ideal für Volltextsuche & Reviews
- + Undo bei Git möglich
- + Löschen einzelner Zeilenänderungen
- + einfache Verwendung von stash
- git mergetool besser als GitUp
- Schlechter Support von submodules

The screenshot displays the GitUp application interface. At the top, a commit message is visible: "[F,APP-1371] Notification wording slightly modified and Analytics logging added". Below the message, the commit is attributed to "Patrik Schmittat" with the email "schmittat@codinggene.com" and the timestamp "20.12.13, 15:55 (2 years ago)".

The main area of the interface shows a code diff. The left pane lists the files involved in the commit: "code/.../Common/BDAnalytics.h", "code/.../Common/BDAnalytics.m", "code/.../Entity/BDLocalNotificationManager.m" (which is currently selected), and "code/.../en.lproj/Localizable.strings". The right pane displays the diff for the selected file, "BDLocalNotificationManager.m". The diff shows line-by-line changes, with additions highlighted in green and deletions in red. The code is in Objective-C and includes comments and method implementations related to notifications.

git up

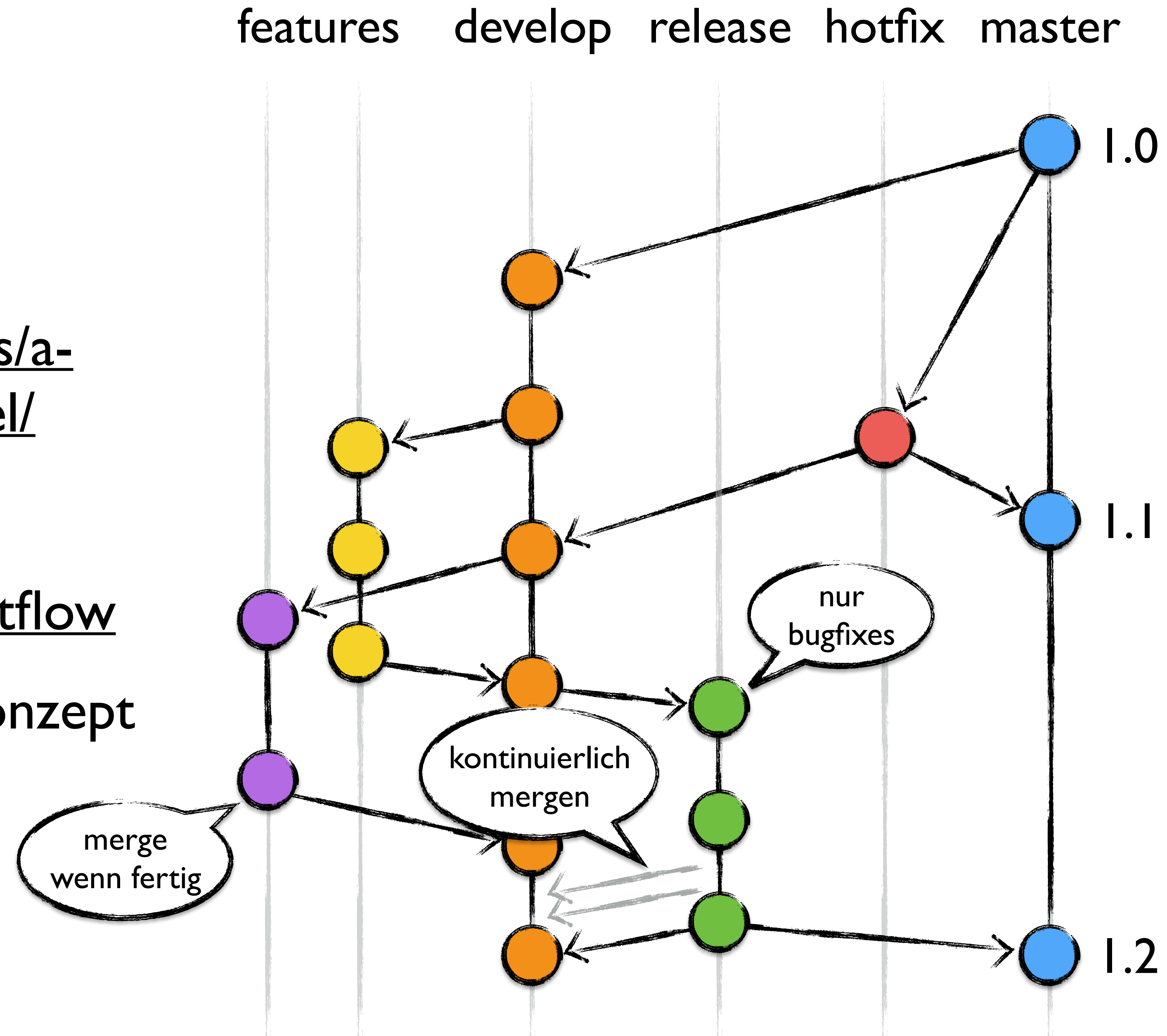
+ Angenehmer downstream

1. stash
 2. fetch -prune
 3. for-each branch: pull -rebase
 4. stash pop
- Stash bleibt liegen bei Konflikten
 - Kein Support von submodules

```
+ | 20.05.16 14:53:28 | ciphercom | ~/D
$ git up
Fetching origin
From [redacted]
x [deleted] (none) -> origin/
remote: Counting objects: 209, done.
remote: Compressing objects: 100% (164/164), done.
remote: Total 209 (delta 137), reused 59, compressed 150, delta-compressed 137
Receiving objects: 100% (209/209), 591.6 KiB | 0.0 MiB/s, done.
Resolving deltas: 100% (137/137), completed with 100 objects reuse.
252a29b..f753a85 develop -> origin/develop
* [new branch] release/3.0.13 -> origin/release/3.0.13
* [new branch] stash/firstFastAcces -> origin/stash/firstFastAcces
* [new tag] 3.0.13-5707 -> 3.0.13-5707
* [new tag] 3.0.13-5705 -> 3.0.13-5705
stashing 1 changes
develop fast-forwarding...
feature/scrolling up to date
feature/sharing up to date
master up to date
returning to reader
unstashing
```

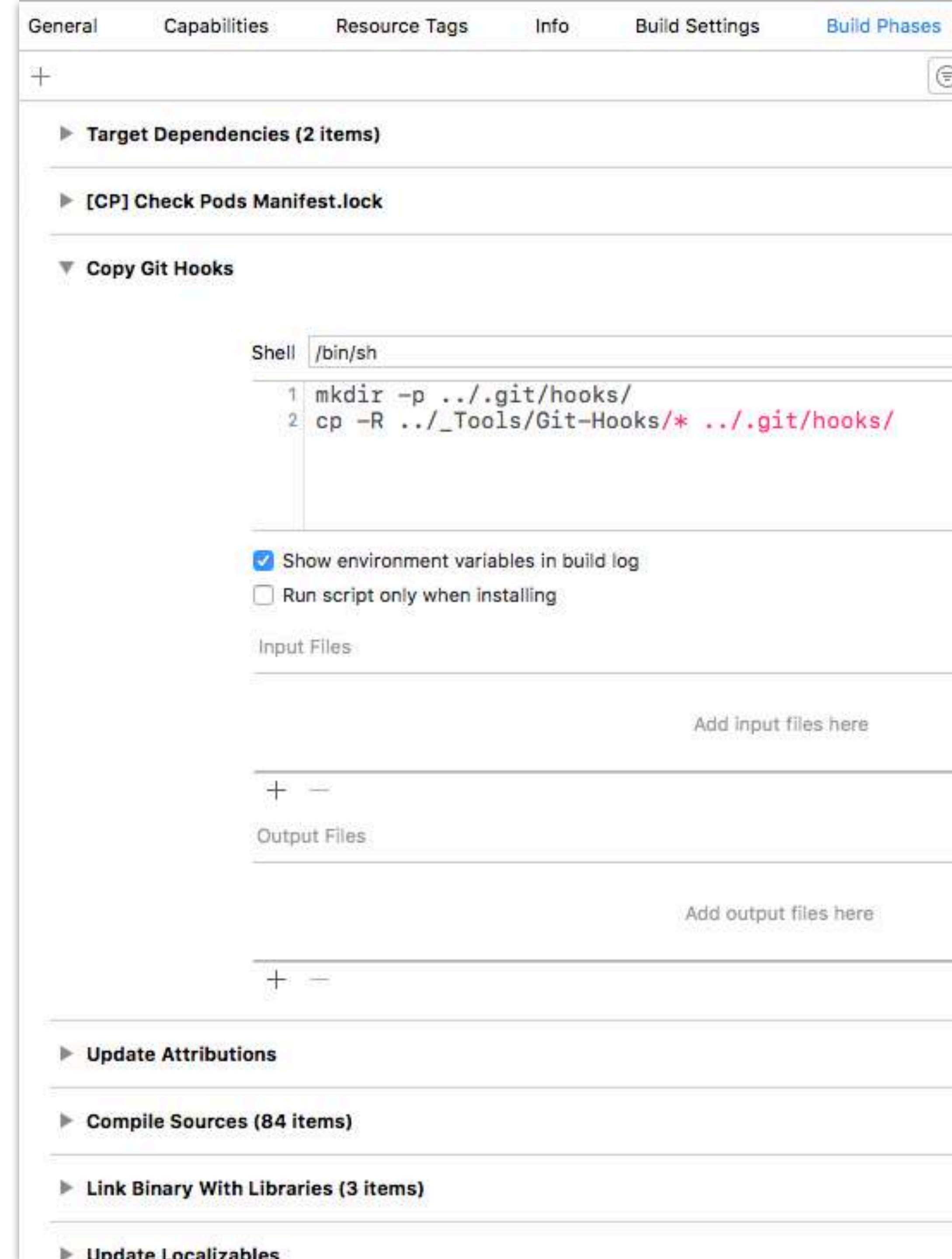
gitflow

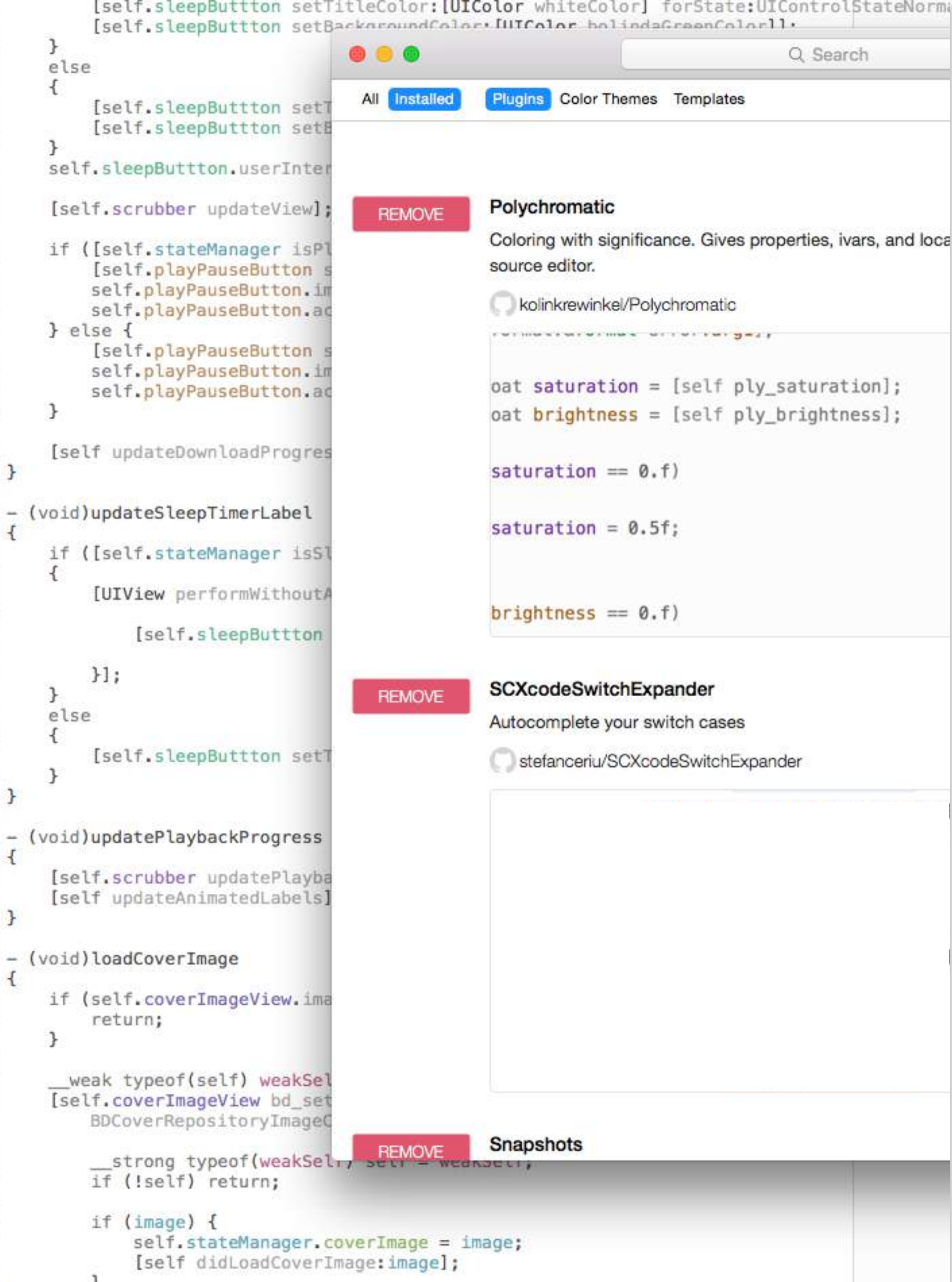
- Konzept: <http://nvie.com/posts/a-successful-git-branching-model/>
- + Sehr gute Strategie
- CLI: <https://github.com/nvie/gitflow>
- + Angenehm wenn nah am Konzept gearbeitet wird
- Nicht sehr flexibel



Automatischer Git Hook

- + Sichere Verbreitung im Team
- + Automatische Updates
- Baut auf Xcode als Verteiler auf



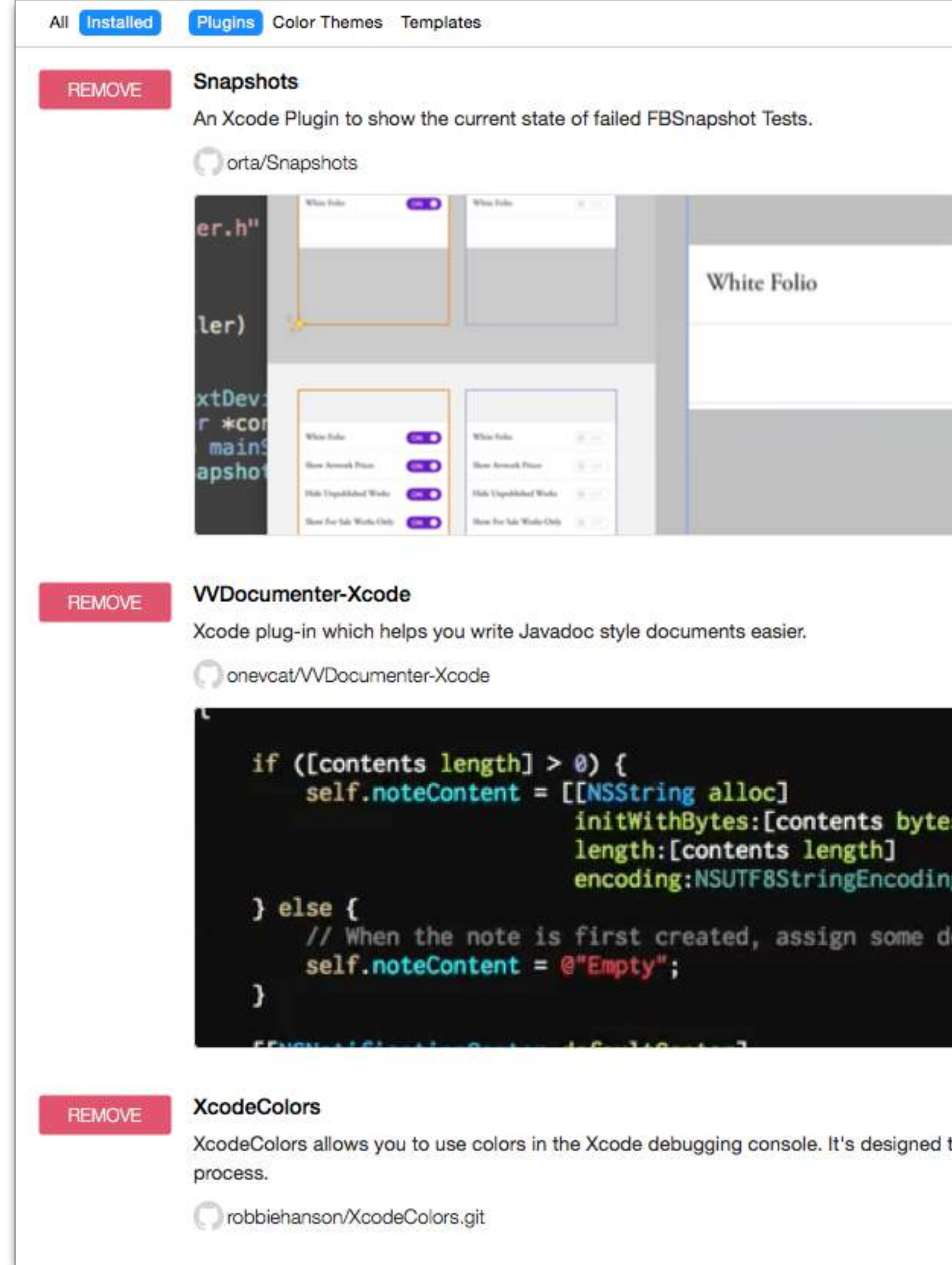


Fehlende Bits in Xcode

kleine Helfer die Einfluss haben

Alcatraz

- + Management aller Plugins
- Seit Xcode 8+ nicht mehr kompatibel
- Radars für API schreiben und Open Source Community helfen!
- ❖ Unsigning von Xcode 8+ möglich
→ `update_xcode_plugins` zur Hilfe!



XcodeColors

- + Einfach Fehler zu bemerken
- + Selbst verbosser Log möglich
→ einfach auf Grau stellen
- Alle im Team brauchen das Plugin
→ Zwei Schemes anlegen

```
I 2016-09-10 11:10:47.304 | [EA] Finished web request of call: productsWithIds:fullRecord:force
V 2016-09-10 11:10:47.304 | [WS] Unlocked BDWebServiceJSONImpl again, everything back to r
I 2016-09-10 11:10:47.309 | [DB] Storing 25 products in database
V 2016-09-10 11:10:47.332 | [EA] Cache status: 0 of call: productsWithIds:fullRecord:force
V 2016-09-10 11:10:47.333 | [EA] Queueing web request of call: productsWithIds:fullRecord:
I 2016-09-10 11:10:47.333 | [WS] Path: product/fullDetails requested from BDWebServiceJSON
V 2016-09-10 11:10:47.333 | [EA] Finished web request of call: productsWithIds:fullRecord:
W 2016-09-10 11:12:16.733 | [WS] Failed request for path: product/fullDetails with error:
W 2016-09-10 11:12:16.733 | [WS] Locked BDWebServiceJSONImpl till: 2016-09-10 09:12:17 +00
W 2016-09-10 11:12:16.734 | [EA] Fetched products but these were still missing after call:
I 2016-09-10 11:12:41.974 | [ML] Will present ebook: Barky the Barking Dog /
I 2016-09-10 11:12:41.975 | [CVC] Will load: Barky the Barking Dog / / 1
I 2016-09-10 11:12:41.982 | [CVC] Asset not yet available: /
V 2016-09-10 11:12:41.994 | [WC] Epub content requested: /META-INF/container.xml
I 2016-09-10 11:12:41.995 | [CVC] Content OPF found: / / 1 / 2
V 2016-09-10 11:12:41.995 | [WC] Epub content requested: /OEBPS/content.opf
V 2016-09-10 11:12:41.999 | [RVC] Did change tap intercept to 0
I 2016-09-10 11:12:41.999 | [PUBV] Initialized Reader: / / 1
I 2016-09-10 11:12:42.108 | [ePUBWV] Loading ePUB to WebView: / / MAIN
V 2016-09-10 11:12:42.132 | [ePUBVC] Web view did activate link
V 2016-09-10 11:12:42.132 | [RVC] Did change tap intercept to 1
V 2016-09-10 11:12:42.134 | [WC] Requested non encrypted file: /viewer.html
V 2016-09-10 11:12:42.141 | [WC] Requested non encrypted file: /css/viewer.css
V 2016-09-10 11:12:42.141 | [WC] Requested non encrypted file: /css/themes.css
```

Polychromatic

- + Fokus auf Semantik nicht Syntax
- + Datenfluss deutlicher hervorgehoben
- + `self` / `strongSelf` Fehler erkennbar
- ❖ am Hilfreichsten wenn Syntaxhighlight reduziert / entfernt wird

```
}
self.sleepButton.userInteractionEnabled

[self.scrubber updateView];

if ([self.stateManager isPlaying] || [self.playPauseButton isSelected]) {
    self.playPauseButton.image = UIImage(named:@"play");
} else {
    self.playPauseButton.image = UIImage(named:@"pause");
}

[self updateDownloadProgress];
}

- (void)updateSleepTimerLabel
{
    if ([self.stateManager isSleeping]) {
        [UIView animateWithDuration:0.5f animations:^{
            [self.sleepButton setTitle:@"Sleep"];
        }];
    }
    else {
        [self.sleepButton setTitle:@"Wake Up"];
    }
}

- (void)updatePlaybackProgress
{
    [self.scrubber updatePlaybackProgress];
    [self updateAnimatedLabels];
}


- (void)loadCoverImage
{
    if (self.coverImageView.image == nil) {
        return;
    }

    __weak typeof(self) weakSelf = self;
    [self.coverImageView bd_setImageFromRepositoryImageC
```

REMOVE

Polychromatic

Coloring with significance. Gives your source editor.

 kolinkrewinkel/Polychromatic

```
float saturation = [self playbackProgress] * 0.5f;
float brightness = [self playbackProgress] * 0.5f;

saturation == 0.f)

saturation = 0.5f;

brightness == 0.f)
```

REMOVE

SCXcodeSwitchExpander

Autocomplete your switch cases

 stefanceriu/SCXcodeSwitchExp

```
C926 [
}

pl
2

C926 [
}

pl
2
```

REMOVE

Snapshots

Allerlei

- Snapshots
- XToDo
- SCXcodeSwitchExpander:
- VVDocumenter-Xcode
- OMColorSense
- KSImageNamed:

```
UIViewAnimationTransition type;
```

```
701  
702  
703  
704  
705  
706  
707  
708  
709  
710  
711  
712  
713  
714  
715
```

```
[UIImage imageNamed:];
```

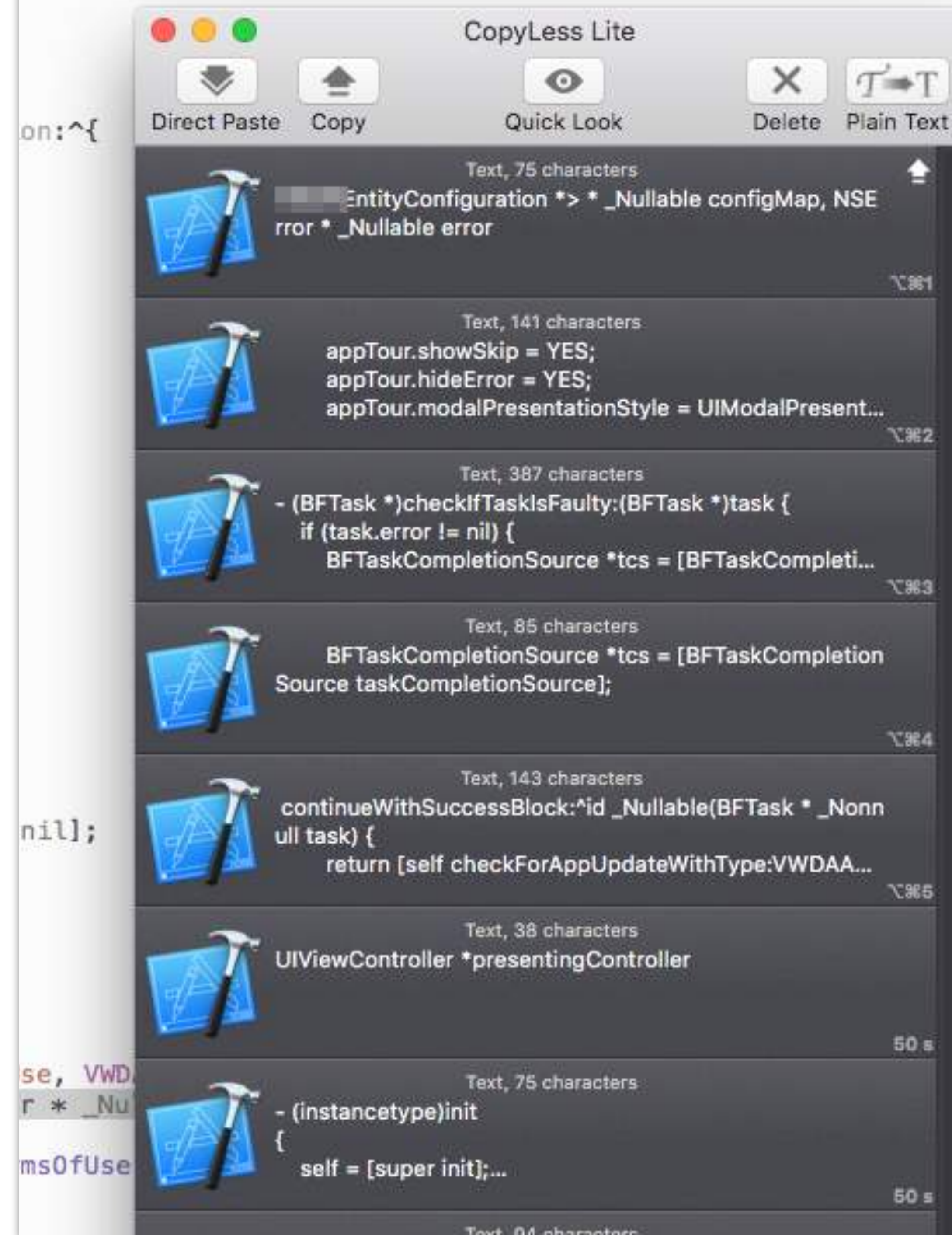
63 x 64



```
NSString * @"Blur@3x" (png, 1x only)  
NSString * @"btn-back-from-fullscreen" (png,  
NSString * @"btn-back-to-fullscreen" (png,  
NSString * @"btn-bg" (png, 2x only)  
NSString * @"btn-bg-primary" (png, 2x only)  
NSString * @"btn-bg-primary-on-dark" (png,  
NSString * @"btn-delete" (png, 1x only)  
NSString * @"btn-delete-blue" (png, 1x only
```

Multi-Zwischenablage / CopyLess

- + Steigerung der Effizienz
 - Manche gewöhnen sich nicht dran
 - ❖ z.B. ⌘⇧1-5 zuweisen
- ;) Immer doch ein Slot zu wenig...



Chisel

- Die ~/.lldbinit für jeden iOS-Dev:

```
expr @import UIKit
command script import [...] /fblldb.py
```

```
(lldb) pvc [controller]
(lldb) watch <var>
(lldb) pviews [view]
```

```
(lldb) pviews
<UIWindow: 0x7ed910d0; frame = (0 0; 1024 768)
| <UIView: 0x7a7b2bb0; frame = (0 0; 1024 768)
| | <UIView: 0x7a8850b0; frame = (184 0; 1024 768)
| | | <UIView: 0x7a885c60; frame = (184 0; 1024 768)
| | | | <UICollectionViewControl
| | | | | <ABCCollectionView:
| | | | | <UIView: 0x7a885c60; frame = (184 0; 1024 768)
| | | | | <UICollectionViewRe
| | | | | <UICollectionView:
| | | | | | <UIView: 0x7a885c60; frame = (184 0; 1024 768)
| | | | | | <UIV
```

Ungenutzte Dateien finden

- Kein Tooling Support mit Xcode
- ❖ Kleine Skripte helfen:

```
files=$(find . -name "*.h" -print0 | xargs -0 basename | awk '!a[$0]++')
while read -r file; do
    echo -e "$(pcregrep -Irho "^#(import|include)\h+ [<\" ]$file" * | wc -l
| tr -d ' ' ) : $file"
done <<< "$files" | sort
```

Assets schrumpfen

- + Asset Catalog bereits ziemlich gut
- + Nur verlustfreie Konvertierung möglich
- ❖ Einfach mal ausprobieren:

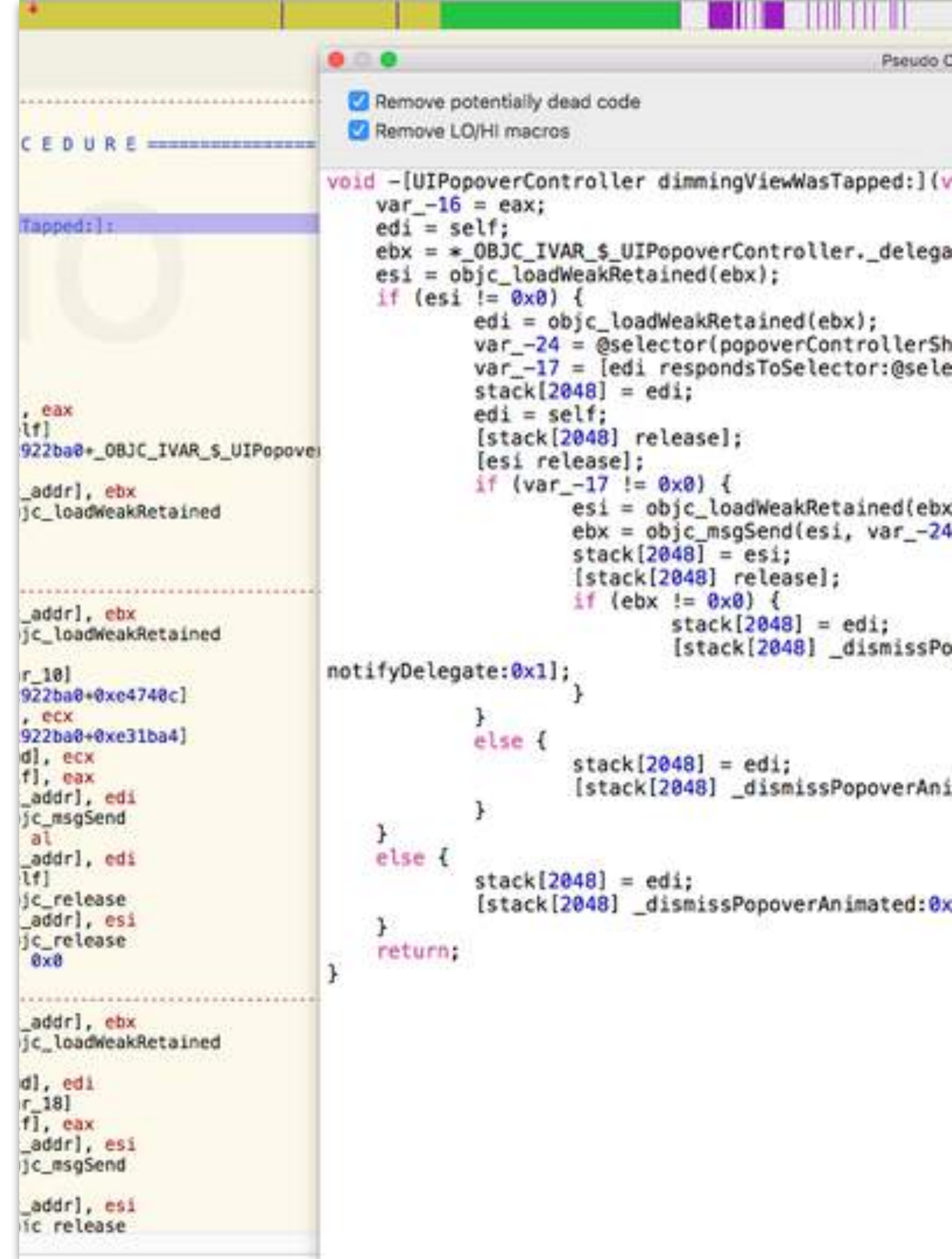
```
# .pngs
find . -type f -name "*.png" -print0 | xargs -0 -n 1 pngcrush -ow
-fix -reduce -blacken -rem allb

# .pdfs
while read -r pdf; do ps2pdf "$pdf" "$pdf.tmp" && rm "$pdf" && mv
"$pdf.tmp" "$pdf"; done <<< $(find . -name "*.pdf")
```

- ❖ Siehe auch: <https://css-ig.net/png-test-corpus>

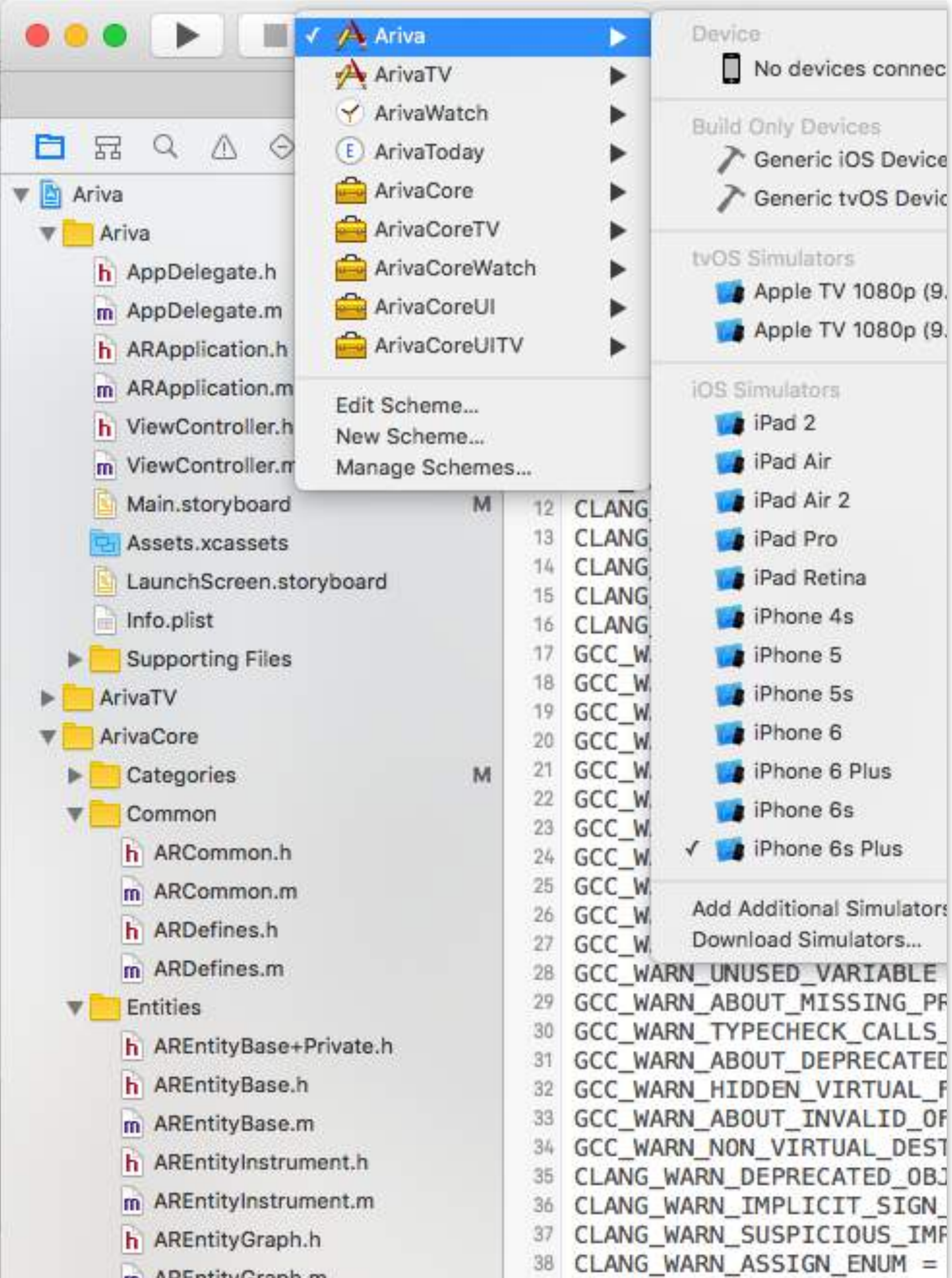
Mit Binaries arbeiten / Hopper

- ❖ i386 und armv7 gleichzeitig nutzen
→ Beide helfen unterschiedlich
- + Apple oder 3rd-Party als Lehrer
- Langsame Einarbeitung / Gewöhnung
- Dann immer noch zeitintensiv
- "ARM-Assembler für iOS-Entwickler" – Macoun '13
- "Xcode erweitern" – Macoun '15



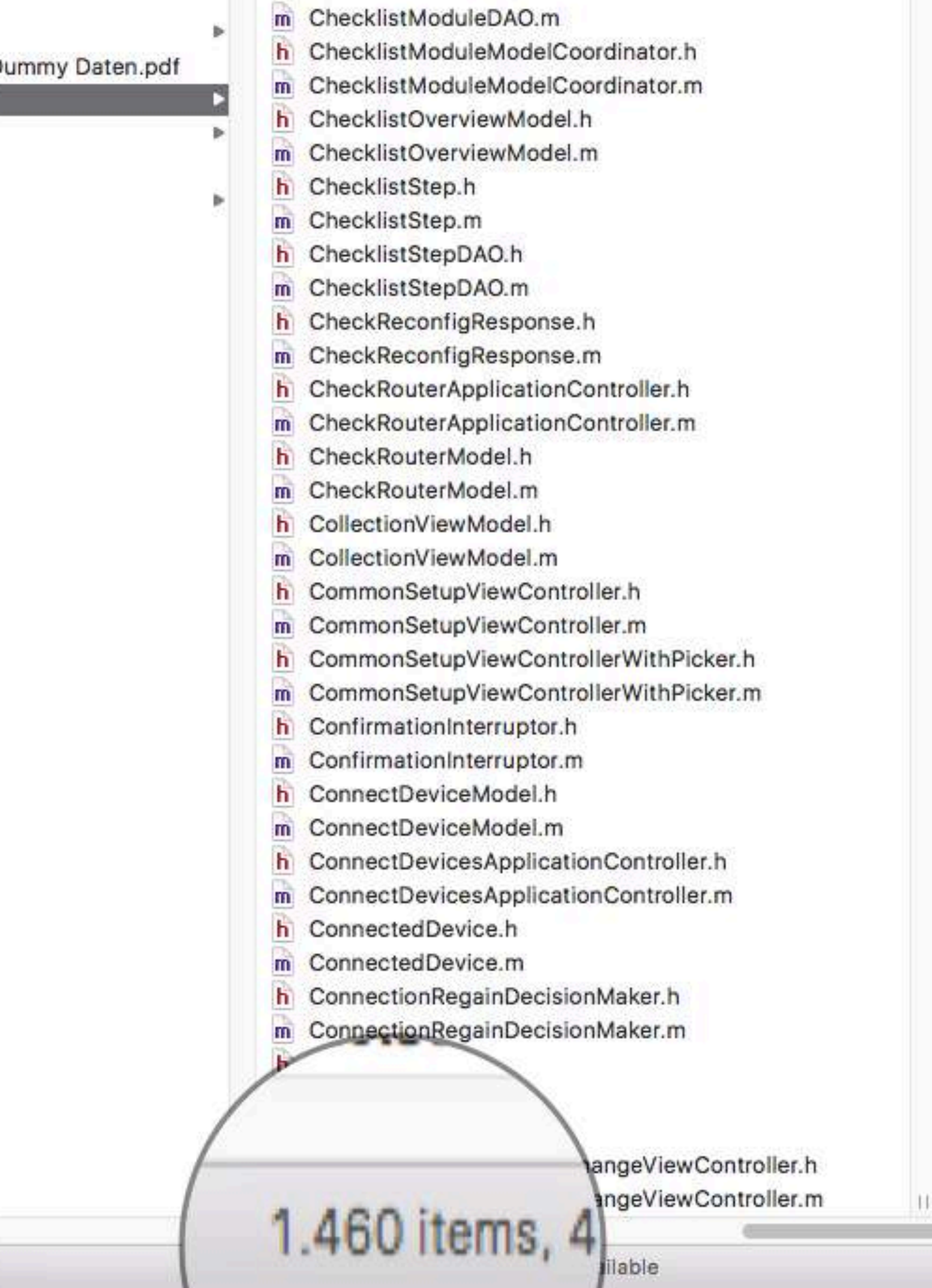
Verschiedenes

- Xcode Tricks: <http://merowing.info/2015/12/little-things-that-can-make-your-life-easier-in-2016/>



Ein ganz normaler Start

jedes Projekt hat eine grüne Wiese verdient



You're doing it wrong!

Mit Xcode 9 endlich vorbei 🎉

Crash Reporting / HockeyApp

- + App-Log kann angehängt werden
→ Beschränken auf z.B. 5kb
- + Verlässlicher Report und hilfreiche Statistiken
- + Beta Versionen drahtlos verteilen
- Permanente Crashes direkt beim Öffnen sind Showstopper

iPhone 4S	9.3.2	x	[REDACTED]
iPad (4th gen, Wi-Fi)	9.3.2	x	
iPad (3rd gen, Wi-Fi)	7.1.1	x	[REDACTED]

< Previous 1 2 Next >

Data

Log Description Meta

```
{  
  "lastBook" : "[REDACTED]",  
  "userId" : "[REDACTED]",  
  "bookAssets" : {  
  
  },  
  "siteId" : "[REDACTED]",  
  "lastAudiobook" : "[REDACTED]"  
}
```

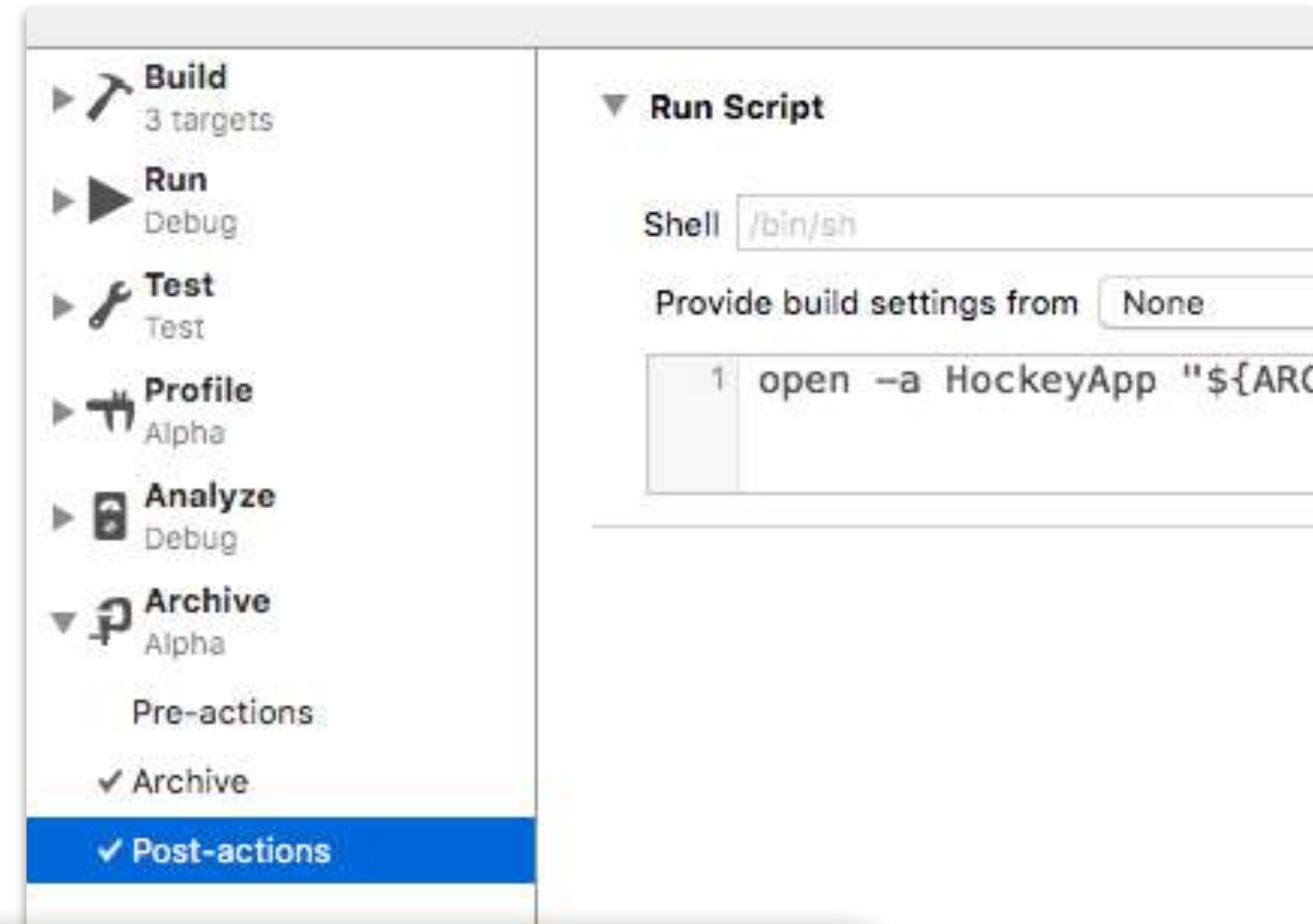
```
om BDWebServiceJSONImpl  
2016/06/15 14:58:02:568 [WS] Received response for path: me/loans  
2016/06/15 14:58:02:689 [WS] Path: me/history requested from BDWebServiceJSONImpl  
2016/06/15 14:58:02:692 [WS] Path: me/history requested from BDWebServiceJSONImpl  
2016/06/15 14:58:02:867 [WS] Received response for path: me/history  
2016/06/15 14:58:03:005 [LN] Added 'loan renewal' notification for product:  
:00 +0000
```

Automatischer HockeyApp Upload

```
open -a HockeyApp "${ARCHIVE_PATH}"
```

- Vielleicht noch mit Schutz?

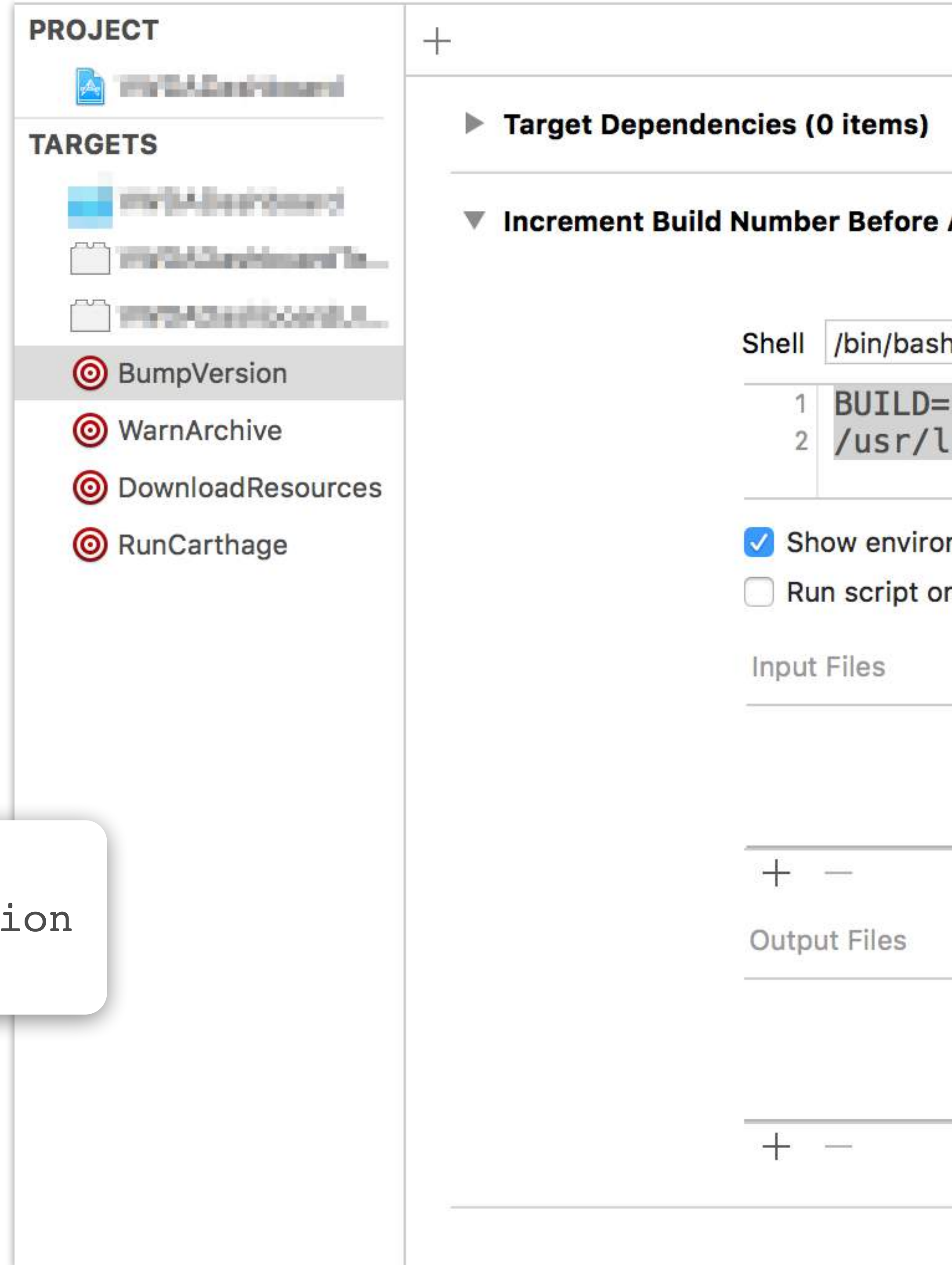
```
if [ $CONFIGURATION != Debug ] && [ $CONFIGURATION != Test ]; then
    WARN="Type in the configuration you're trying to build:"
    RESULT=`osascript -e "tell app \"Xcode\" to text returned of
(display dialog \"$WARN\" default answer \"\" with icon caution)"`
    if [[ "$RESULT" != "$CONFIGURATION" ]]
    then
        echo "Error: User did not provide correct answer"
        exit 1
    fi
fi
```



Versionbumping

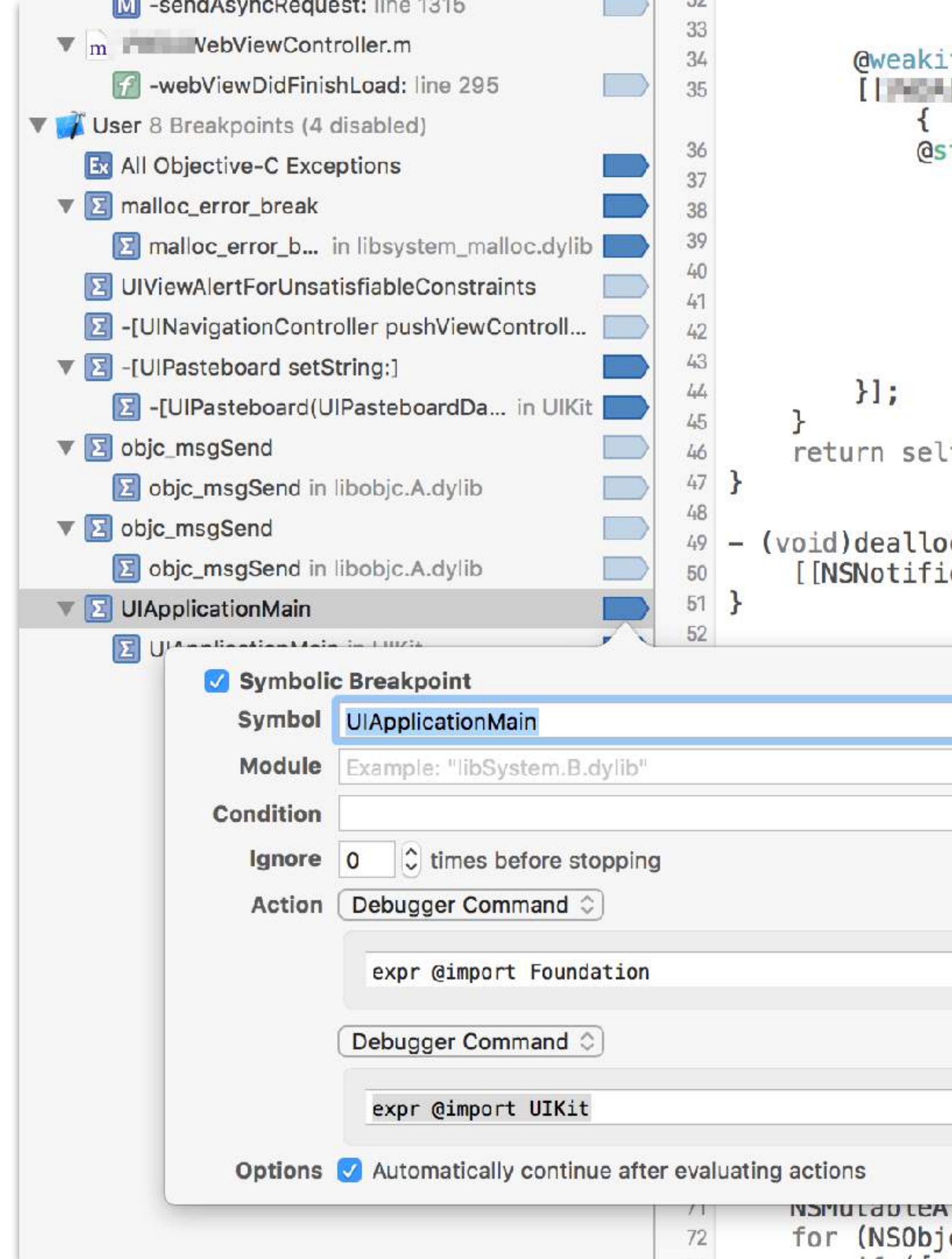
- + Immer strikt aufsteigend
- Multiple freilaufende Branches können zu Probleme führen

```
BUILD=`git rev-list --count HEAD`  
/usr/libexec/PlistBuddy -c "Set :CFBundleVersion  
$BUILD" ${PROJECT_DIR}/Info.plist
```

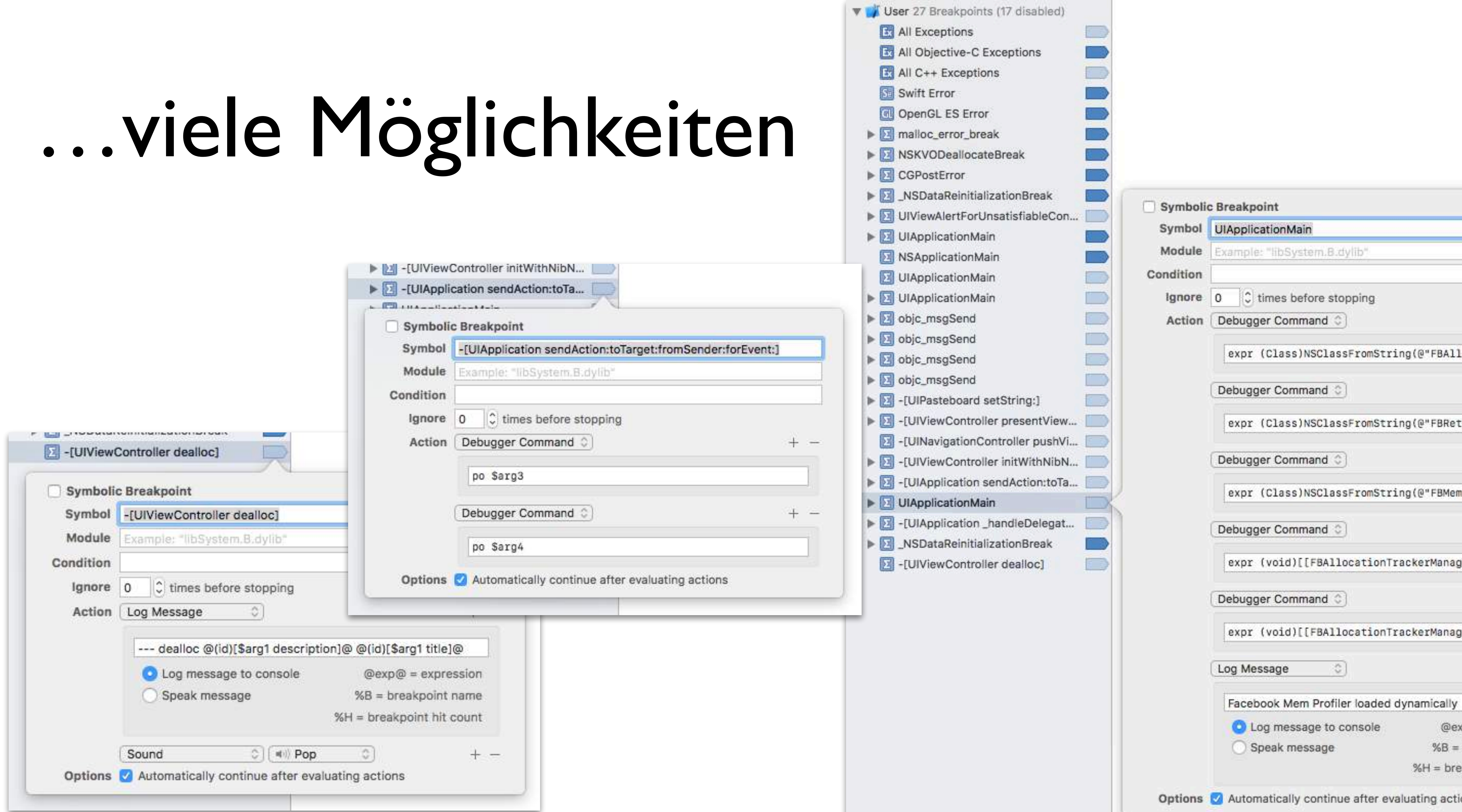


User Breakpoints


- + Gilt für alle Projekte
- Leider keine Erkennung der Architektur (für z.B. `$arg1`)
- Alternative: Shared Breakpoints



...viele Möglichkeiten




Retain cycles



```
__weak typeof(self) weakSelf = self;
[self setCompletionBlock:^(

    __strong typeof(weakSelf) strongSelf = weakSelf;
    [self updateUI];

)];
```



```
__weak typeof(self) weakSelf = self;
[self setCompletionBlock:^(

    __strong typeof(weakSelf) self = weakSelf;
    [self updateUI];

)];
```

```
self.block = { [weak self] in
    guard let `self` = self else { return }
    self.updateUI()
}
```

libextobjc

```
@weakify(self);  
[self doAsyncWithFinishBlock:^(  
  
    @strongify(self);  
    [self updateUI];  
  
)];
```

```
NSOutputStream *stream = ...;  
@onExit {  
    [stream close];  
};  
...  
if (someTest) {  
    return;  
}
```

```
NSArray<NSString *> *array = ...;  
[array valueForKey:@keypath(array.firstObject, length)];
```

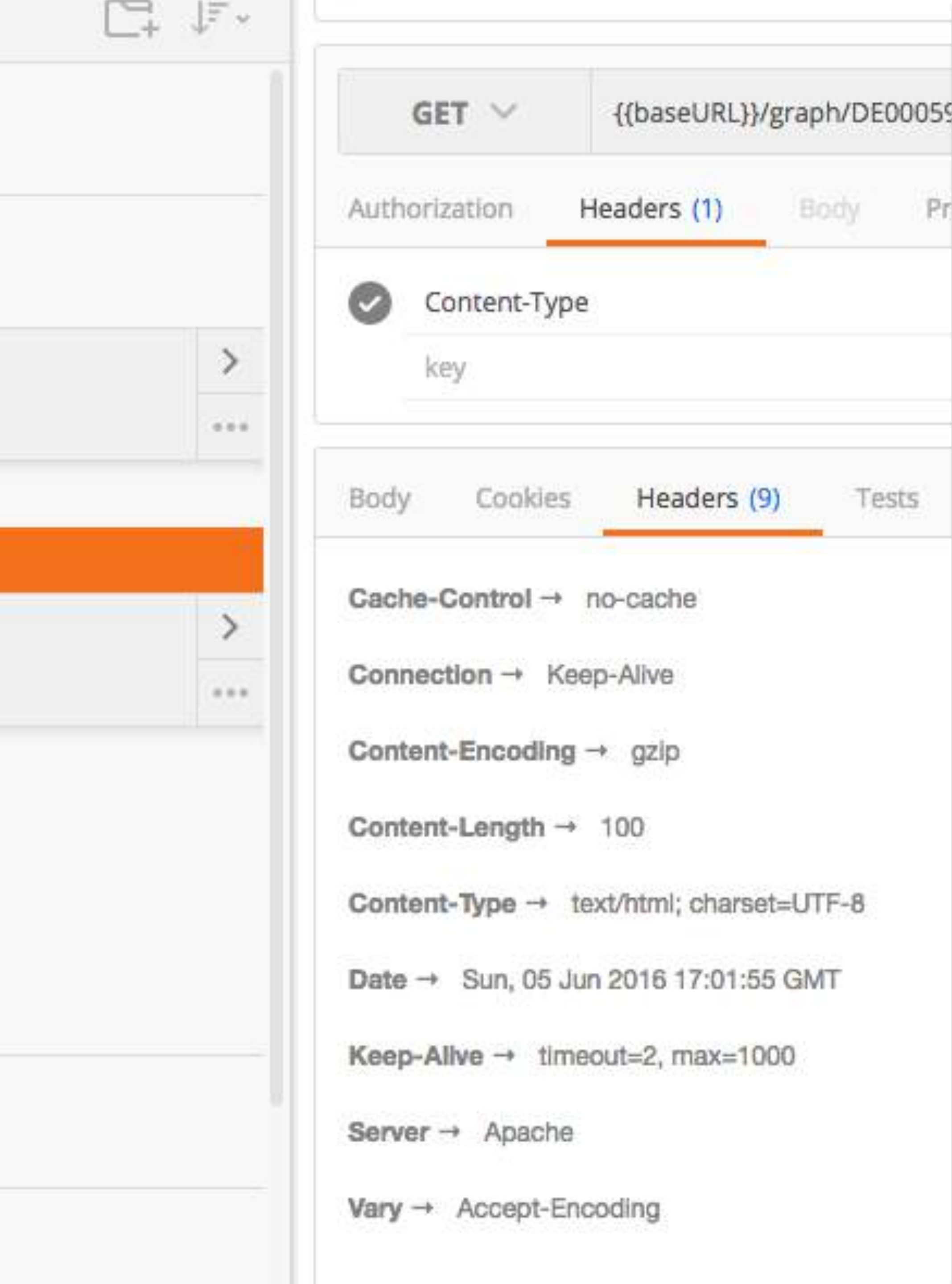
Verschiedenes

- *"Gutes Werkzeug, halbe Arbeit!"* – Macoun '16
- Objective-C++
 - *"Swifter Code in Objective-C(++)"* – Macoun '16
 - *"Crashkurs Objective-C++"* – Macoun '13
- Allerlei Tools: *"Einblick in die Trickkiste"* – Macoun '13
- App Icon Versioning: <http://merowing.info/2013/03/overlaying-application-version-on-top-of-your-icon/>

Ein Clone auf einem frischem System sollte direkt kompilierbar sein!

- Keine Abhängigkeiten
- Keine lokalen Pfade

Und wenn etwas hilfreich wäre, dann wenigstens optional

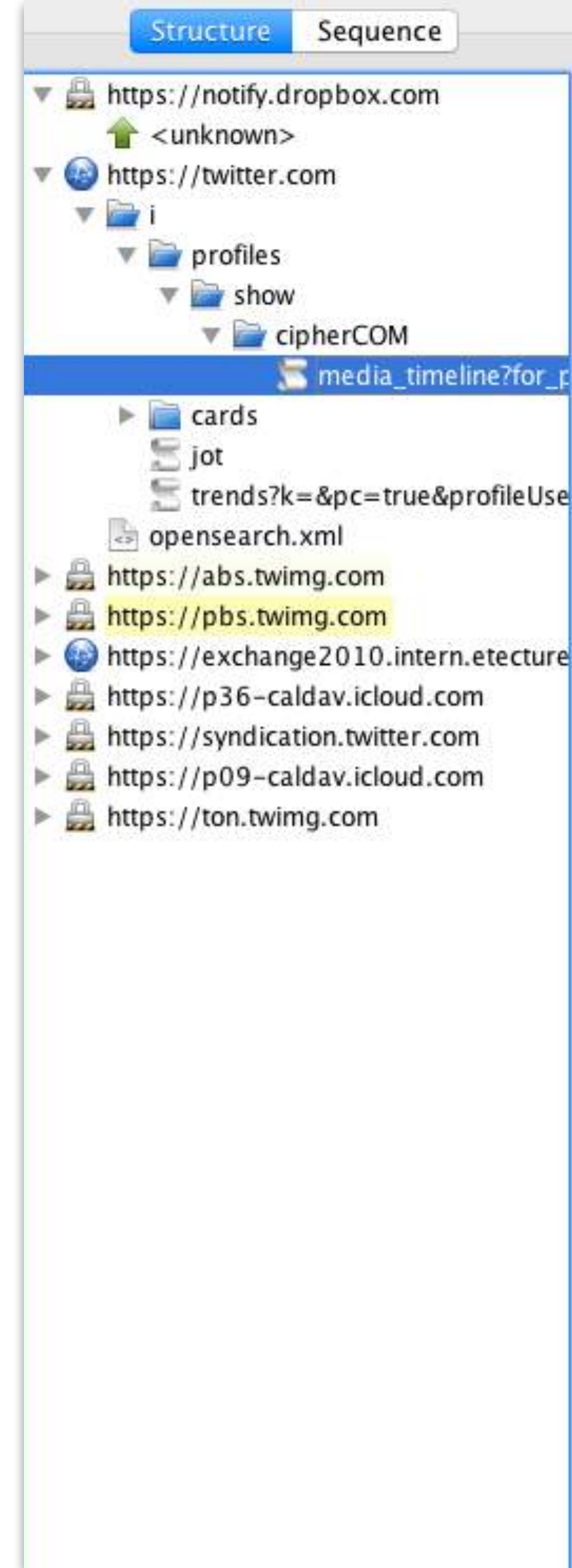


Dubiose Netzwerk-Probleme

Mit den richtigen Werkzeugen kein Problem

Proxy Mitschnitt / Charles

- + Alle Informationen enthalten
→ iOS macht finale Änderungen
- + Theoretisch Server simulierbar
→ Besser mit GCDWebServer oder NSURLProtocol
- + Selbst Protobuf einsehbar
- Certificate Pinning limitiert
- Siehe "*NSURLConnection: Safety First!*" – Macoun '13



Name	Value
URL	https://twi
Status	Complete
Response Code	200 OK
Protocol	HTTP/1.1
SSL	TLSv1.2 (T
Method	GET
Kept Alive	No
Content-Type	text/javasc
Client Address	/127.0.0.1
Remote Address	twitter.com
▼ Timing	
Request Start Time	22.06.16
Request End Time	22.06.16
Response Start Time	22.06.16
Response End Time	22.06.16
Duration	286 ms
DNS	0 ms
Connect	42 ms
SSL Handshake	135 ms
Request	1 ms
Response	1 ms
Latency	283 ms
Speed	9,93 KB/s
Response Speed	2,77 MB/s
▼ Size	
Request Header	862 bytes
Response Header	1,09 KB (1
Request	-
Response	930 bytes
Total	2,84 KB (2
Request Compression	-
Response Compression	88,5% (gzi

FLEX

- aka "Lerne Backend Entwicklern sich selbst zu helfen"

The image shows a screenshot of the FLEX app interface, which is designed to help backend developers. The interface is divided into three main sections:

- Left Panel (Navigation):** Contains a list of tools including Network History, System Log, Heap Objects, File Browser, Cookies, System Libraries, HIDmobile Classes, AppDelegate, and DashboardViewController.
- Center Panel (Network History):** Displays a list of 11 requests. The first request is highlighted, showing details such as the URL, method (GET), status (200 OK), and response size (5 KB).
- Right Panel (Network Details):** Provides a detailed view of the selected request, including the request URL, method, status code, response body (tap to view), response size, MIME type, mechanism, start time (GMT+3 and UTC), and Unix start time.

NSURLProtocol als Modul

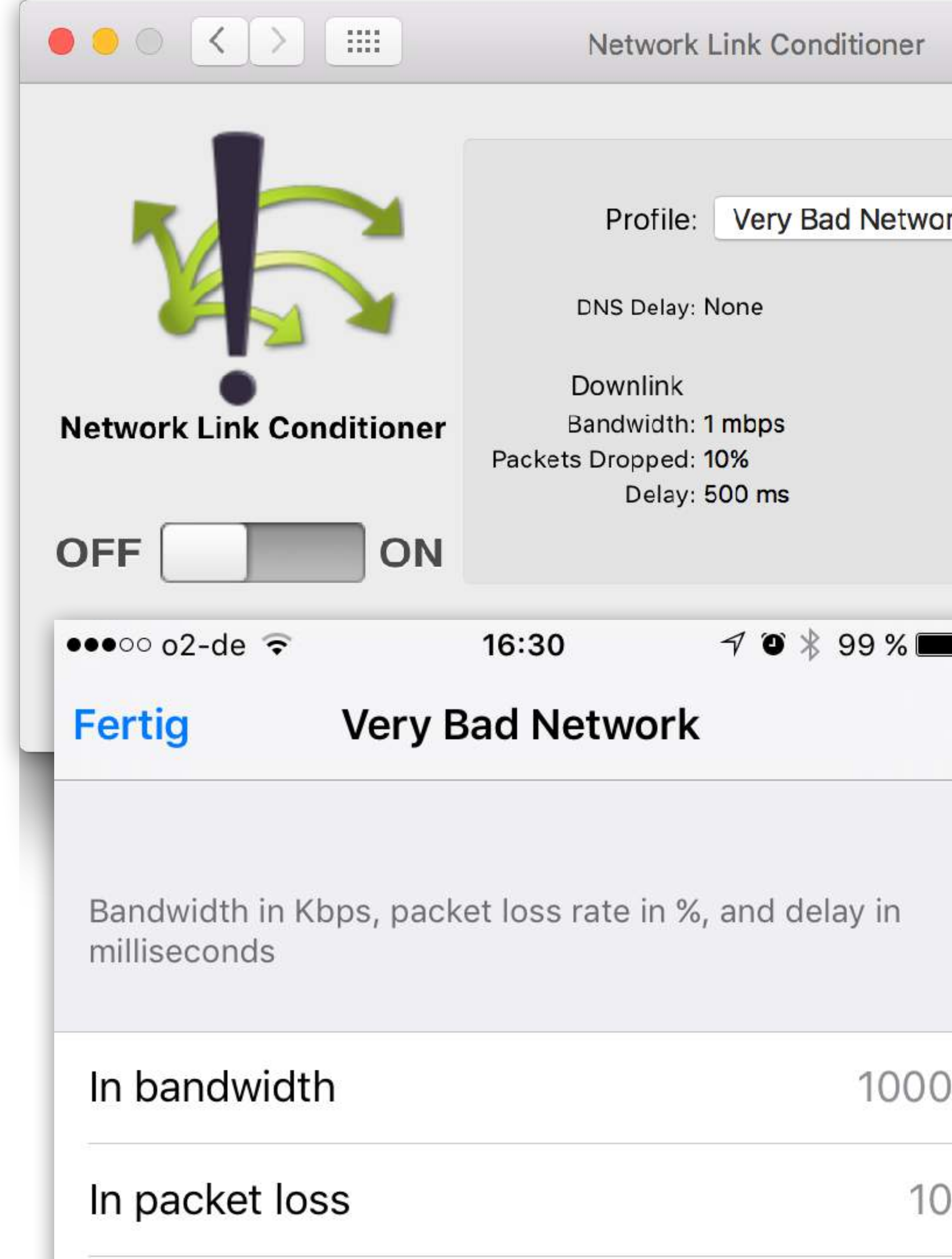
- Eigene Protokolle nutzbar
z.B. `initWithContentsOfURL:`
- Gezielt entfernte Ressourcen lokal ausliefern / cachen
- Adhoc verschlüsselte Dateien ausliefern
- Certificate Pinning mit `UIWebView`
→ Redirects beachten / testen!
- Logging aller Netzwerkzugriffe mit Statistiken

Mockserver für Tests

- Unit Testing
 - + Direkt NSURLProtocol nutzbar
→ z.B. OHHTTPStubs
 - POST mit Body nicht einsehbar
 - NSURLSession nur bedingt möglich
- UI Testing
 - ❖ Server in Testmodul einsetzen
→ z.B. GCDWebServer
 - + Alle Szenarien testbar

Link Conditioner

- + Raus aus dem Labor, rein in den ICE
 - + Aufspüren fehlender Fehlermeldungen und Spinner
 - OS X Pendant betrifft das ganze OS
- ;) Abschalten nicht vergessen



nscurl

- + Direkter ATS Test auf macOS
- + Liefert notwendige Konfiguration
- Kein Support für Client Certs
- ❖ Weitere Tools:
 - <https://www.ssllabs.com/ssltest/>
 - sslyze

```
$ nscurl --ats-diagnostics "https://test.com"
Starting ATS Diagnostics

Configuring ATS Info.plist keys and displaying the
result of HTTPS loads to https://test.com.
A test will "PASS" if
NSURLSession:task:didCompleteWithError: returns a nil
error.
Use '--verbose' to view the ATS dictionaries used and
to display the error received in
NSURLSession:task:didCompleteWithError:.
=====

Default ATS Secure Connection
---
Result : FAIL
---

Allowing Arbitrary Loads
---
Allow All Loads
Result : FAIL
---

Configuring TLS exceptions for test.com
---
TLSv1.2, TLSv1.1, TLSv1.0
Result : FAIL
---

Configuring PFS exceptions for test.com
---
Disabling Perfect Forward Secrecy
Result : PASS
---
=====
```

AFNETWORKING

Any

iOS

OS X

watchOS

tvOS

All

Swift


Obj-C

1025 results.

Show only: Name (25) Dependency (838) Summary (147)

PODS NAMED AFNETWORKING*

AFNetworking 3.1.0

By Mattt Thompson  [AFNetworking](#)



[AFNetworking/AFNetworking](#)

Bibliotheken für Jedermann

Hilfe anderer richtig nutzen

Wer kennt sie nicht...

- AFNetworking / Alamofire
- ReactiveCocoa
- SDWebImage
- SAMKeychain
- HockeySDK
- CocoaLumberjack / NSLogger
- MB/SVProgressHUD
- Expecta
- FMDB / Realm
- MagicalRecord
- Mantle
- FBSDKKit
- React Native
- pop

... aber wie schaut's hier aus?


- **libextobjc**
- **FLEX** / PonyDebugger
- **Bolts** / Promise
- Tweaks
- **PureLayout** / Masonry
- **BlocksKit**
- EAIntroView
- **ios-snapshot-test-case-expecta**
- GCDWebServer
- RNCryptor
- AsyncDisplayKit / ComponentKit
- FastImageCache
- GZIP
- **PSPDFUIKitMain**
ThreadGuard.m
- Charts / PNChart
- **TTTAttributedLabel**
- ChameleonFramework / Colours
- EarlGrey / KIF
- <https://trendingcocoapods.github.io>


Manager für Bibliotheken


- CocoaPods
 - + Einfach einsetzbar – "no brainer"
 - + Weit verbreitet
 - + Development Pods
 - Multi Platform fast garnicht unterstützt (iOS, watchOS, etc)
 - Frisst sich in das Projekt
- Carthage
 - + Compilezeit einmalig
 - + Problemlösung einfacher
 - Kein Quellcode (⌘ + Click)
 - Weniger Bibliotheken verfügbar


Jedoch Vorsicht walten lassen


- Helfer sind gut aber...
- ...größere Abhängigkeiten bewusst wählen!
- Anti-Pods: KeychainWrapper und Reachability
- Weitere Tools:
 - *"Einblick in die Trickkiste"* – Macoun '13
 - *"Gutes Werkzeug, halbe Arbeit!"* – Macoun '16


 Changes

 Workspace














 Build Now


 Delete Project


 Configure


 Git Polling Log

Build History trend

 #473	Jun 5, 2016 12:49 AM
 #472	Jun 4, 2016 12:49 AM
 #471	Jun 3, 2016 3:44 PM
 #470	Jun 3, 2016 2:19 PM
 #469	Jun 3, 2016 10:44 AM
 #468	Jun 3, 2016 12:49 AM
 #467	Jun 2, 2016 5:35 PM
 #466	Jun 2, 2016 12:49 AM
 #465	Jun 1, 2016 5:45 PM
 #464	Jun 1, 2016 12:49 AM
 #463	May 31, 2016 3:58 PM
 #462	May 31, 2016 10:40 AM
 #461	May 31, 2016 9:38 AM

 Work

 Rece

 Late

Permalink

- [Last build](#)
- [Last stable](#)
- [Last success](#)
- [Last failed](#)
- [Last unsuccessful](#)
- [Last commit](#)

UI-Tests und deren Qualen

Macht will sinnvoll eingesetzt sein

Viele Möglichkeiten

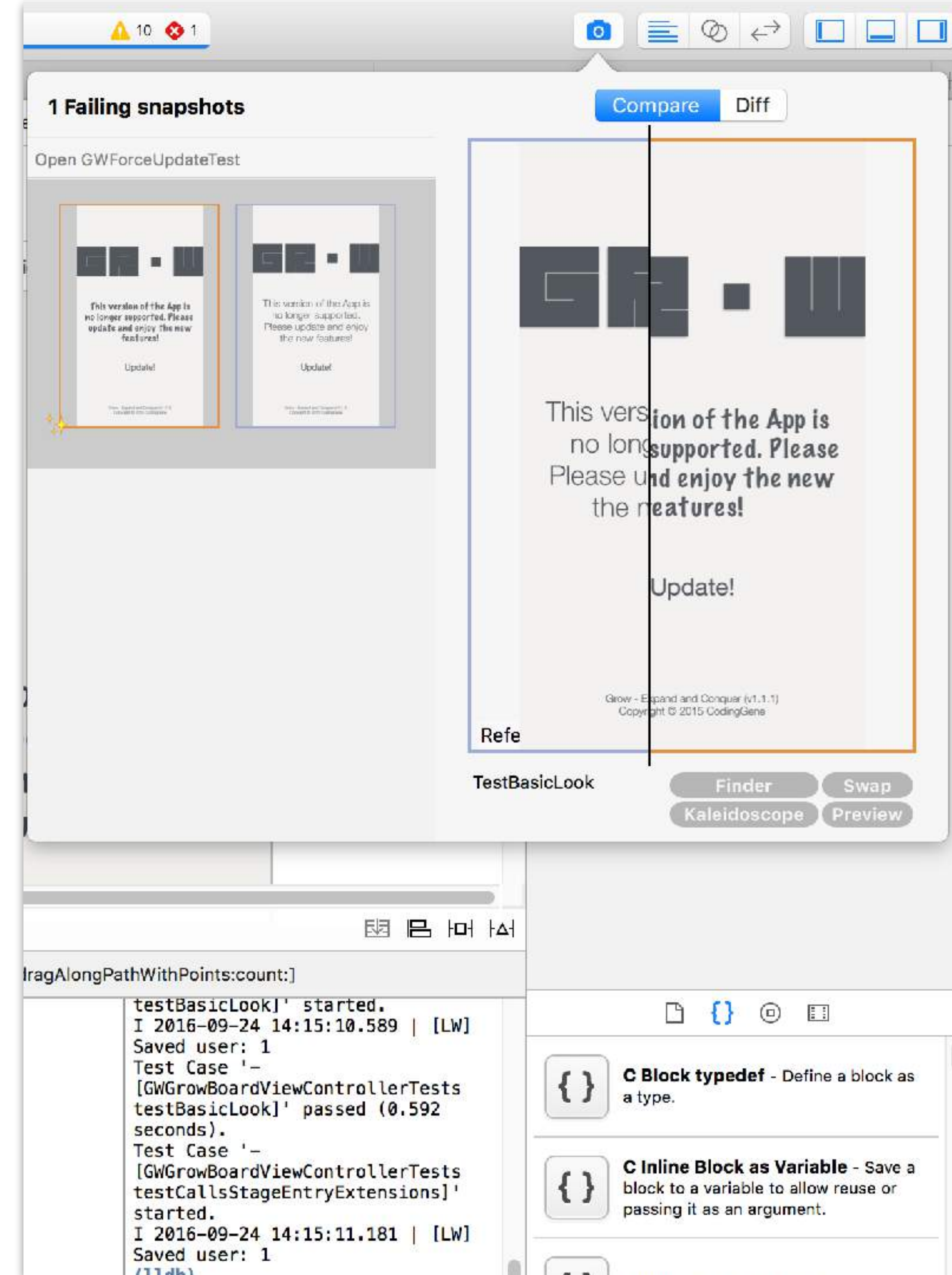
- Unit Tests von ViewModels
 - Unit Testing Bundle, XCTest / Kiwi
 - nur Modell
- EarlGrey mit Snapshots
 - Unit Testing Bundle & Test Host, EarlGrey, FBSnapshotTestCase
 - Modell & UI
- XCTest im fremden Prozess
 - UI Testing Bundle, XCTest
 - Modell & UI

Unit Tests von ViewModels

- + Ideal für Business Logik in Controllern mit Suchlogik
- + Hohe Performanz (kein Kontext für Applikation)
- ± Saubere Trennung im Sinne von MVVM notwendig (Legacy Code)
- UIKit-Klassen nicht nutzbar
- Siehe "*96% Testabdeckung*" – Macoun '13
- Contra: <http://khanlou.com/2015/12/mvvm-is-not-very-good/>

EarlGrey und Snapshots

- ❖ Helfer an Board nehmen
→ FBSnapshotTestCase, Expecta+Snapshots, Snapshots (Xcode Plugin)
- + Modell & UI Umfassend
- Pingelig und fehleranfällig (Font Rendering)
- Langsam
→ <https://pspdfkit.com/blog/2016/running-ui-tests-with-ludicrous-speed/>
- Siehe "Praxistaugliches UI-Testen" – Macoun '16



Text-basierte Snapshots

- + Weniger fehleranfällig
- ± Auswahl der enthaltenen Datenfelder
- Änderungen nicht leicht erkennbar
→ Auch .pngs committen
- ❖ Noch bei uns in der Probe...

```
UIImageView; (0 0; 0 0); 0; 0;
78 UIImageView; (9 9.5; 31.333 31
79 UIButtonLabel; (0 0; 0 0); 0;
UIExtendedGrayColorSpace 0 1
80 TileCollectionViewCell; (224.5 3
UIExtendedSRGBColorSpace 0.501961 0.807843 0.901
81 UIView; (0 0; 186 167); 0; 1; 1
82 UIView; (0 0; 186 167); 18; 1; 1
83 UIImageView; (0 0; 186 167); 1
84 UIView; (0 0; 186 167); 18; 1;
85 Button; (156 -20; 50 50); 0;
UIImageView; (0 0; 0 0); 0; 0;
86 UIImageView; (9 9.5; 31.333 31
87 UIButtonLabel; (0 0; 0 0); 0;
UIExtendedGrayColorSpace 0 1
88 TileCollectionViewCell; (429.5 3
UIExtendedSRGBColorSpace 0.501961 0.807843 0.901
89 UIView; (0 0; 186 167); 0; 1; 1
90 UIView; (0 0; 186 167); 18; 1; 1
91 UIImageView; (0 0; 186 167); 1
92 UIView; (0 0; 186 167); 18; 1;
93 Button; (156 -20; 50 50); 0;
94 UIImageView; (9 9.5; 31.333 31
95 UIButtonLabel; (0 0; 0 0); 0;
UIExtendedGrayColorSpace 0 1
96 UIRefreshControl; (0 0; 840 60); 2;
97 _UIRefreshControlModernContentView
98 UIView; (370 -20; 100 100); 0; 1
99 UIRefreshControlModernReplica
```

XCTest im fremden Prozess

- + UI Testing von Apple direkt
- + Stabile, saubere und effiziente Gestensteuerung
- ± Saubere Trennung der Prozesse (nicht der gleiche Speicher)
- ± NSURLProtocol für HTTP-Mocking nicht möglich
→ GCDWebServer nutzen
- Gesten wie z.B. Pull-to-Refresh nicht testbar
- Farben / Fonts nicht abgedeckt
- Nicht alle UI-Elemente sichtbar / abfragbar

Fazit

- Aktuelle Idealvorstellung, Testergebnisse noch offen:
 - ❖ Sauberes **MVVM** (**Unit-** / **UI-**Tests)
 - UnitTests von Models und ViewModels
 - Text-Snapshots für UI-Elemente und -Komponenten
 - EarlGrey für Abfolgen von Screens (z.B. Onboarding, Tutorials)
- Siehe auch "*Best Practices CI*" – Macoun '12

```

- (void)fullProductsForIDs:(NSArray /*<NSString>*/ *)
{
    NSParameterAssert(finishBlock);
    NSParameterAssert(productIds.count > 0);

    __block NSArray /* NSString */ *outdatedProductIds;
    __block NSArray /* BDProduct */ *cachedProducts;
    __block NSArray /* NSString */ *cachedProductIds;

    [self asyncAccessEntityCacheWithContainsBlock:^(

        NSInteger lifetime = [self.lifetimes[NSString]
        [[self outdatedProductsWithIds:productIds li

            outdatedProductIds = task.result;
            cachedProductIds = [productIds filteredA

            cachedProducts = [cachedProductIds bk_map

                return [self.modelCache cachedEntity]

        }]);

    BOOL hasAtLeastOneProduct = outdatedProdu
    BDDatabaseCacheStatus status = BDDatabase
    if (outdatedProductIds.count == 0) {
        status = BDDatabaseCacheStatusCurrent
    } else if (hasAtLeastOneProduct) {
        status = BDDatabaseCacheStatusCached
    } else {
        status = BDDatabaseCacheStatusMissing
    }

    [tcs setResult:@(status)];
    return nil;
}

```

Mit Stil voran

Und nein, es geht nicht um Tabs & Spaces

Alles dreht sich um Verständnis...

natürlich nun
Generics



```
NSArray *items;  
NSNumber *value;
```



```
NSArray /* NSString */ items;  
NSNumber /* CGFloat */ value;
```

```
if (outdatedProductIds.count < productIds.count) {  
    ...  
}
```

```
BOOL hasAtLeastOne = outdatedIds.count < ids.count;  
if (hasAtLeastOne) {  
    ...  
}
```

...aber auch um Robustheit



```
- (void)abcWithParam:(NSObject *)obj {  
    ...  
}
```



```
- (void)abcWithParam:(NSObject *)obj {  
    BOOL precheck = ...;  
    NSParameterAssert(precheck);  
    if (!precheck) return nil;  
    ...  
}
```

```
- (id)initWithRequest:(NSURLRequest *)request;
```

```
- (instancetype)initWithRequest:(nonnull NSURLRequest *)request;
```

```
[obj initWithRequest:nil]; 
```

...und Formatierung hat einen Grund

- Klammern können eine mächtige Waffe gegen Bugs sein



```
for (Entry *entry in array) {  
    if (entry.state == EntryStateChanged)  
        entry.dirty = YES;  
        entry.changed = [NSDate date];  
}
```



```
// Regex to the rescue!  
if \([^)]+\)((?!\{)(?!return)[\s\S])+?;
```

...und Formatierung hat einen Grund

- Klammern können eine mächtige Waffe gegen Bugs sein



```
for (Entry *entry in array) {  
    if (entry.state == EntryStateChanged)  
        entry.dirty = YES;  
    entry.changed = [NSDate date];  
}
```



```
// Regex to the rescue!  
if \([^)]+\)((?!\{)(?!return)[\s\S])+?;
```

API als Kommunikationsmittel

```
/* MyViewController.h */

#import "BDProductFull.h"
#import "BDAsset.h"

@interface BDAudioPlaybackStateManager : NSObject
@property (weak, nonatomic) id delegate;
@property (nonatomic, strong) NSMutableArray *tracks;

- (instancetype)initWithProduct:(BDProductFull *)product;
@end

@protocol BDAudioPlaybackStateManagerDelegate <NSObject>
- (void)stateDidChange;
@end
```



API als Kommunikationsmittel

```
/* MyViewController.h */
```

```
NS_ASSUME_NONNULL_BEGIN
```

```
@class BDProductFull, BDAsset;
```

```
@protocol BDAudioPlaybackStateManagerDelegate;
```

```
@interface BDAudioPlaybackStateManager : NSObject
```

```
@property (nonatomic, weak, nullable) id<BDAudio...ManagerDelegate> delegate;
```

```
@property (nonatomic, copy, readonly) NSArray<BDAsset> *tracks;
```

```
- (instancetype)initWithProduct:(BDProductFull *)product;
```

```
@end
```

```
@protocol BDAudioPlaybackStateManagerDelegate <NSObject>
```

```
- (void)audioPlaybackStateManagerDidChangeState:(BDAudio...Manager *)stateManager;
```

```
@end
```

```
NS_ASSUME_NONNULL_END
```



Idiome & Helfer

```
- (instancetype)initWithRequest:(NSURLRequest *)request {
    BOOL precheck = ...;
    NSParameterAssert(precheck);
    if (!precheck) return nil;

    self = [super init];
    if (!self) return nil;
    ...
    void dispatch_on_main_non_blocking(dispatch_block_t block) {
        if ([NSThread isMainThread]) {
            block();
        } else {
            dispatch_async_on_main(block);
        }
    }
}
```

```
...
NSInteger i = ^{
    ...
    return 0;
}();
...
```

```
[result sortUsingDescriptors:@[
    [NSSortDescriptor ...WithKey:@"lastName"],
    [NSSortDescriptor ...WithKey:@"firstName"],
    [NSSortDescriptor ...WithKey:@"customerID"] ]];
```

Kommentare

```
+ (instancetype)cg_storyboardInstance {  
    ABCAlertViewController *vc = [super cg_storyboardInstance];  
    vc.modalPresentationStyle = UIModalPresentationFormSheet;  
    [vc view];  
    return vc;  
}
```

Kommentare

```
+ (instancetype)cg_storyboardInstance {  
    ABCAlertViewController *vc = [super cg_storyboardInstance];  
    vc.modalPresentationStyle = UIModalPresentationFormSheet;  
    // Load view  
    [vc view];  
    return vc;  
}
```

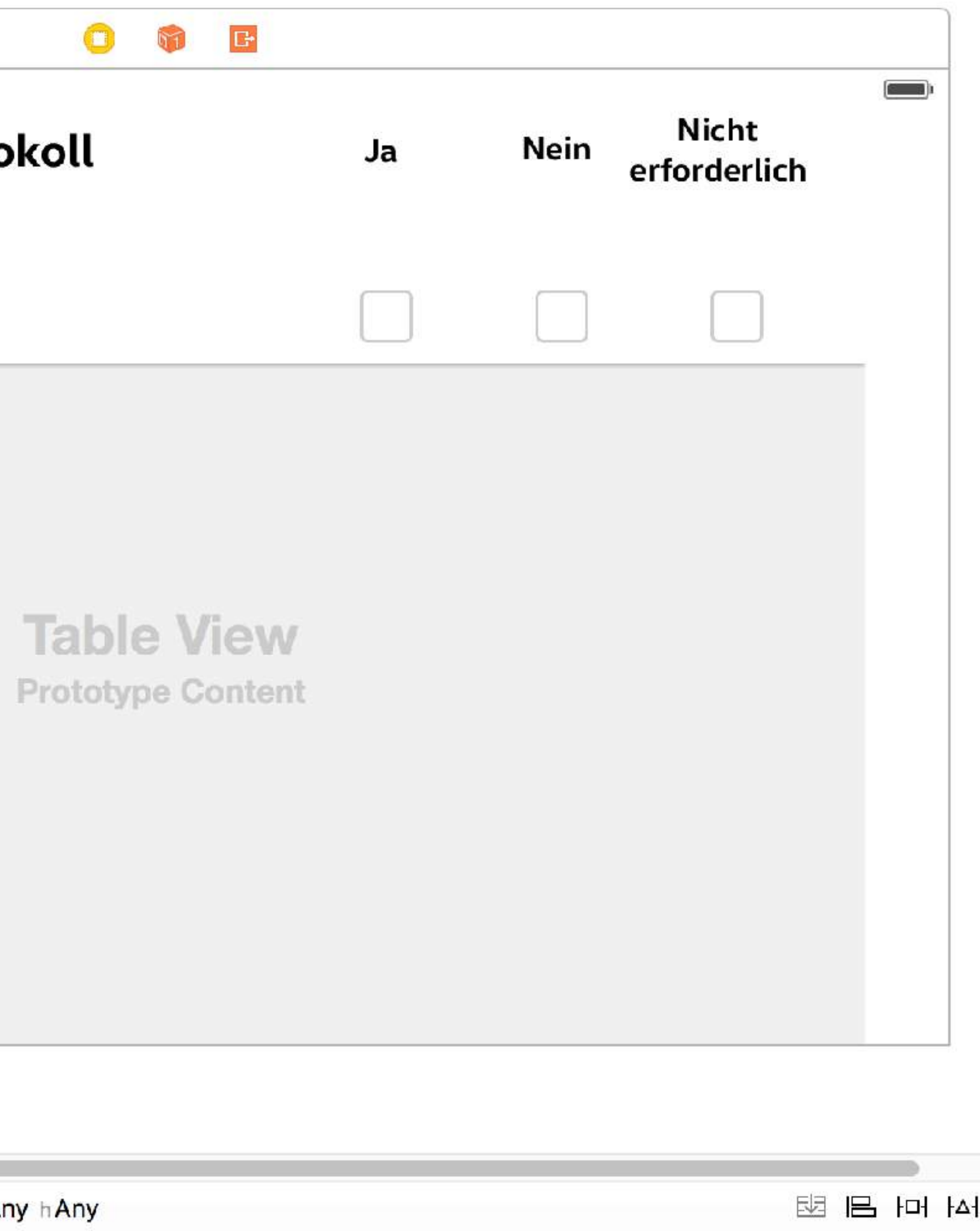
Kommentare

```
+ (instancetype)cg_storyboardInstance {  
    ABCAlertViewController *vc = [super cg_storyboardInstance];  
    vc.modalPresentationStyle = UIModalPresentationFormSheet;  
    // Trigger view loading to initialize the subviews  
    // (IBOutlet labels) so that they can be used externally.  
    [vc view];  
    return vc;  
}
```

- Siehe "200.000 Zeilen ohne Therapie" – Macoun '14

Verschiedenes

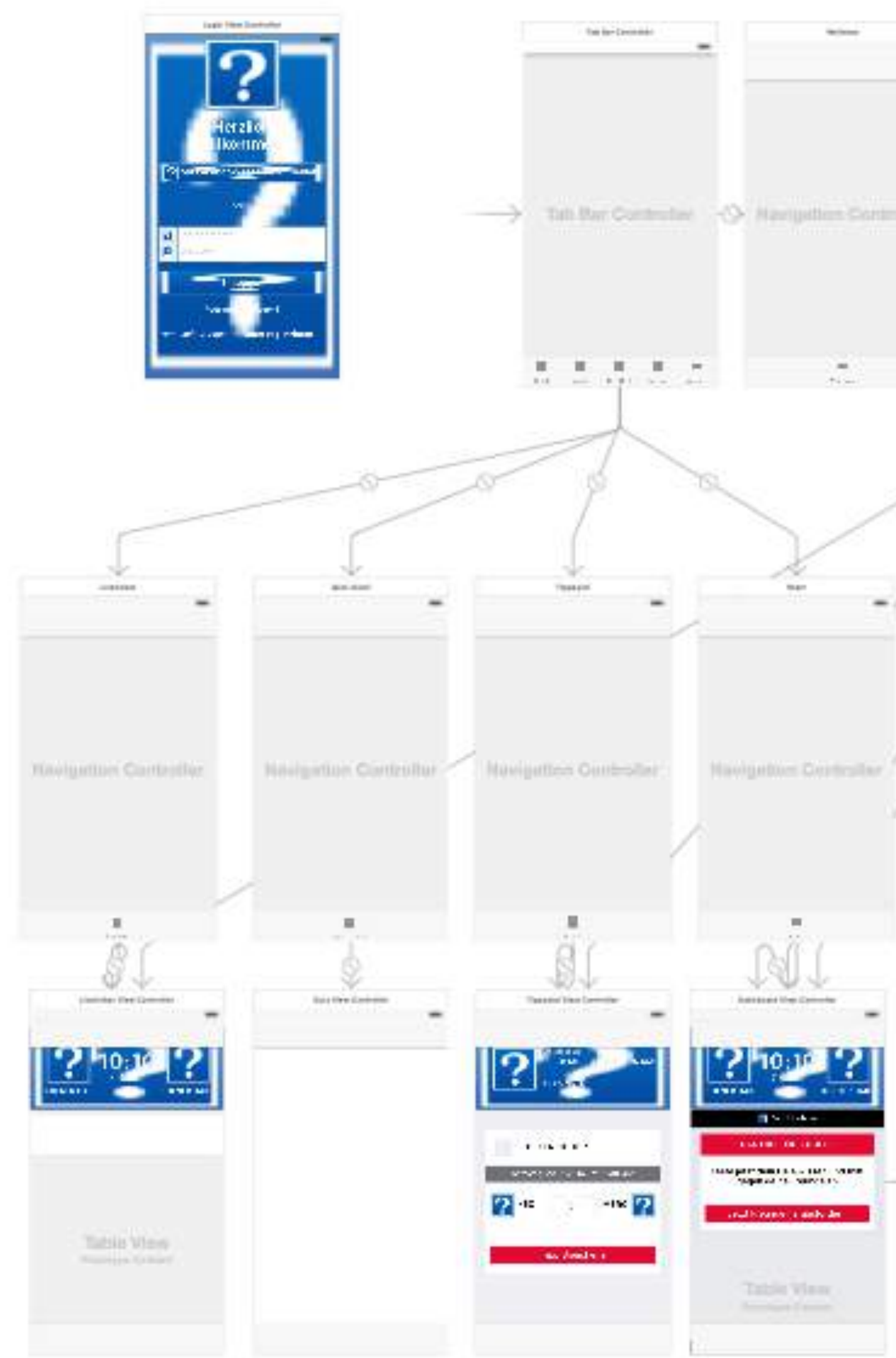
- Allerlei Idiome: <https://pspdfkit.com/blog/2016/swifty-objective-c/>
- Architektur: "*Schlanke View Controller*" – Macoun '13



Storyboards Freund oder Feind?

Ein guter Weg merge conflicts zu bekommen

View Controller Scene
Controller Scene
il View Controller Scene
View Controller Scene
View Controller Scene
Controller Scene
ile View Controller Scene
Controller Scene
Controller Scene
View Controller Scene
Controller Scene
Scene
Scene
Controller Scene
Scene
View Controller Scene
Controller Scene
Controller Scene
Controller Scene
View Controller Scene
Controller Scene
Controller Scene
cene



You're doing it wrong!

Struktur und Umgang

- .storyboard (VC)
 - ❖ 1xVC / Storyboard
 - + Visuelles Layout, WYSIWYG
 - + Rapid Prototyping
 - Modularität, Theming
 - Merge conflicts
- .xib (Views, Cells)
 - + File Owner != View
 - + Multi Xib / Cell
 - Theming
 - Merge conflicts
- Code
 - + Merge conflicts
 - + Modularität, Theming
 - Visuelles Layout
 - Prototyping

Ein Storyboard pro ViewController

```
+ (UIStoryboard *)cg_storyboard
{
    return [self cg_storyboardWithName:[self cg_className]];
}

+ (UIStoryboard *)cg_storyboardWithName:(NSString *)name
{
    NSBundle *bundle = [self cg_bundle];
    UIStoryboard *storyboard = [UIStoryboard storyboardWithName:name bundle:bundle];
    return storyboard;
}

+ (instancetype)cg_storyboardInstance
{
    UIStoryboard *storyboard = [self cg_storyboard];
    id instance = [storyboard instantiateInitialViewController];
    return instance;
}
```

Wiederverwendbarkeit

- IBDesignable, Xib und Vorschau im IB
→ *"Modulares Design mit StackViews"* – Macoun '15

```
+ (instancetype)cg_viewInstance
{
    UINib *nib = [self cg_nib];
    return [nib instantiateWithOwner:nil options:nil].firstObject;
}

- (UIView *)cg_loadContentView
{
    NSBundle *bundle = [self.class cg_bundle];
    UIView *contentView = [bundle loadNibNamed:[self.class cg_className]
                                     owner:self options:nil].firstObject;
    contentView.translatesAutoresizingMaskIntoConstraints = NO;
    [self addSubview:contentView];
    return contentView;
}
```

Trick 17 mit IBInspectable

- Sicherlich alt aber zur Sicherheit bis Xcode es selbst unterstützt...

```
typedef NS_ENUM(NSInteger, ABCButtonType) {  
    ...  
};  
  
#if TARGET_INTERFACE_BUILDER  
@property (nonatomic) IBInspectable NSInteger abcButtonTypeInt;  
#endif  
  
@property (nonatomic) ABCButtonType abcButtonType;
```

EOF

Fragen?

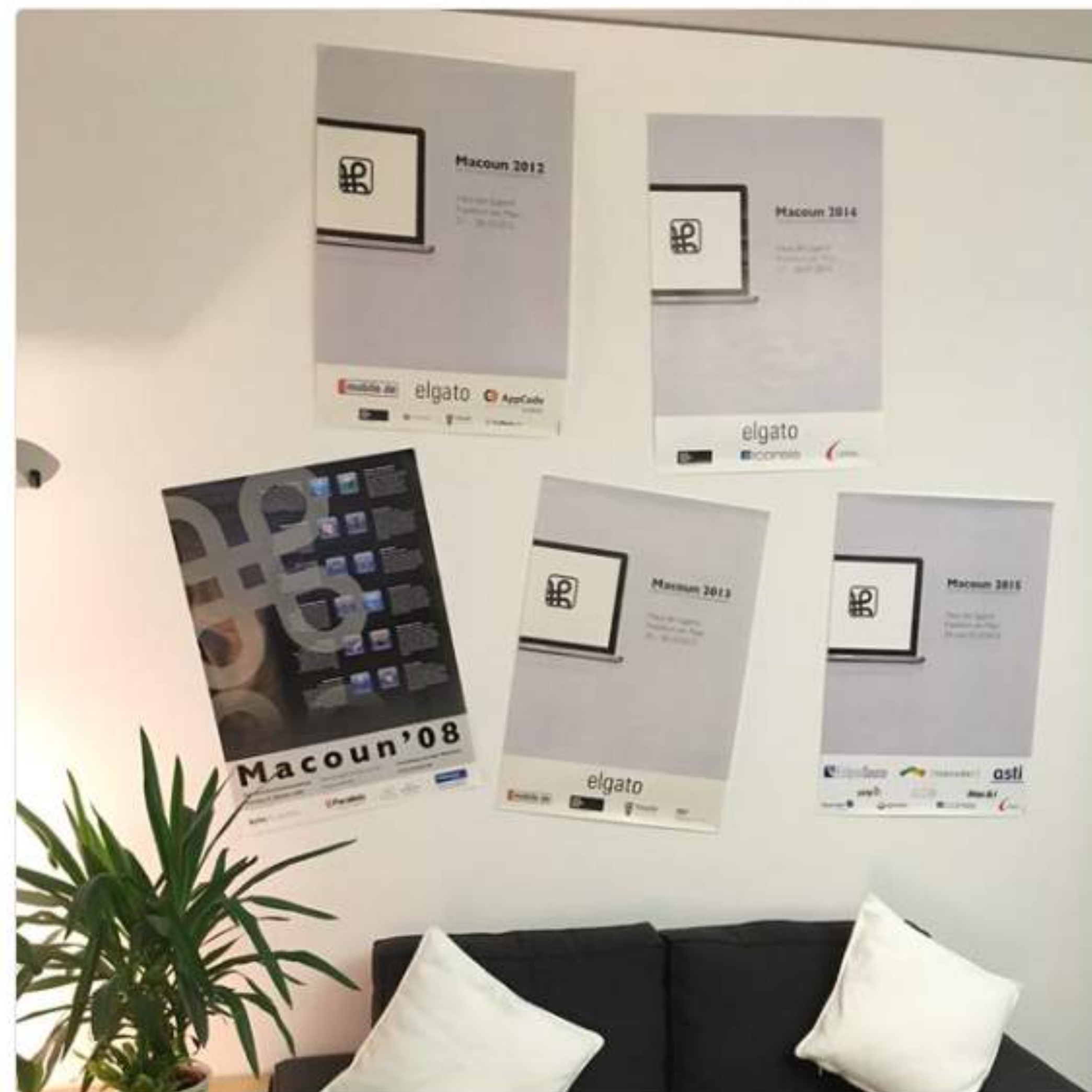


Patrik Schmittat

@cipherCOM

 Follow

So Wochenende vorbei, #Macoun wieder mal zu früh zu Ende und ein weiteres Poster kam bei @CodingGene hinzu :D



Weiterhin viel Spaß!

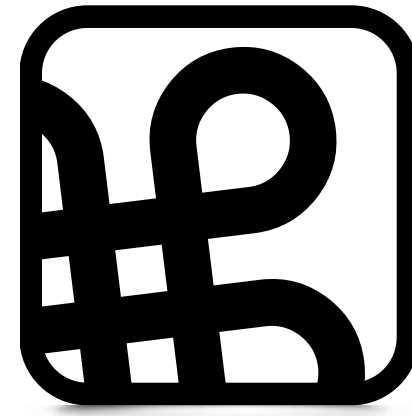
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Link zum Material



<http://codinggene.com/downloads/MacounVortrag2017.pdf>



Macoun