```
if (error) {
  // TODO
}
```

Wer bin ich?

@s_titgemeyer

- iOS Enthusiast
- Freelancer
  - große Projekte
- Student
  - kleine Projekte
- Open Source (iCarambaa)

```
- (void)someMethod {
    NSURLSession *session = [NSURLSession sharedSession];
    [session dataTaskWithURL:url completionHandler:^(NSData *data,
NSURLResponse *response, NSError *error) {
        if (error) {
            // TODO
            return;
        }
        // Continue with success case.
    }];
}
```

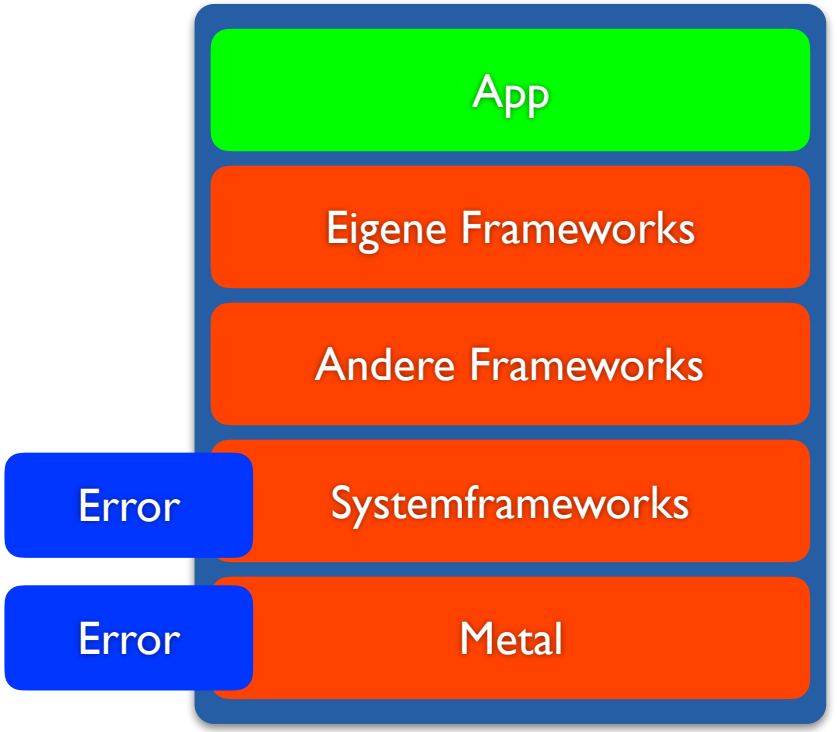
```
func someFunction() {
    URLSession.shared.dataTask(with: url) { (data, response, error) in
        guard let data = data else {
            // TODO
            return
        }
        // Continue...
    }
}
```

```
func someFunction() {
    URLSession.shared.dataTask(with: url) { (data, response, error) in
        guard let data = data else {
            print("Error: \(error!)")
            return
        }
        // Continue...
    }
}
```


Carrier
12:35 PM

Agenda

- Error Handling Patterns
- Was macht der Mac?
- Error erstellen
- Error weiterreichen
- Error anzeigen

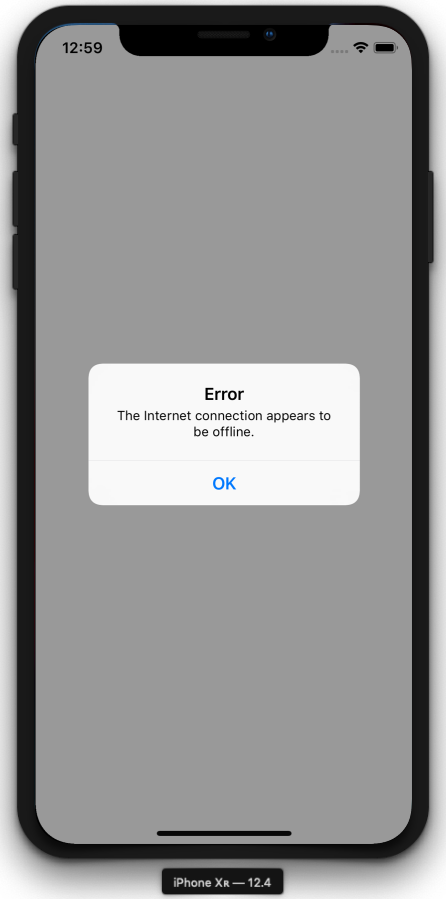


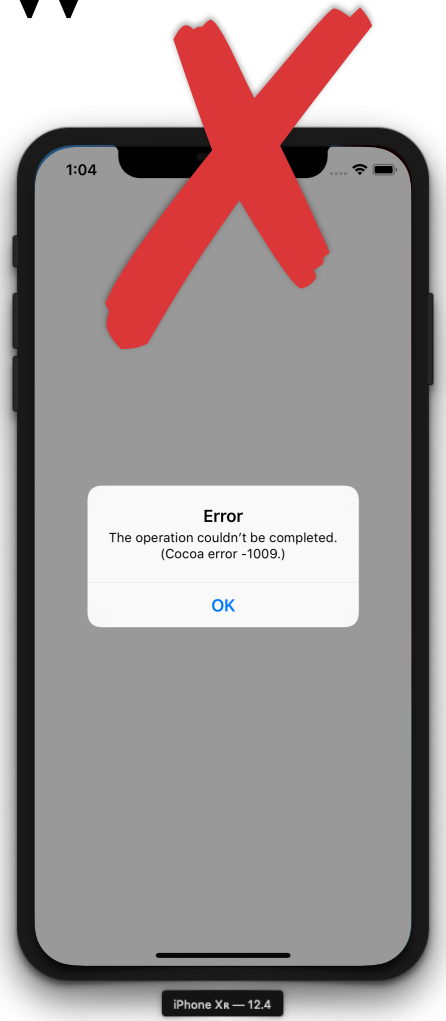
UIAlertView

UIAlertView

```
^(NSData *data, NSURLResponse *response, NSError *error) {
        if (data) {
            // Success case...
        } else {
            dispatch_async(dispatch_get_main_queue(), ^{
                UIAlertView *alert = [[UIAlertView alloc]
initWithTitle:@"Error" message:error.localizedDescription delegate:nil
cancelButtonTitle:@"OK" otherButtonTitles:nil, nil];
                [alert show];
            });
        }
    }
```

UIAlertView





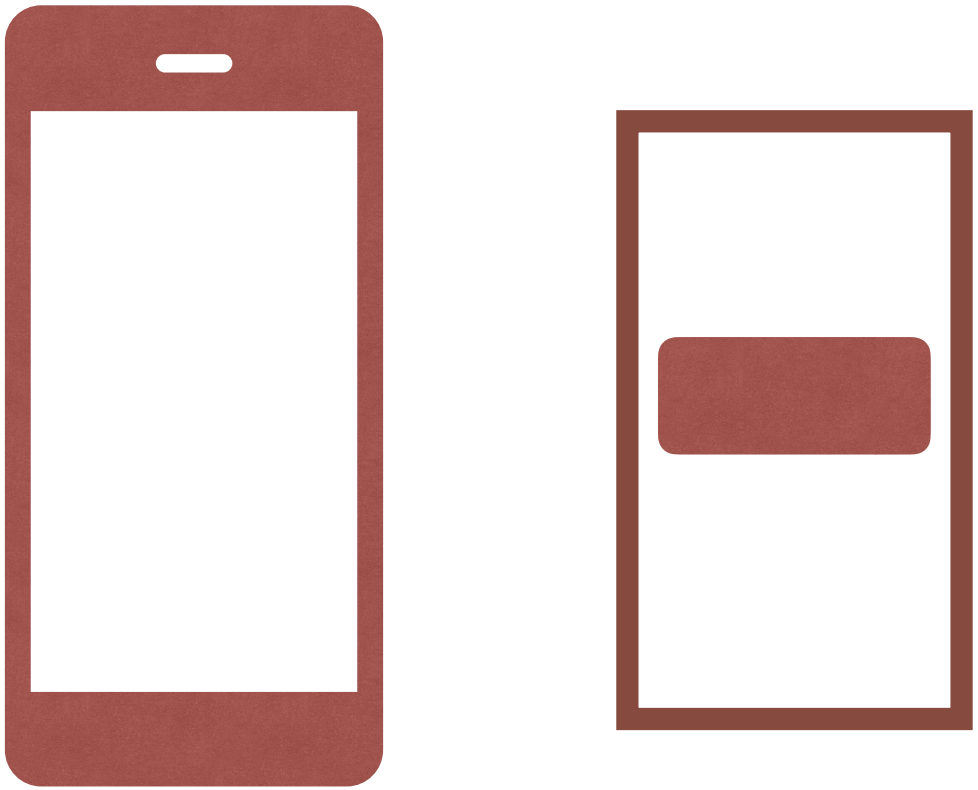
UIAlertController

UIAlertController

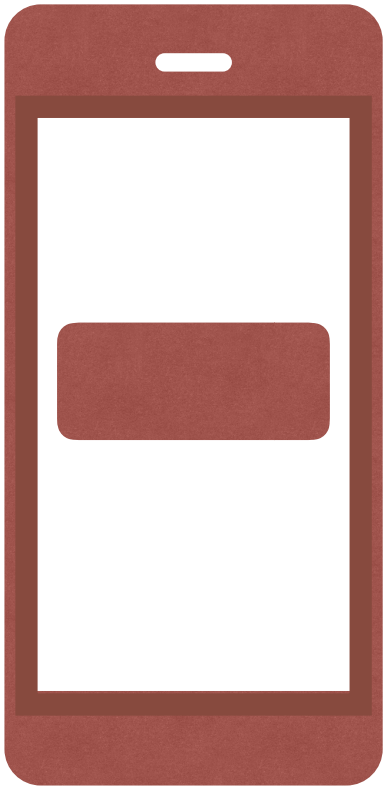
UIAlertController

- Ein Alert ist ein View Controller
  - Wollen wir einen View Controller an x verschiedenen Stellen initialisieren?
  - … oder innerhalb eines Models?
- Fragen wir Stackoverflow!
  - “Present UIAlertController without View Controller”

UIAlertController



UIAlertController



- Eigene Alert über oder unter Systemalerts?
- Window teilen oder kriegt jedes ein eigenes?
- Mehrere Alerts übereinander?

Kurz:

Don’t

macOS

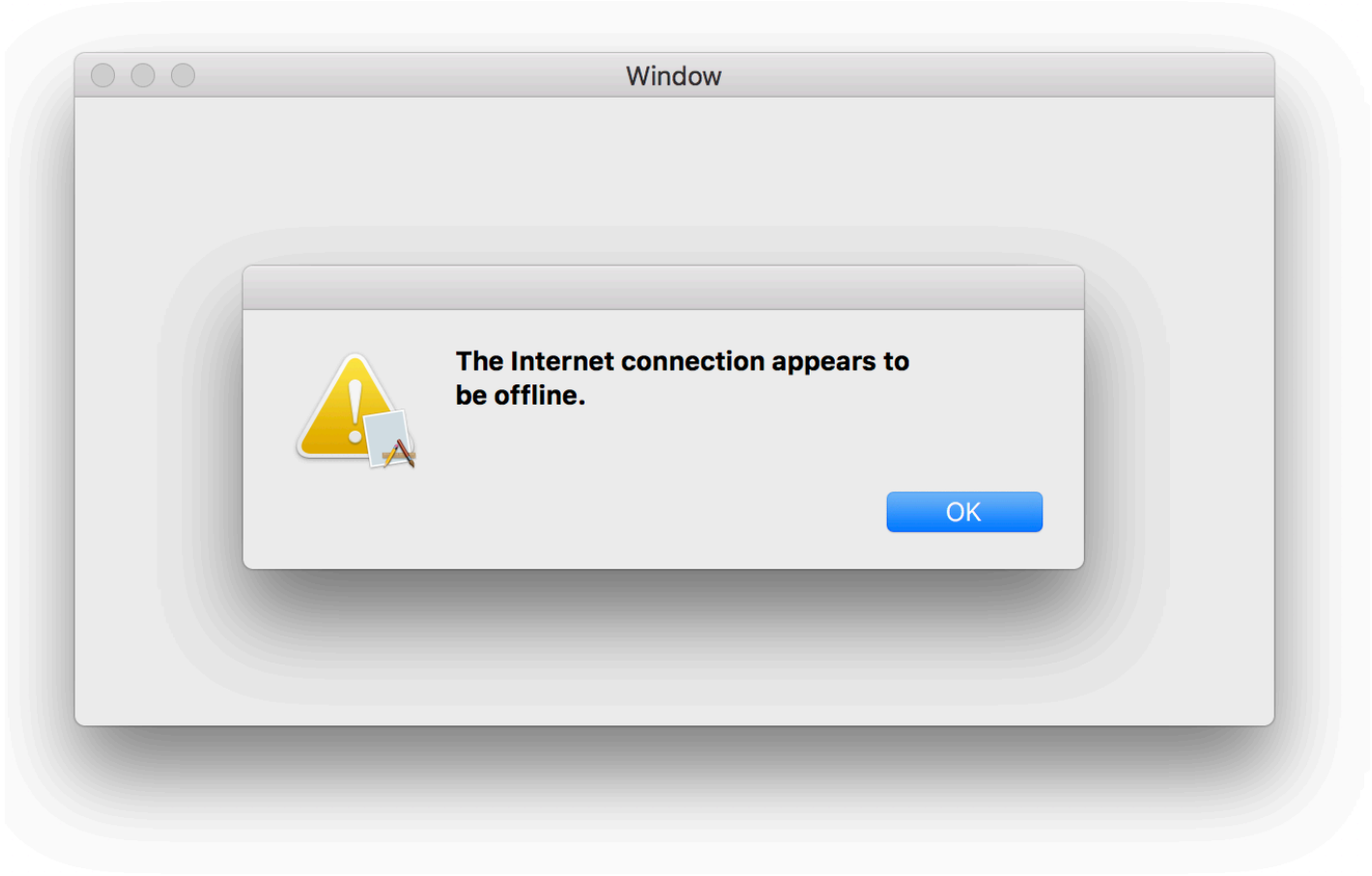
macOS

```
@interface NSResponder(NSErrorPresentation)
- (BOOL)presentError:(NSError *)error;
- (NSError *)willPresentError:(NSError *)error;
@end
```

macOS

```
dispatch_async(dispatch_get_main_queue(), ^{
    BOOL didRecover = [self presentError:error];
    if (didRecover) {
        // Retry.
    }
}
```

macOS



NSError

Code
Domain

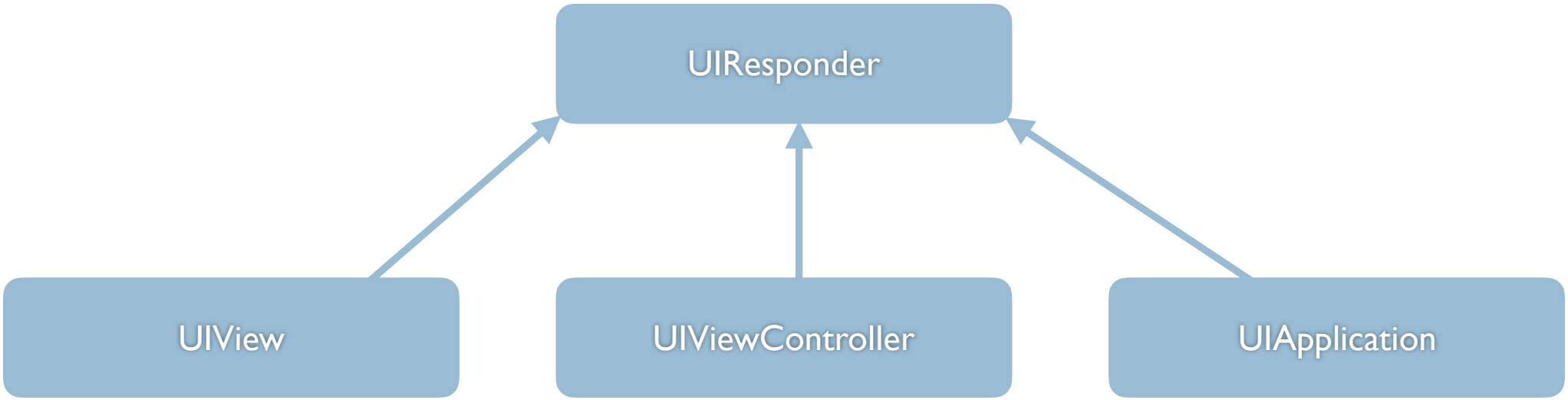
NSLocalizedDescriptionKey
NSLocalizedFailureErrorKey
NSLocalizedFailureReasonErrorKey
NSLocalizedRecoverySuggestionErrorKey
…

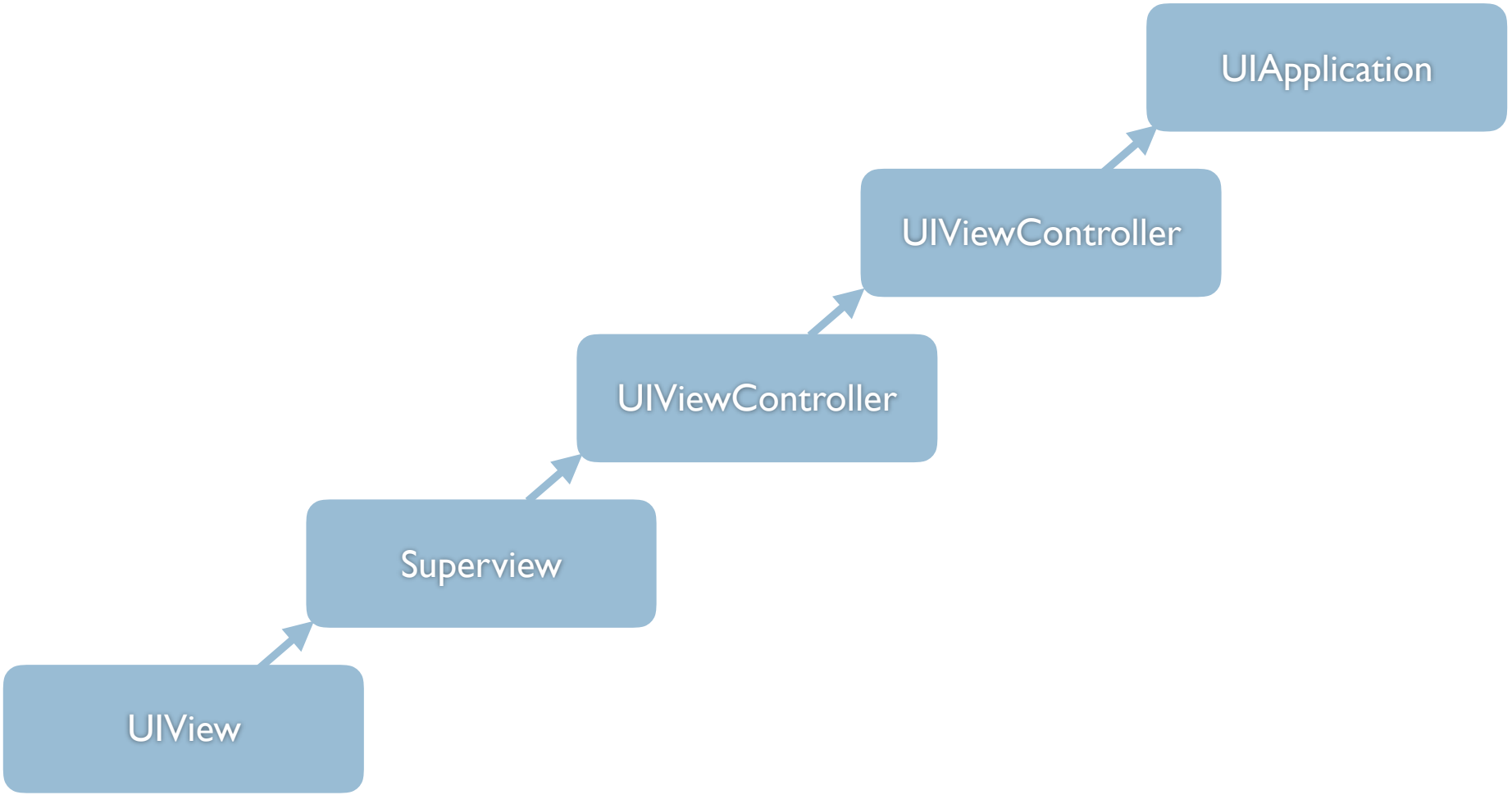
NSLocalizedRecoveryOptionsErrorKey
NSRecoveryAttempterErrorKey

Localized Description

- Beschreibung aus dem Inhalt des Errors
- “The image library could not be saved. The volume Macintosh HD is out of space.”
- Mehrere Regeln, je nachdem, welche Informationen gesetzt sind.
- Dokumentation nur in den Foundation Release Notes:
  https://developer.apple.com/library/archive/releasenotes/Foundation/RN-Foundation/index.html

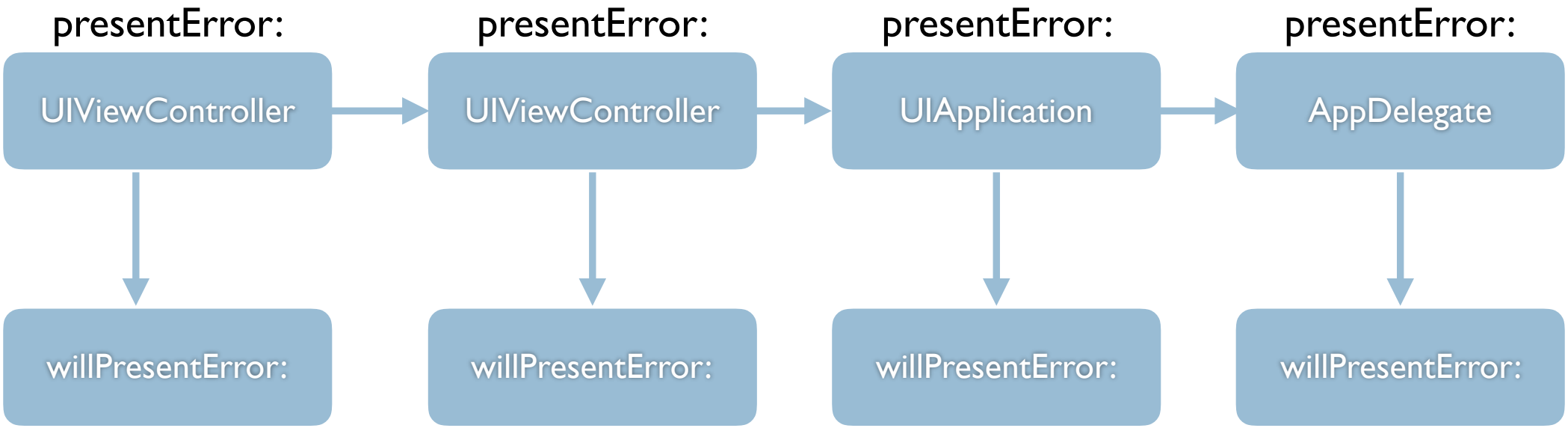
Responder Chain



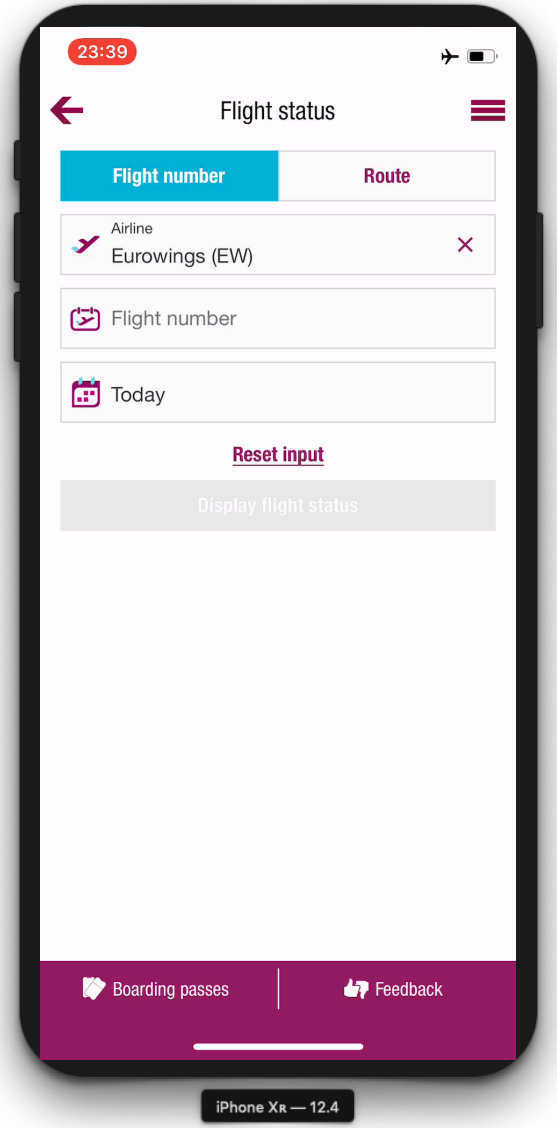

UIApplication
UIViewController
UIViewController
Superview
UIView

UIResponder erweitern

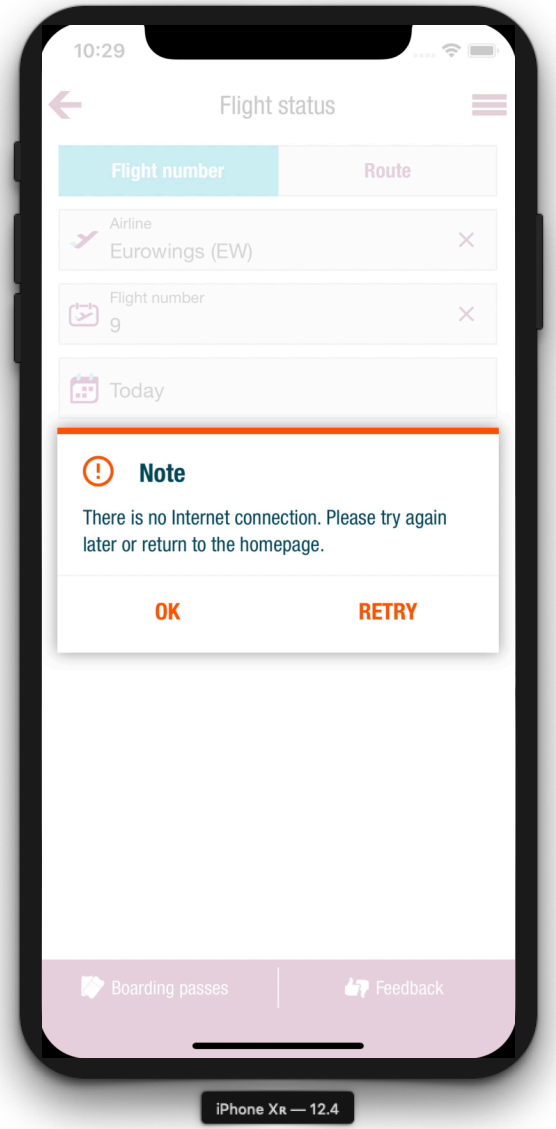
```
@interface UIResponder (STIErrorPresentation)
- (void)presentError:(NSError *)error completionHandler:(nullable void
(^)(BOOL didRecover))completionHandler;
- (nullable NSError *)willPresentError:(NSError *)error;
@end
```



Achtung: Niemals [UIResponder presentError:] überschreiben


23:39
Flight status
Flight number
Route
Airline
Eurowings (EW)
Flight number
Today
Reset input
Display flight status
Boarding passes
Feedback
iPhone XR — 12.4

Erneut versuchen



NSError

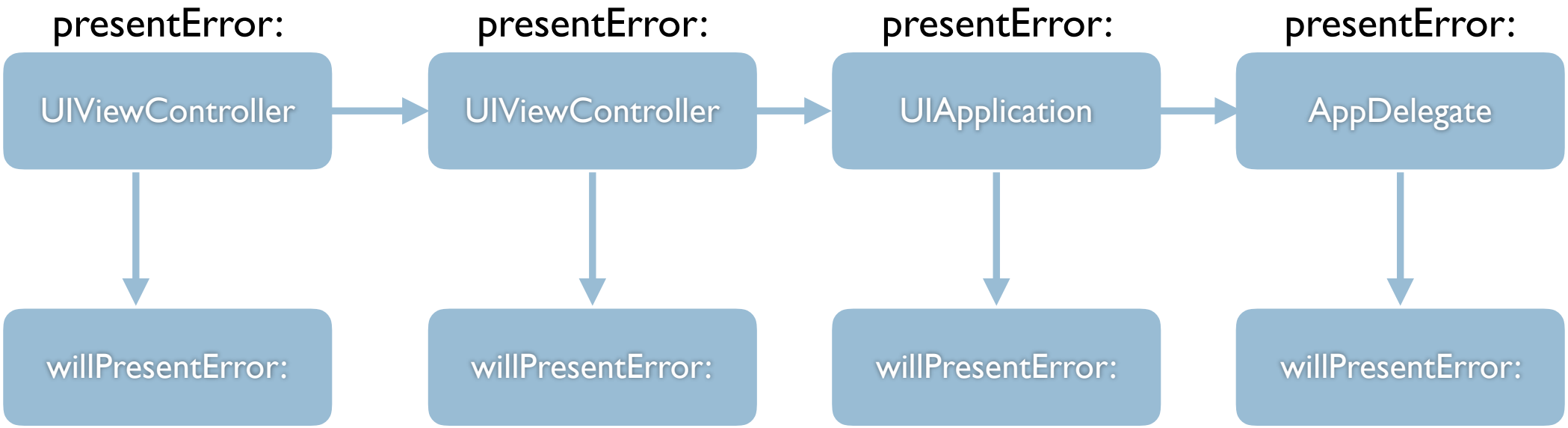

Code
Domain
NSLocalizedDescriptionKey
NSLocalizedFailureErrorKey
NSLocalizedFailureReasonErrorKey
NSLocalizedRecoverySuggestionErrorKey
…
NSLocalizedRecoveryOptionsErrorKey
NSRecoveryAttempterErrorKey

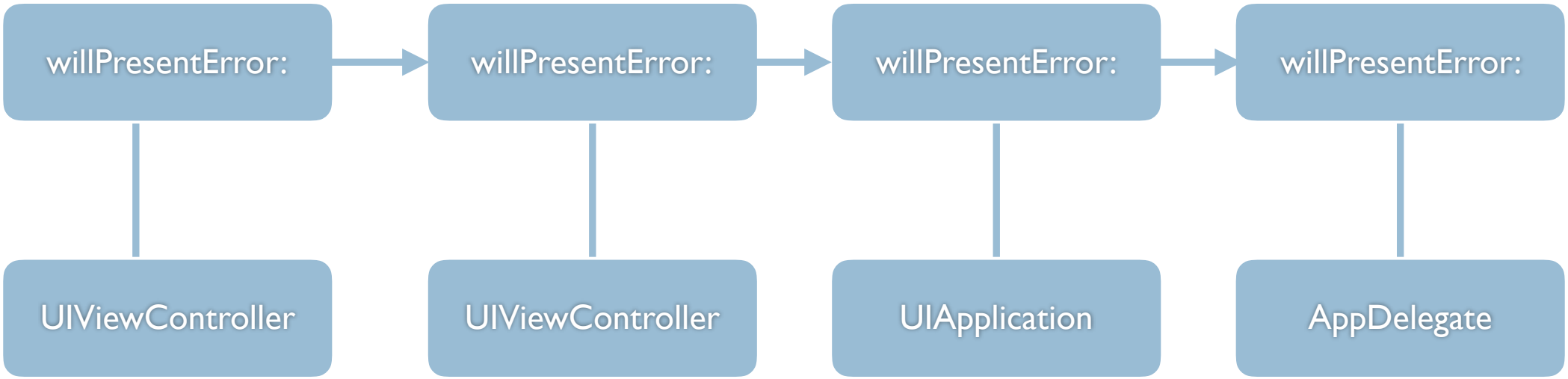
```
@interface NSObject(NSErrorRecoveryAttempting)

- (BOOL)attemptRecoveryFromError:(NSError *)error
                     optionIndex:(NSUInteger)recoveryOptionIndex;

@end
```

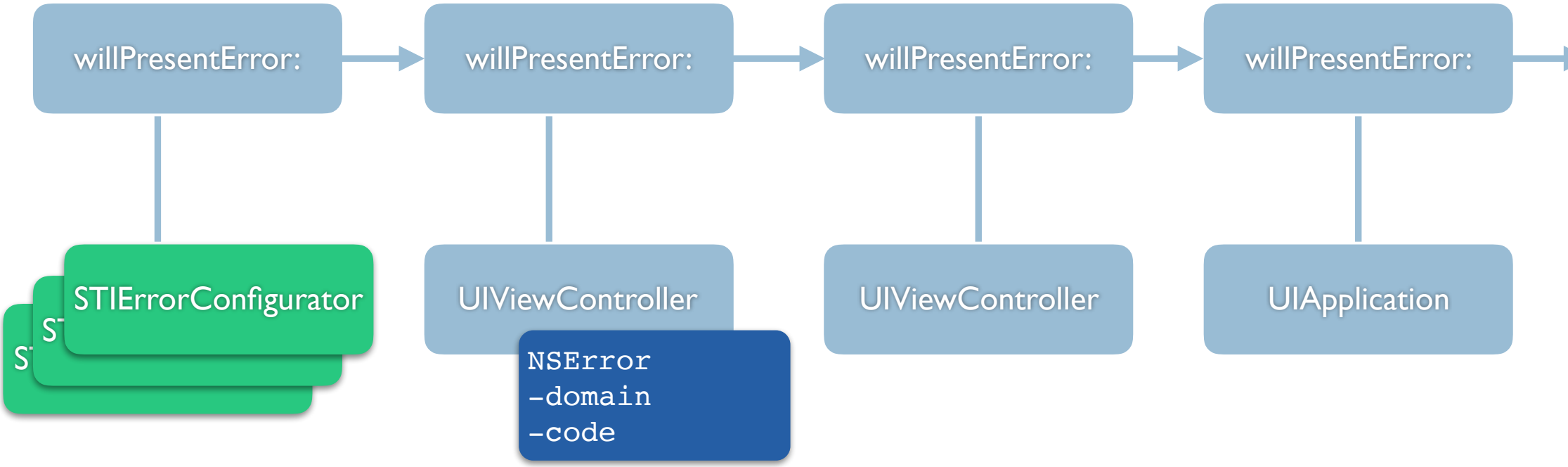
```
STIRecoveryAttempter *a = [STIRecoveryAttempter new];
[a addOkayRecoveryOption];
[a addRecoveryOptionWithTitle: @"Retry" recoveryAttempt:^BOOL{
   return YES;
}];
NSError *_error = [error addingObject:a
                        forUserInfoKey:NSRecoveryAttempterErrorKey];
[self presentError:_error completionHandler:^(BOOL didRecover) {
   if (didRecover) {
      [self loadFlightStatusUsingFlightnumber];
  }
}];
```

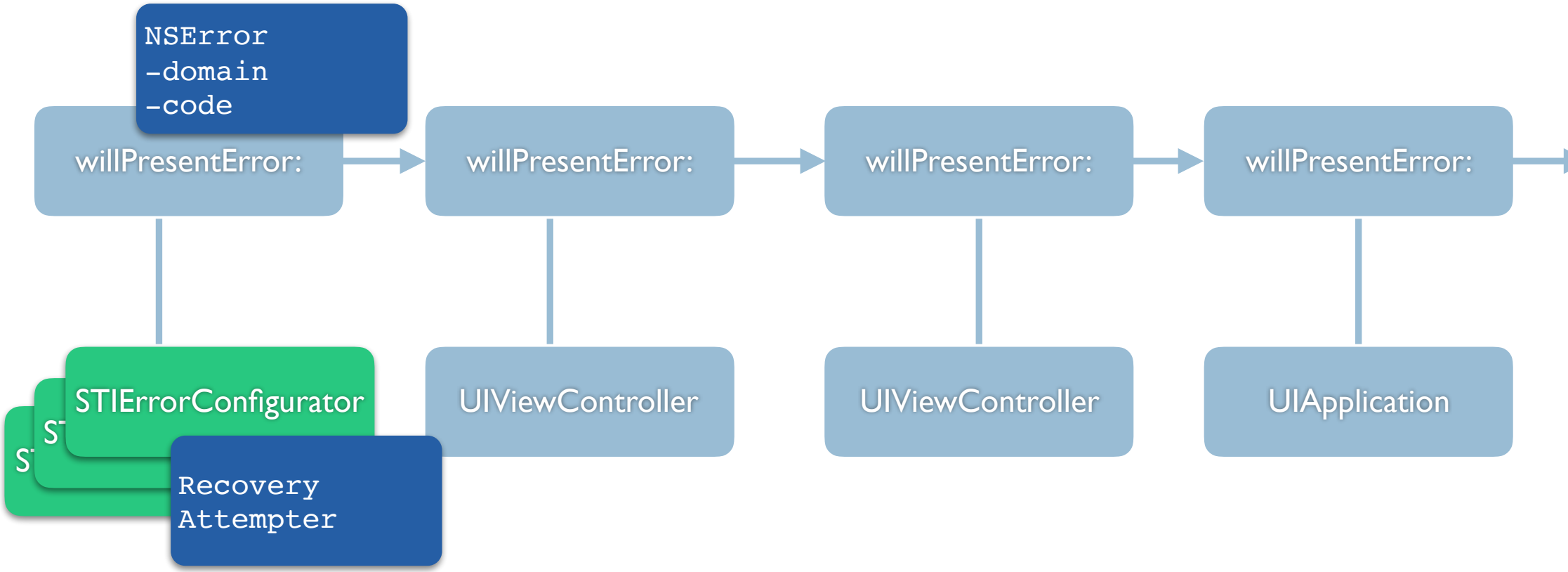
Problem

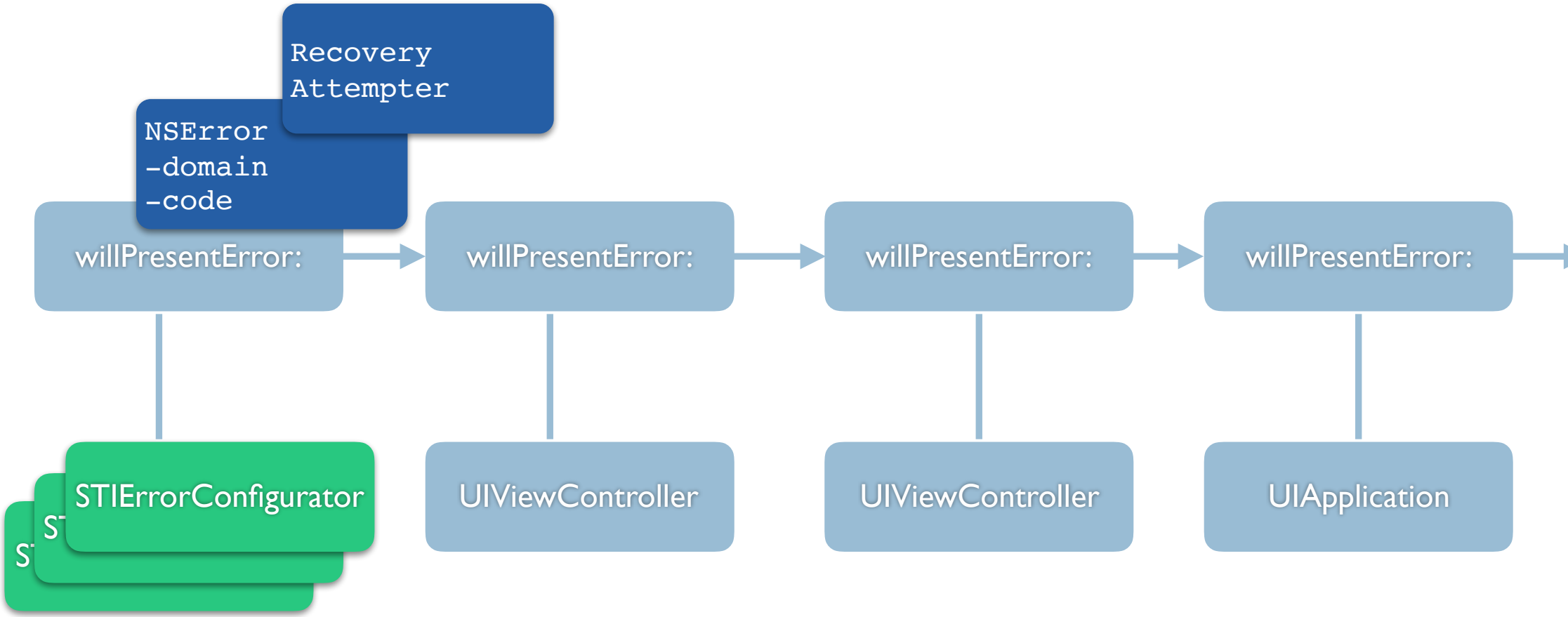
- Error Fall wird komplizierter
- Duplizierter Code
- Retry Option wird an jeden Error angehangen
- Besser: Konfiguriere Errors an zentraler Stelle!

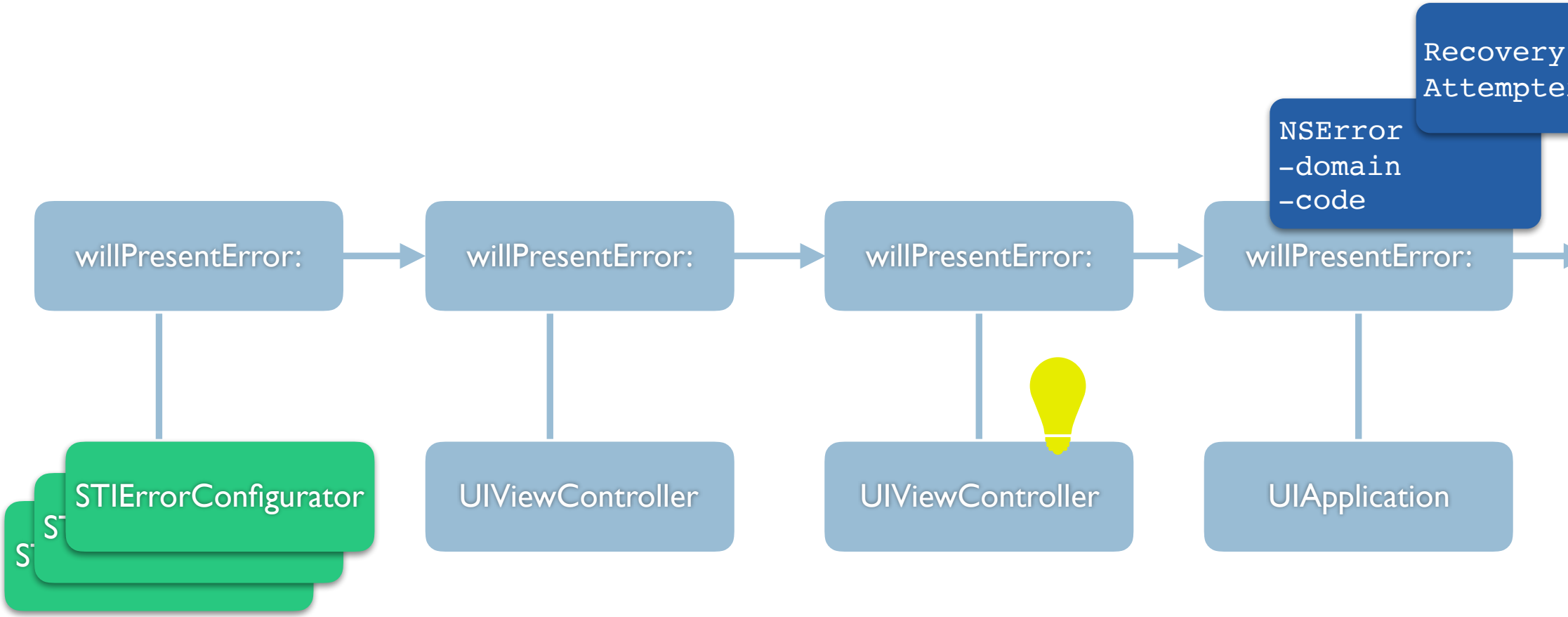

presentError:
presentError:
presentError:
presentError:
UIViewController
UIViewController
UIApplication
AppDelegate
willPresentError:
willPresentError:
willPresentError:
willPresentError:


willPresentError:
willPresentError:
willPresentError:
willPresentError:
UIViewController
UIViewController
UIApplication
AppDelegate

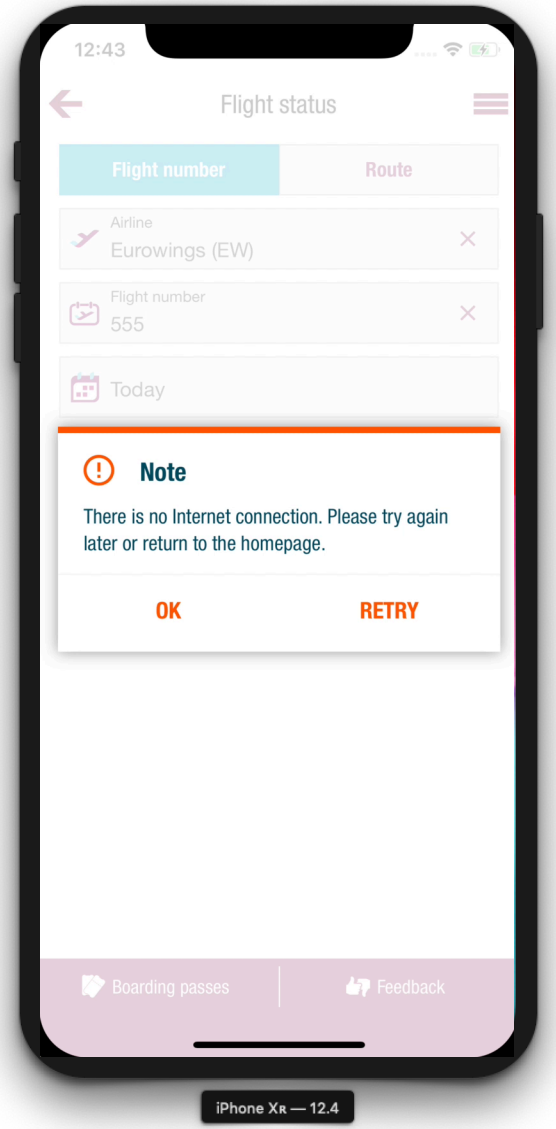

willPresentError:
willPresentError:
willPresentError:
willPresentError:
STIErrorConfigurator
UIViewController
UIViewController
UIApplication
NSError
-domain
-code


NSError
-domain
-code
willPresentError:
willPresentError:
willPresentError:
willPresentError:
STIErrorConfigurator
Recovery
Attempter
UIViewController
UIViewController
UIApplication


Recovery
Attempter
NSError
-domain
-code
willPresentError:
willPresentError:
willPresentError:
willPresentError:
STIErrorConfigurator
UIViewController
UIViewController
UIApplication


willPresentError:
willPresentError:
willPresentError:
willPresentError:
NSError
-domain
-code
Recovery
Attempte
STIErrorConfigurator
UIViewController
UIViewController
UIApplication

Abfangen


12:43
Flight status
Flight number
Route
Airline
Eurowings (EW)
Flight number
555
Today
Note
There is no Internet connection. Please try again later or return to the homepage.
OK
RETRY
Boarding passes
Feedback
iPhone XR — 12.4

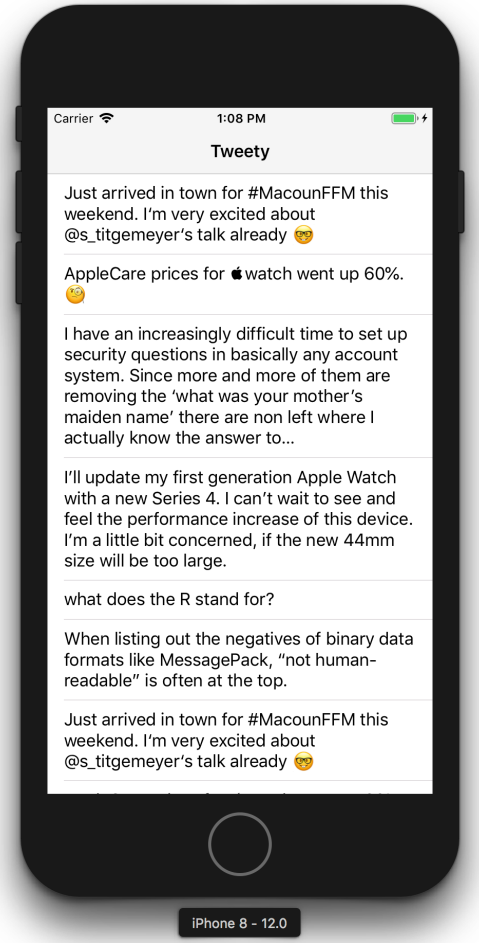
```
@interface UIResponder (STIErrorPresentation)

- (BOOL)canInterceptError:(NSError *)error;
- (void)interceptError:(NSError *)error
     completionHandler:(void (^)(BOOL didRecover))completionHandler;

@end
```

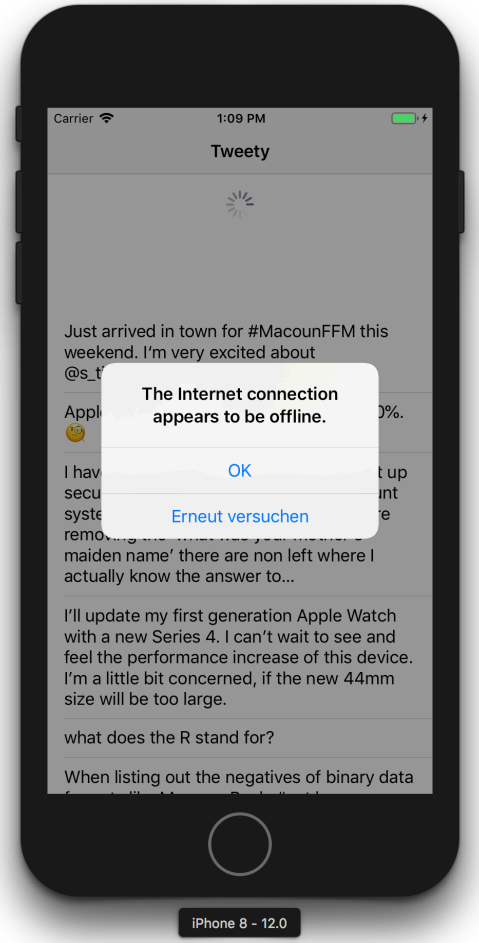
Error Domains nutzen

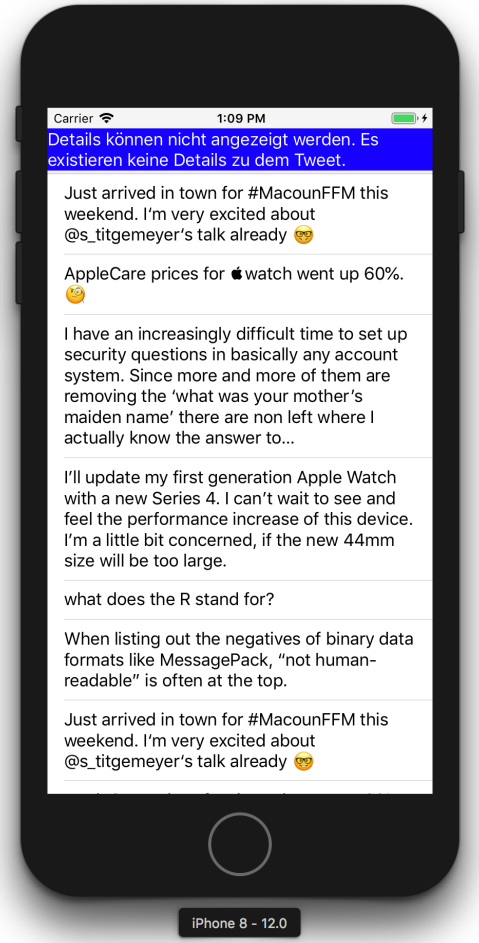
STIErrorHandling

- Open Source
- Fork von HRSCustomErrorHandling
- Schlank
- Optimal auch für kleine Projekte
- https://github.com/iCarambaa/STIErrorHandling

Demo


Carrier
1:08 PM
Tweety
Just arrived in town for #MacounFFM this weekend. I'm very excited about @s_titgemeyer's talk already 🤓
AppleCare prices for watch went up 60%. 🧐
I have an increasingly difficult time to set up security questions in basically any account system. Since more and more of them are removing the 'what was your mother's maiden name' there are non left where I actually know the answer to...
I'll update my first generation Apple Watch with a new Series 4. I can't wait to see and feel the performance increase of this device. I'm a little bit concerned, if the new 44mm size will be too large.
what does the R stand for?
When listing out the negatives of binary data formats like MessagePack, "not human-readable" is often at the top.
Just arrived in town for #MacounFFM this weekend. I'm very excited about @s_titgemeyer's talk already 🤓
iPhone 8 - 12.0


Carrier
1:09 PM
Tweety
The Internet connection appears to be offline.
OK
Erneut versuchen
iPhone 8 - 12.0


Carrier
1:09 PM
Details können nicht angezeigt werden. Es existieren keine Details zu dem Tweet.
Just arrived in town for #MacounFFM this weekend. I'm very excited about @s_titgemeyer's talk already 🤓
AppleCare prices for watch went up 60%. 🧐
I have an increasingly difficult time to set up security questions in basically any account system. Since more and more of them are removing the 'what was your mother's maiden name' there are non left where I actually know the answer to...
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iPhone 8 - 12.0

Zusammenfassung

- Jeder Error der auftreten kann, tritt auch auf
- Informationen aus NSError nutzen
- Responder Chain kann den Fluss übernehmen
- Besonders in kleinen Projekten eine einfache Lösung

Q&A

- Error erstellen
- Responder Chain
- Error-Präsentation
- Error Configurator
- STIErrorHandling
- Swift

@s_titgemeyer