

Macoun

Börse Frankfurt 3.0

Dr. Michael Lauer

Kai Teuber

Ablauf

- Zahlen
- Demo
- Systemarchitektur
- Anwendungsarchitektur
- Domänenspezifische Anforderungen
- Erfahrungen
- Wie geht's weiter?



Zahlen

1 585

800.000

1 07.000.000

1 80%



16 Releases



> 5K Downloads / M



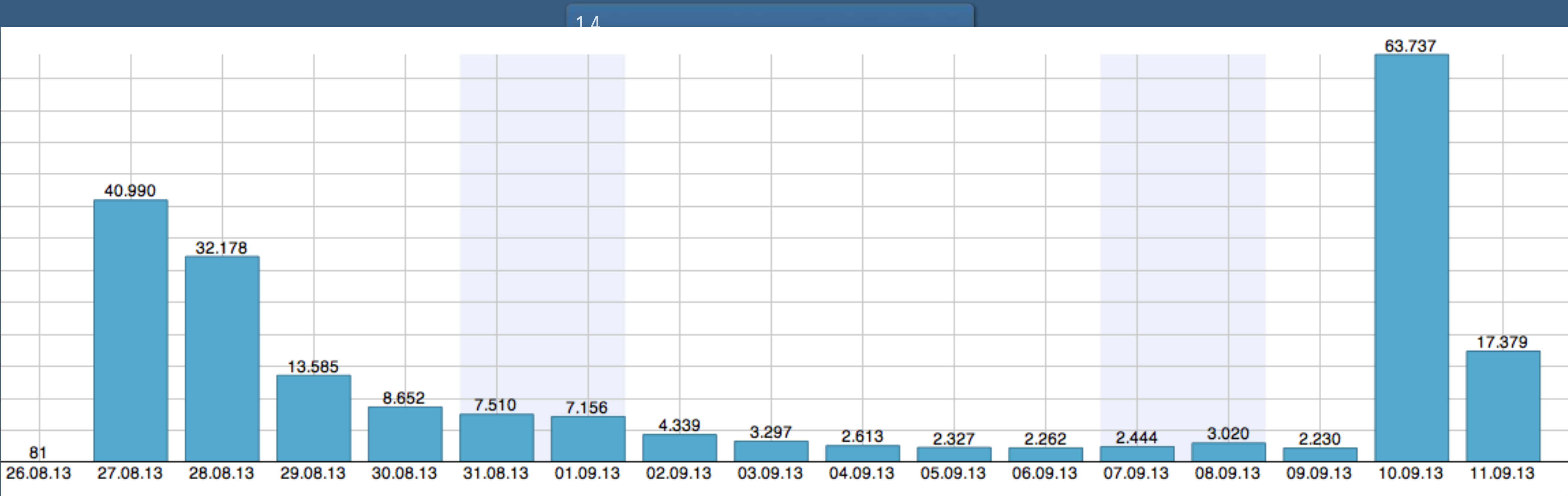
> 40% Visits via Mobile



Börse Frankfurt App (iOS)

7,8 % 12,0 % 26,4 % 26,0 % 33,6 % 38,7 %

~ 100.000 aktive User



Börse Frankfurt App (iOS)


```
commit 56a24c20117c21036f60ed555fa2f89203ffe9ce
Author: Dr. Michael Lauer <la@app-developers.de>
Date: Tue Mar 5 14:36:41 2013 +0100
```

start w/ Xetra3 for iOS

```
- 5 Mann-Monate
- 128 * .h
- 104 * .m
- 1 * .storyboard
- 5 * .xib
- 36.000 Lines of Code
- + LTSupport2
```

```
commit 0ed3274e4bdf1d356589f5e7a533785c859d6d92
Author: Dr. Michael Lauer <la@app-developers.de>
Date: Wed Aug 21 22:09:31 2013 +0200
```

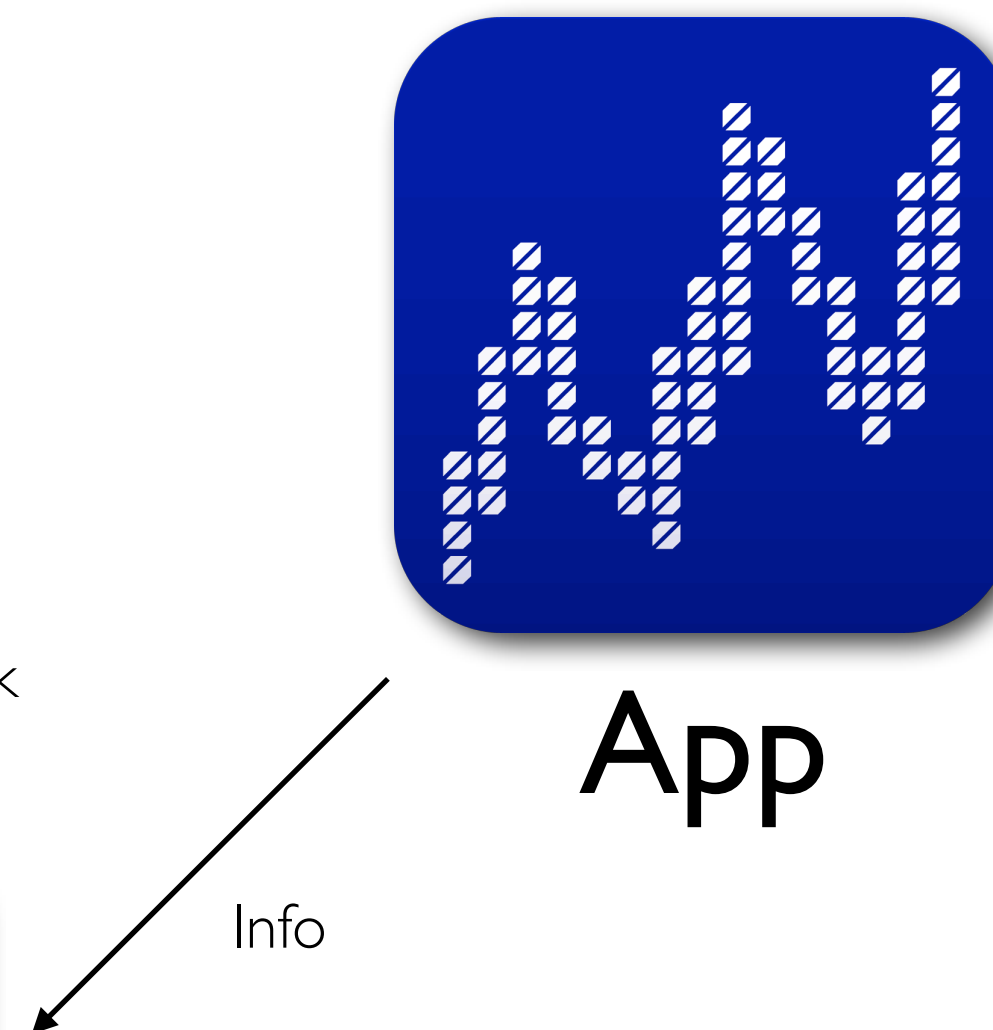
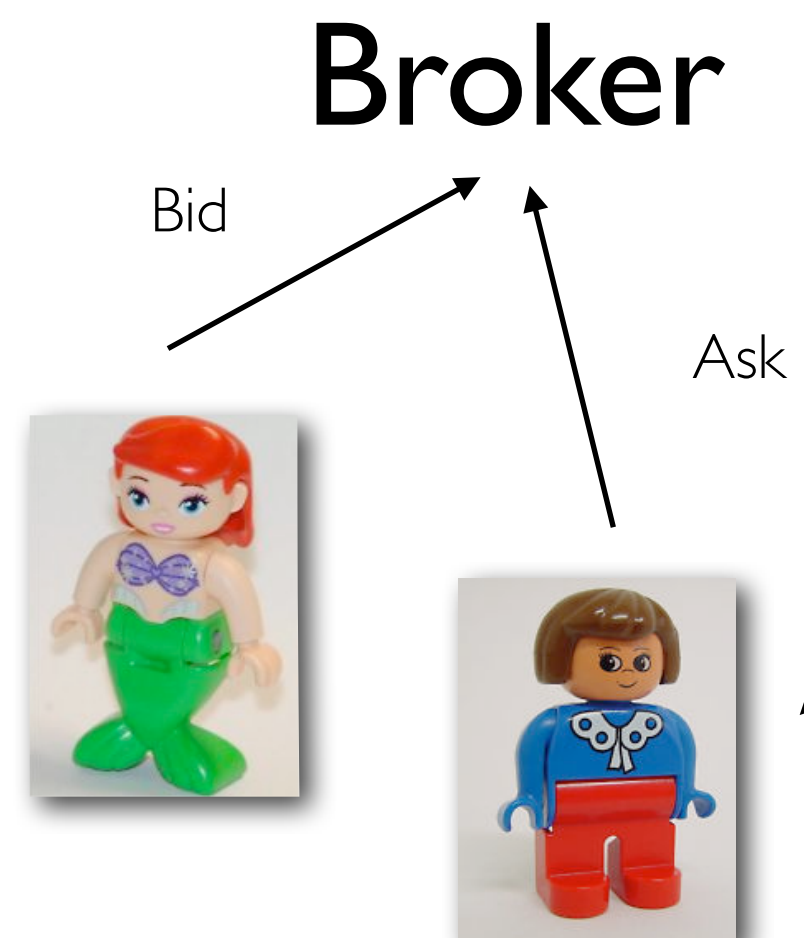
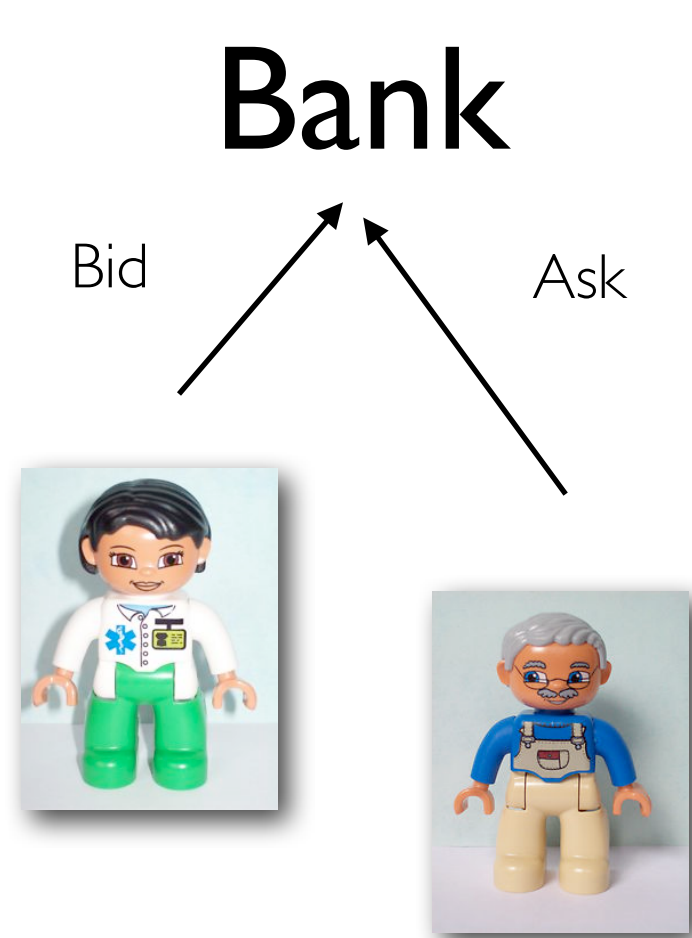
ios: fix missing tour after first login when being non-anonymous
<drumroll> THIS IS 3.0! </drumroll>

Demo

Systemarchitektur



App





Börse(n)

Orders

Orders

Bank

Broker



App

Bid

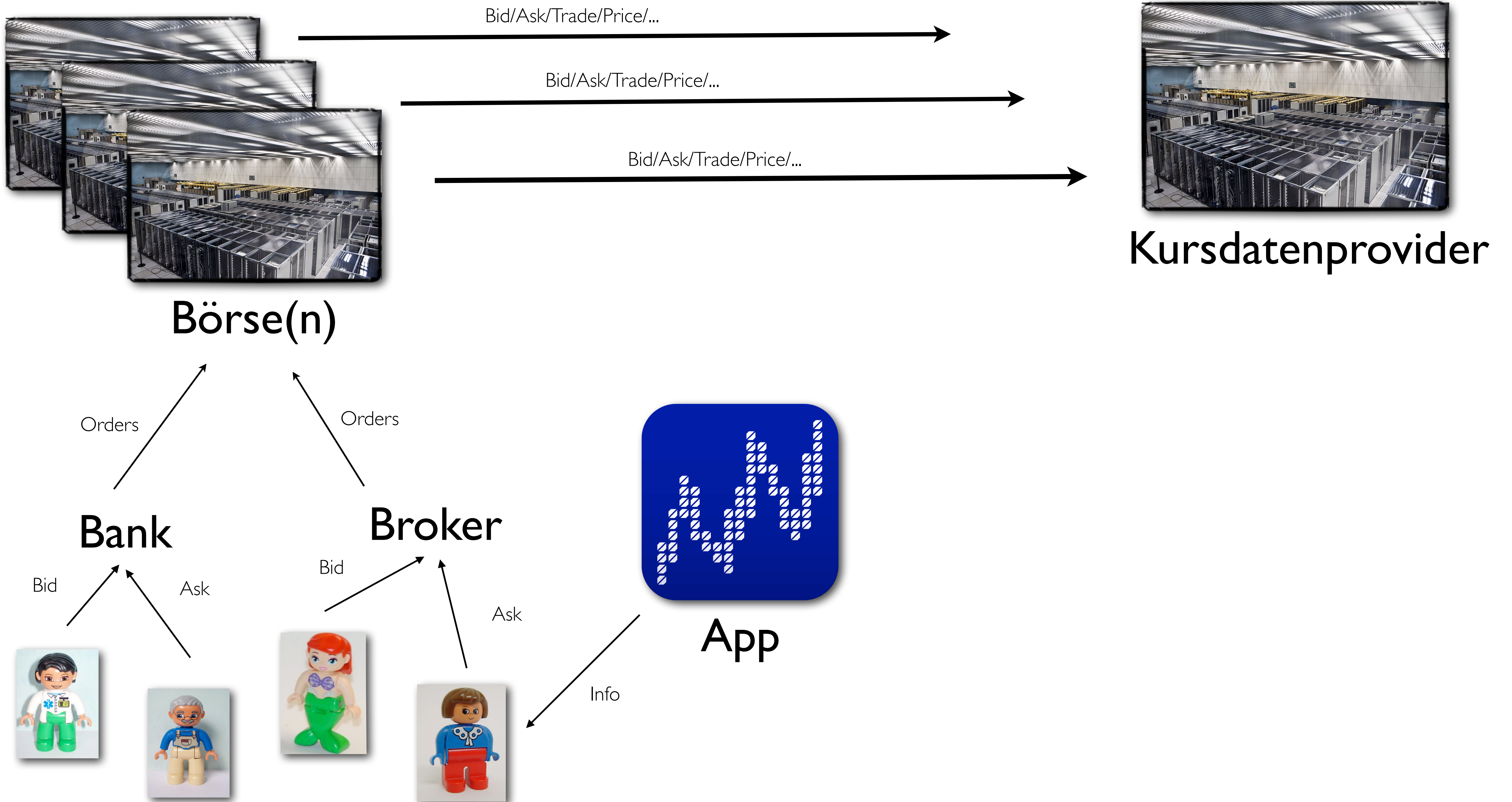
Ask

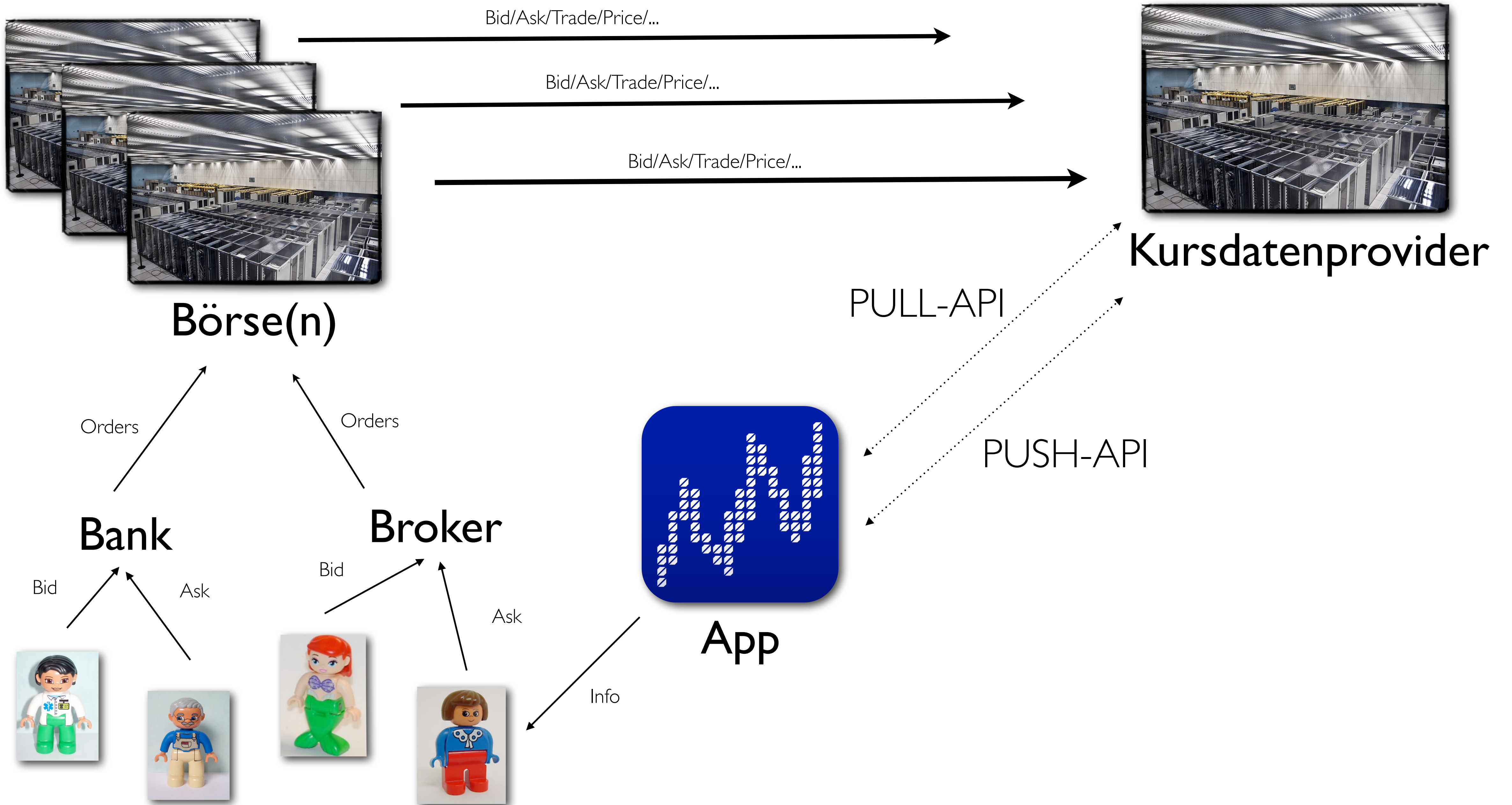
Bid

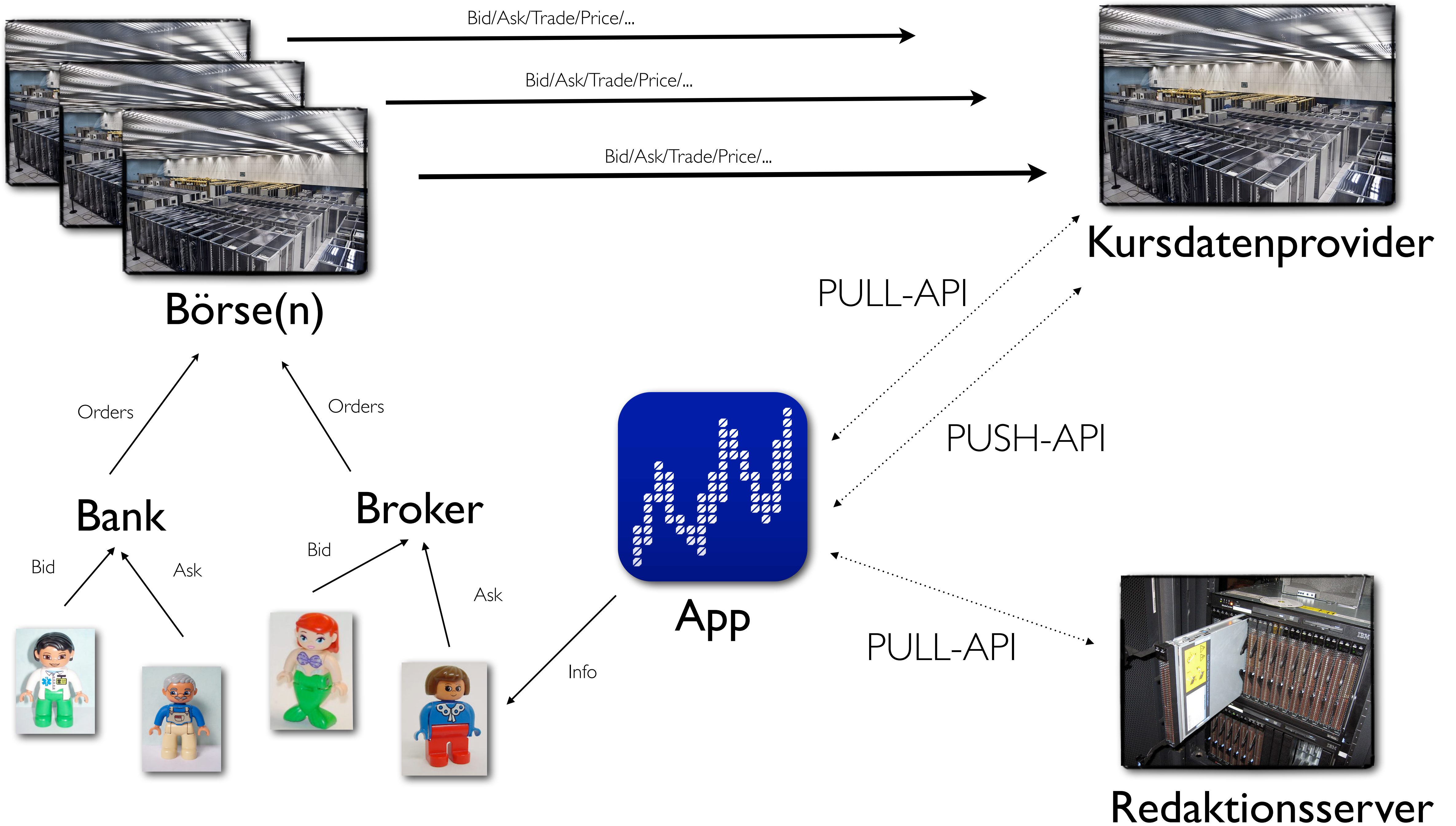
Ask

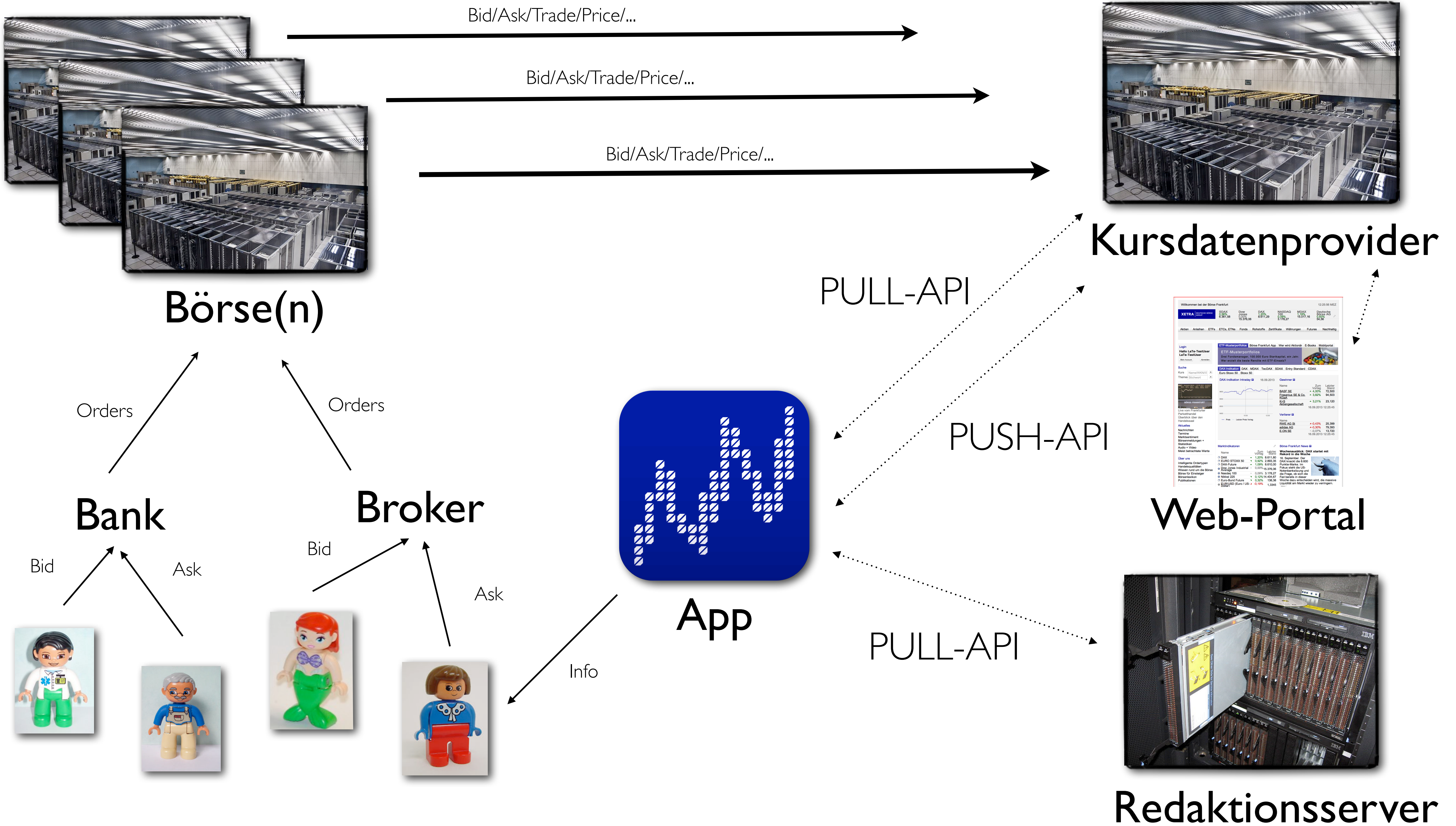
Info











Integration von Pull & Push

http://www.boerse-frankfurt.de/app-data/quotes/wertpapiere.xml?lang=en&sid=guest&cat=fonds_strategie_all&start=0&count=3

```
<?xml version="1.0" encoding="utf-8"?>
<mobile>
  <results>882</results>
  <items>
    <id ag="34085" type="ExchangeTradedFund" name="iShares EURO STOXX Health Care (DE)"
      all_listings="1.21,12.22">DE0006289333</id>
    <id ag="4287" type="ExchangeTradedFund" name="iShares EURO STOXX 50 (DE)"
      all_listings="12.22,1.21">DE0005933956</id>
    <id ag="4537" type="ExchangeTradedFund" name="iShares DAX (DE)"
      all_listings="7.22,1.21,12.22">DE0005933931</id>
  </items>
</mobile>
```

Pull

http://www.boerse-frankfurt.de/app-data/quotes/wertpapiere.xml?lang=en&sid=guest&cat=fonds_strategie_all&start=0&count=3

```
<?xml version="1.0" encoding="utf-8"?>
<mobile>
  <results>882</results>
  <items>
    <id ag="34085" type="ExchangeTradedFund" name="iShares EURO STOXX Health Care (DE)"
      all_listings="1.21,12.22">DE0006289333</id>
    <id ag="4287" type="ExchangeTradedFund" name="iShares EURO STOXX 50 (DE)"
      all_listings="12.22,1.21">DE0005933956</id>
    <id ag="4537" type="ExchangeTradedFund" name="iShares DAX (DE)"
      all_listings="7.22,1.21,12.22">DE0005933931</id>
  </items>
</mobile>
```

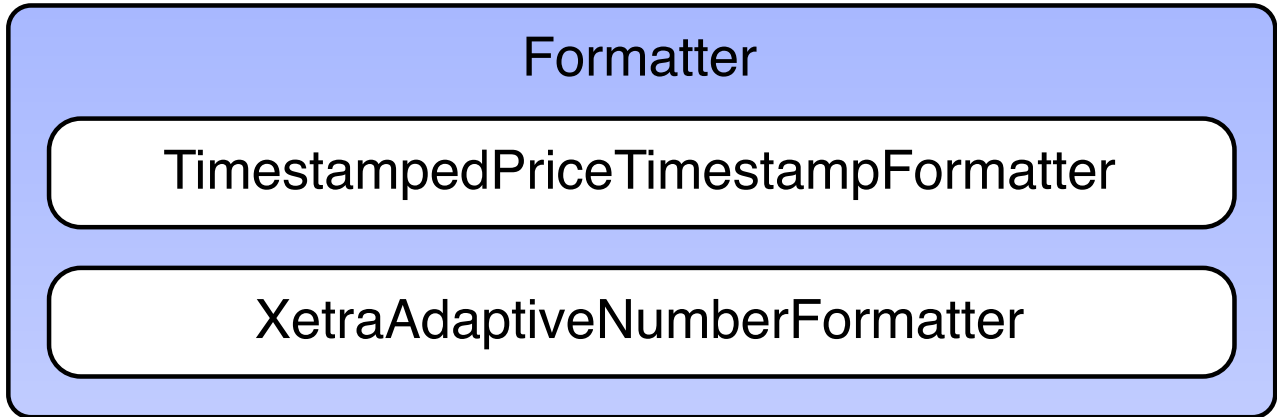
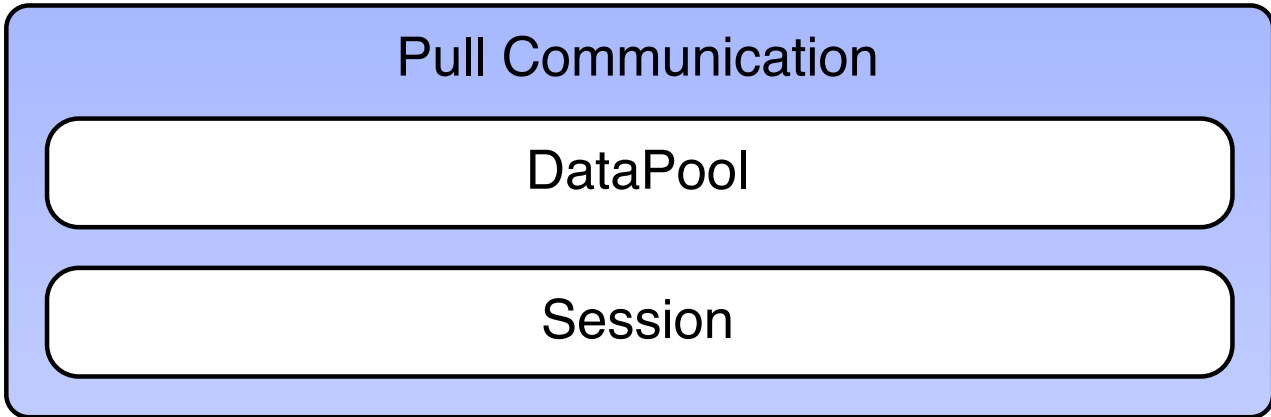
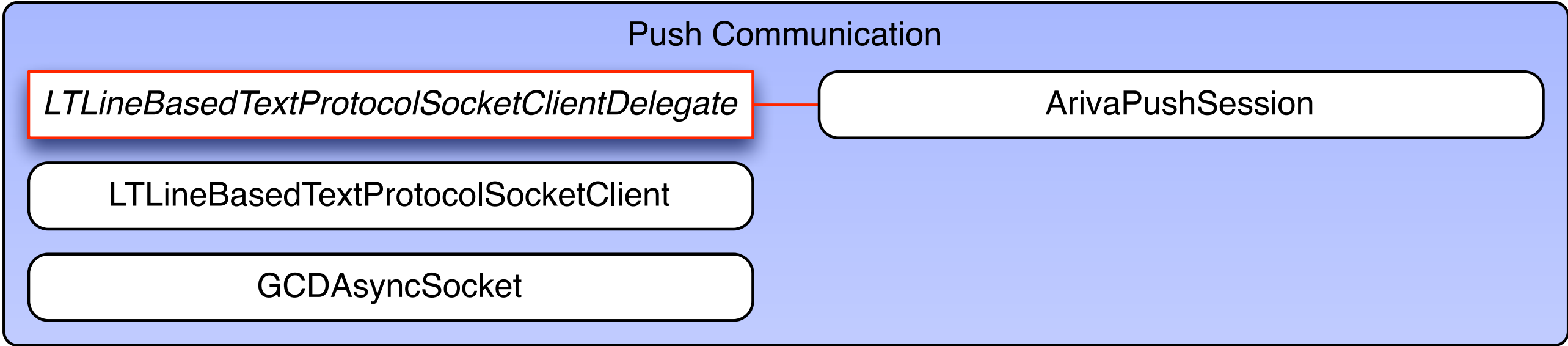
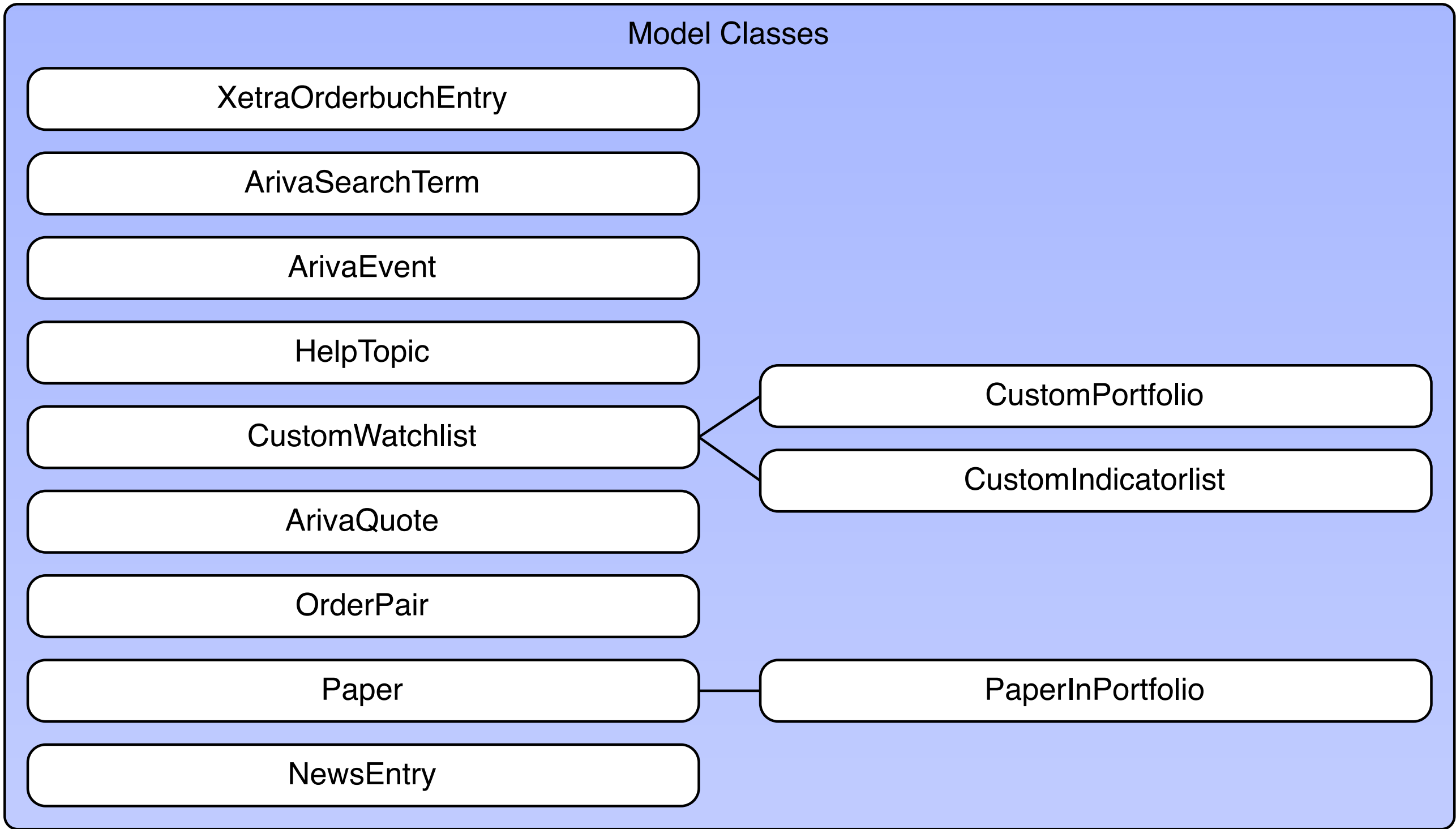
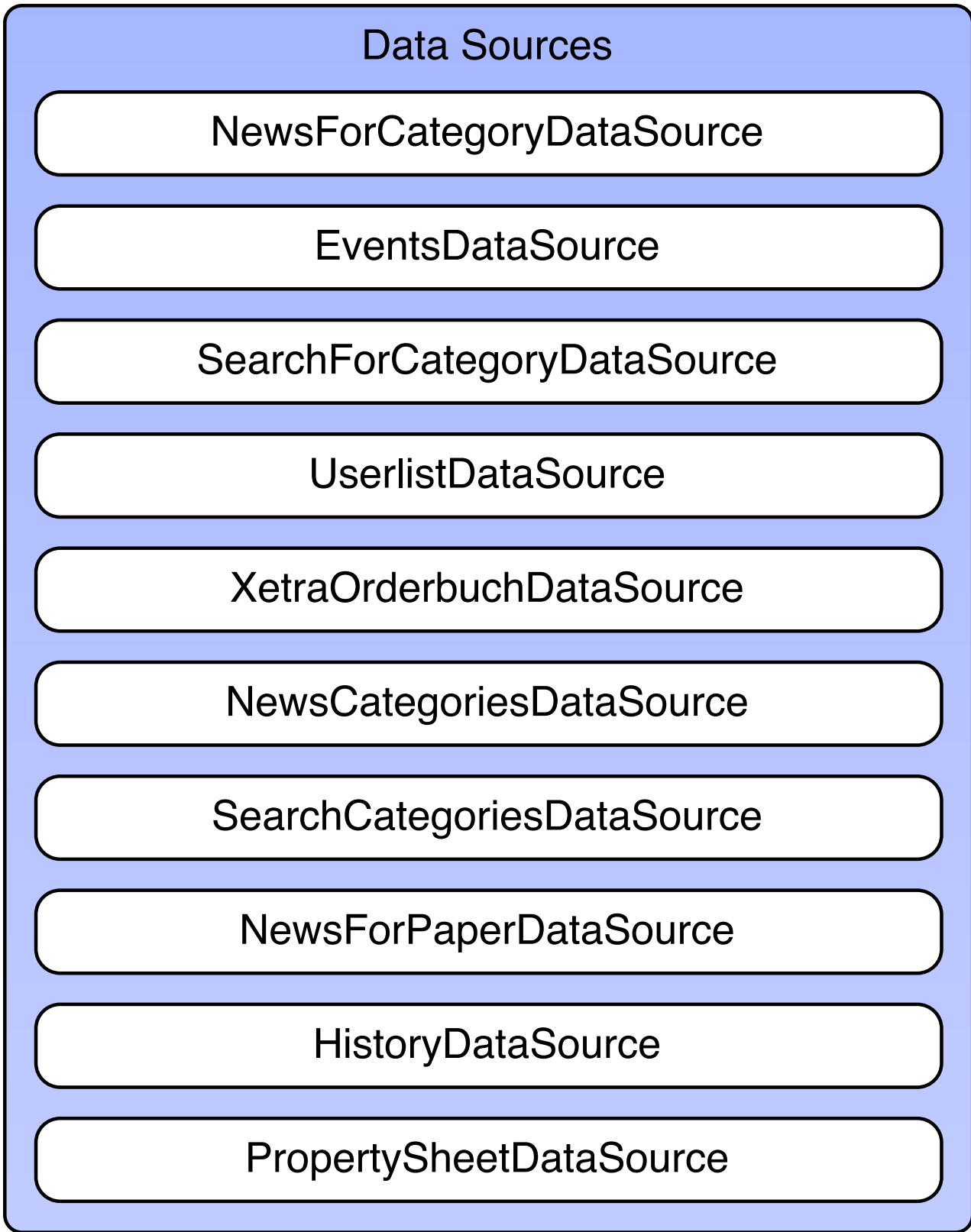
Pull

s34085@1
s34085@12

```
34085@1.21:p60.57 P0.0 q0 t20131004125514 b60.6 a60.98 B1250.0 A1250.0 T20131004135936 o60.58 h60.62
l60.57 v0.0 V0 Y4 c61.1 C20131003000000 w12220.0 W200 d0.0 D0.0 x2 zbm60.6 zBM1250.0 zam60.98
zAM1250.0 Z0 f60.82 F20131002000000
34085@12.22:p60.6 P15.0 t20131004112037 b60.6 a60.9 B285.0 A15100.0 T20131004134507 o60.8 h60.8
l60.6 v3645.0 V60 Y2 y2 c61.12 C20131003000000 w0.0 W0 d0.0 D0.0 x2 X26 zbb60.6 zBB285.0 zba60.9
zBA15100.0 Z0 f61.14 F20131002000000
```

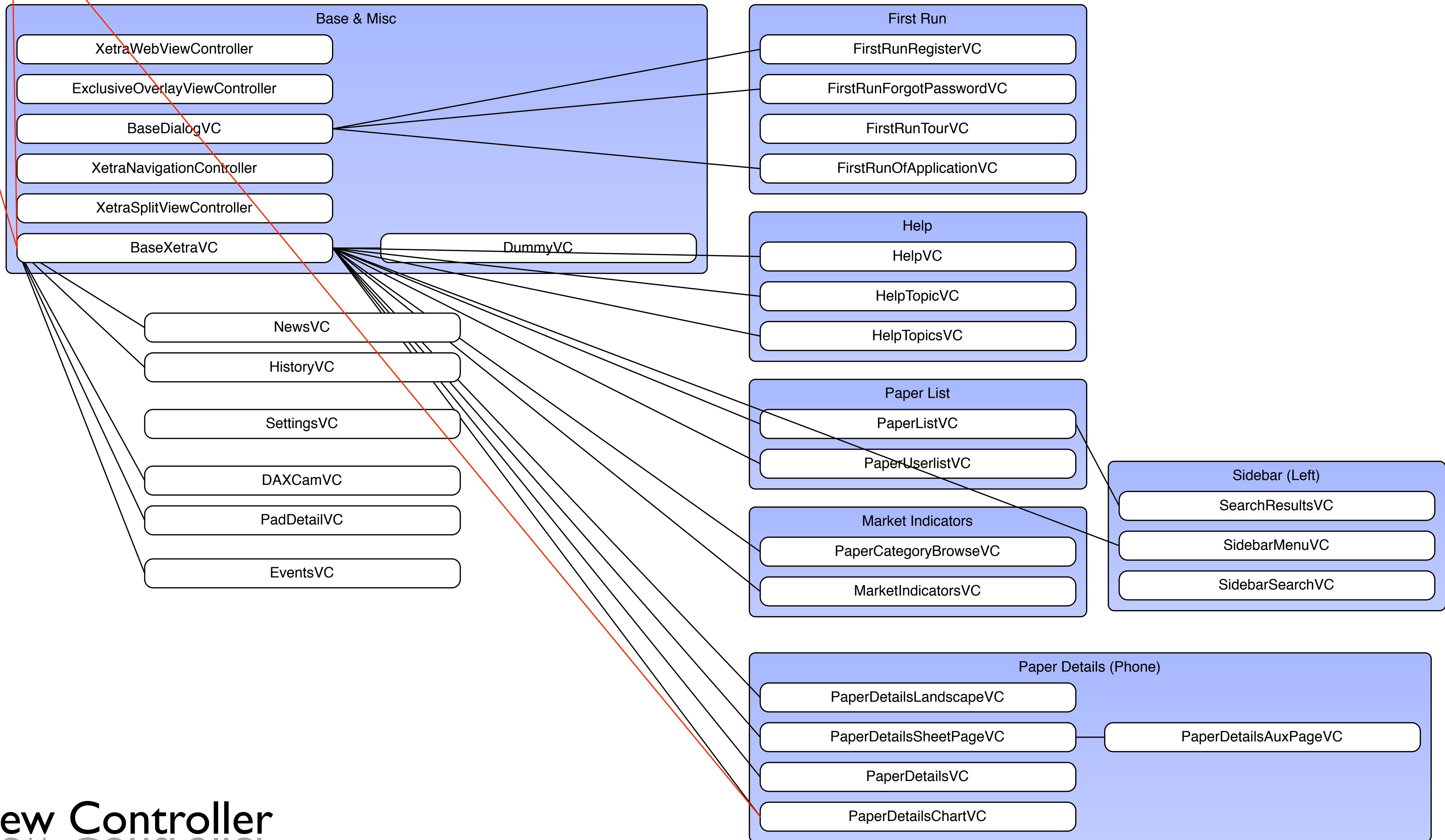
Push

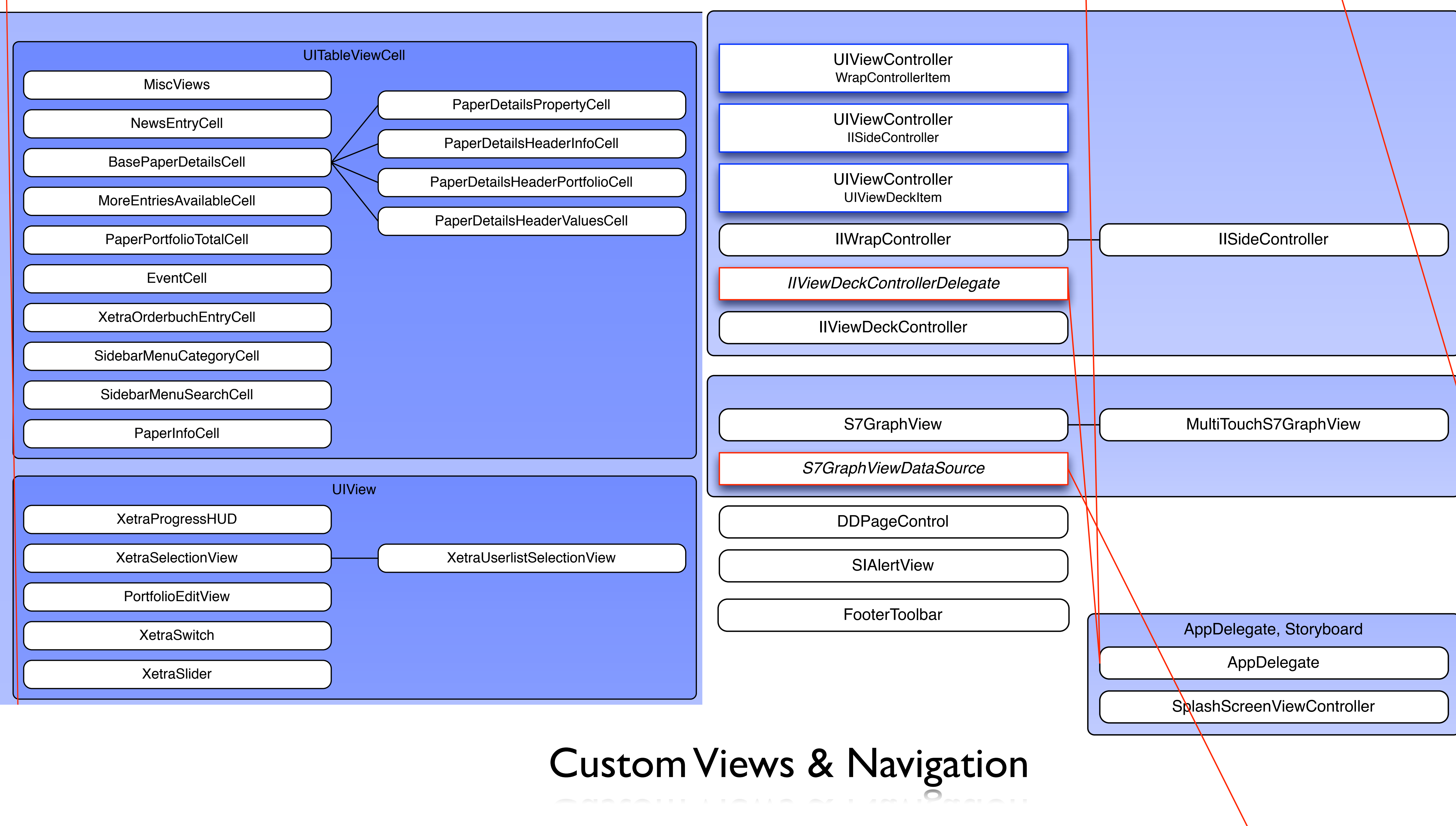
Anwendungsarchitektur



**DataSource, Model,
Communication, Formatter**

View Controller





Custom Views & Navigation

Mal reingucken in das
Storyboard...

Domänenspezifische Anforderungen

Domänenspezifische Anforderungen

- Kursaktualisierungen
- Datenblätter
- Portfolios
- UI-Schmankerl
 - Ein bisschen Modalität
 - Eingeschobene Dialoge

```

* thread #1: tid = 0x1c03, 0x0012fd2b Xetra`-[UILabel(self=0x14d93e40, _cmd=0x004211a2, percentage=0.284868470794872)
visualizeChangeAccordingToPercentage:] + 43 at UILabel+Flashing.m:40, stop reason = breakpoint 2.1
    frame #0: 0x0012fd2b Xetra`-[UILabel(self=0x14d93e40, _cmd=0x004211a2, percentage=0.284868470794872)
visualizeChangeAccordingToPercentage:] + 43 at UILabel+Flashing.m:40
    frame #1: 0x00118b13 Xetra`-[PaperInfoCell updateChangeImageAndColors](self=0x14d933b0, _cmd=0x00421200) + 195 at
PaperInfoCell.m:161
    frame #2: 0x00118f31 Xetra`-[PaperInfoCell syncWithPaper](self=0x14d933b0, _cmd=0x00421269) + 593 at PaperInfoCell.m:214
    frame #3: 0x00119299 Xetra`-[PaperInfoCell syncWithModelObject](self=0x14d933b0, _cmd=0x004212d0) + 249 at PaperInfoCell.m:
254
    frame #4: 0x00119749 Xetra`__64-[PaperInfoCell observeValueForKeyPath:ofObject:change:context:]_block_invoke() + 41 at
PaperInfoCell.m:297
    frame #5: 0x0333c53f libdispatch.dylib`_dispatch_call_block_and_release + 15
    frame #6: 0x0334e014 libdispatch.dylib`_dispatch_client_callout + 14
    frame #7: 0x0333e7d5 libdispatch.dylib`_dispatch_main_queue_callback_4CF + 296

[...]

* thread #15: tid = 0x2e03, 0x00119658 Xetra`-[PaperInfoCell observeValueForKeyPath:ofObject:change:context:](self=0x14d9bcf0,
_cmd=0x0245c05a, keyPath=0x004e6b24, object=0x0d9d4000, change=0x0aa343b0, context=0x0d9d4000) + 120 at PaperInfoCell.m:296,
stop reason = breakpoint 4.1
    frame #0: 0x00119658 Xetra`-[PaperInfoCell observeValueForKeyPath:ofObject:change:context:](self=0x14d9bcf0,
_cmd=0x0245c05a, keyPath=0x004e6b24, object=0x0d9d4000, change=0x0aa343b0, context=0x0d9d4000) + 120 at PaperInfoCell.m:296
    frame #1: 0x022b6417 Foundation`NSKeyValueNotifyObserver + 357
    frame #2: 0x022cfb24 Foundation`NSKeyValueDidChange + 456
    frame #3: 0x02284d60 Foundation`-[NSObject(NSKeyValueObserverNotification) didChangeValueForKey:] + 131
    frame #4: 0x022ceeb5 Foundation`_NSSetObjectValueAndNotify + 170
    frame #5: 0x000744f2 Xetra`-[Paper bump](self=0x0d9d4000, _cmd=0x00418413) + 130 at Paper.m:230
    frame #6: 0x00027a13 Xetra`-[ArivaPushSession receivedUnsolicitedLine:](self=0x0aad2a50, _cmd=0x0041844e, line=0x0aa35ac0) +
4547 at ArivaPushSession.m:427
    frame #7: 0x0006a057 Xetra`-[LTLineBasedTextProtocolSocketClient socket:didReadData:withTag:](self=0x0aad2b00,
_cmd=0x004194ac, sock=0x0aad2fc0, data=0x14dcd580, tag=291) + 263 at LTLineBasedTextProtocolSocketClient.m:172

```

Kursaktualisierungen

Benchmark

Fondskategorie	Immobilienfonds Global
Fondsbenchmark	100% Standard & Poor's Offene Immobilienfonds
Ratings	
S&P Rating	Keine Bewertung
Morningstar Gesamtrating	4

Kennzahlen

Sharpe Ratio	0,48
Maximaler Verlust (1 Jahr)	-1,55
Volatilität	7,08

Gebühren

Verwaltungsgebühr	0,65%
-------------------	-------

Stammdaten

Währung	EUR
---------	-----

Xetra Handelsparameter

Segment	Open Market
Börsenplatz	Frankfurt
Spezialist	Hellwig Wertpapierhandelsbank GmbH
Variable Preisfeststellung	Ja
Einheitsnotierung	Nein
Handelszeiten	09:00 - 17:30

Verzinsung

Kupon in Prozent	6,88
Zinstermin	26. Juli
Anzahl Zinstermine	Ganzjährig
Aktuelle Zinsperiode von bis	-
Zinslauf ab	26.07.2005
Stückzinsberechnung	Ja

Stammdaten

Marktsegment	Open Market
Mindestanlagesumme Frankfurt	50
Mindestanlagesumme Xetra	50.000
Emittent	Uruguay, Republik

Verzinsung

Zinslauf ab	26.07.2005
Stückzinsberechnung	Ja

Stammdaten

Marktsegment	Open Market
Mindestanlagesumme Frankfurt	50
Mindestanlagesumme Xetra	50.000
Emittent	Uruguay, Republik
Emissionsdatum	26.07.2005
Emissionsvolumen	300 Mio.
Emissionswährung	EUR
Notierungsaufnahme	23.05.2011
Tag der Valuta	entspricht Zinslauf ab
Fälligkeit	19.01.2016
Schuldnerkündigungsart	-
Sonderkündigungsart	-
Depotwährung	EUR
Abrechnungswährung	EUR
Nachrangig	Nein

Fundamentale Kennzahlen

Ausschüttungsjahr	2012
Dividendenrendite	3,13%
Erwartete Dividende	2,35
KGV	9,4
Gewinn je Aktie (brutto) in €	11,92
Gewinn je Aktie (netto) in €	7,77
Anzahl Aktien (Mio)	602
Marktkapitalisierung in Mio €	48.096,41

Technische Kennzahlen

Historische Volatilität 30 Tage	0,25
Historische Volatilität 250 Tage	0,22
Alpha 30 Tage	0,0024
Alpha 250 Tage	0,0006
Beta 30 Tage	1,37
Beta 250 Tage	1,16
Korrelation 30 Tage	0,73
Korrelation 250 Tage	0,76
Bezugsindex	CDAX
Bezugsdatum	17.09.2013

Stammdaten

Währung	EUR
Sparplan	Ja
Thesaurierend	Nein
Stückelung	1
Marktsegment	Open Market
Emittent	Allianz Global Investors Europe GmbH
Fondmanagement	Heidrun Heutzenröder, Ralf Walter, Christoph Berger, Franz Höbel, Ralf Walter, Franz Höbel

Xetra Handelsparameter

Spezialist Frankfurt	Baader Bank AG
Mindestvolumen	1

Anlageschwerpunkt

Region/Land	Deutschland
Branche	Aktien

Frankfurt Realtime

Geld: Brief	24,780: 24,890
Geld: Brief (Volumen)	5.000: 2.100
Spread (abs.)	0,11
Spread (rel.)	0,44%
Datum	2013-09-18
Uhrzeit	15:45:42.000

Kursinformationen

Handelsplatz	Xetra	Frankfurt
Letzter Preis	24,90	24,780
Datum	2013-09-18	2013-09-18
Uhrzeit	12:32:46.000	15:45:42.000
Differenz zum Vortag	+0,060	-0,010
Preisfeststellungen	1	8
Geld : Brief	24,77: 24,89	24,780: 24,890
Geld : Brief (Volumen)	5.000: 5.000	5.000: 2.100
Tageshoch	24,90	24,800
Tagestief	24,90	24,780
52-Wochenhoch	26,10	26,100
52-Wochentief	22,55	22,551
Letzter Preis Markt	24,90	24,780

347,000 ▲ +4,628 +1,35%

2013-09-18 15:51:25.000 Xetra ● Frankfurt



Maximum

Xetra Orderbuch

Bid	Bid Vol.	Ask Vol.	Ask
345,50	131	210	345,85
345,45	400	100	345,95
345,40	400	100	346,05
345,05	150	400	346,25

Ein bisschen Modalität

Auffrischung life...

Modalität

```
@interface LTWindow : UIWindow

@property(assign, nonatomic) UIView* temporaryExclusiveTouchView;
@property(strong, nonatomic) NSArray* passthroughViews;

@end
```

```
-(UIView*)hitTest:(CGPoint)point withEvent:(UIEvent*)event
{
    UIView* v = [super hitTest:point withEvent:event];

    if ( !_temporaryExclusiveTouchView )
    {
        return v;
    }
    if ( _passthroughViews.count > 0 && [_passthroughViews
indexOfObject:v] != NSNotFound )
    {
        return v;
    }
    if ( v != _temporaryExclusiveTouchView )
    {
        [self issueNotification];
        return nil;
    }

    return v;
}
```


Eingeschobene Dialoge

Auffrischung life...

Eingeschobene Dialoge

```
@interface ExclusiveOverlayViewController : UIViewController

+ (id)exclusiveOverlayViewControllerWithContentView:
    (UIView*)contentView pushingDownView:(UIView*)pushingDownView;

@property (readonly) UIView* contentView;

- (void)present;
- (void)dismiss;

@end
```



```
-(void)present
{
    assert( _contentView.frame.size.height ); // fail here, if v has not been
    sized correctly
    UIView* containerView = _pushingDownView.superview;

    _contentView.frame = CGRectMake( 0, -_contentView.frame.size.height,
    _pushingDownView.bounds.size.width, _contentView.frame.size.height );
    [containerView addSubview:_contentView];
    CGRect scrollViewDestinationFrame = CGRectOffset( _pushingDownView.frame, 0,
    _contentView.frame.size.height );
    CGRect selectionViewDestinationFrame = CGRectOffset( _contentView.frame, 0,
    _contentView.frame.size.height );

    LTWindow* window = (LTWindow*) containerView.window;
    window.temporaryExclusiveTouchView = _contentView;
    window.passthroughViews = _contentView.subviews;

    [UIView setAnimationCurve:UIViewAnimationCurveEaseInOut];
    [UIView animateWithDuration:ANIMATION_DURATION animations:^(
        _pushingDownView.frame = scrollViewDestinationFrame;
        _contentView.frame = selectionViewDestinationFrame;
    )];
}
```

Erfahrungen

Erfahrungen

- ARC
- Storyboards
- Farben und Schriftarten
- Bugtracker
- Testbirds
- iOS vs. Android



Storyboards





Farben

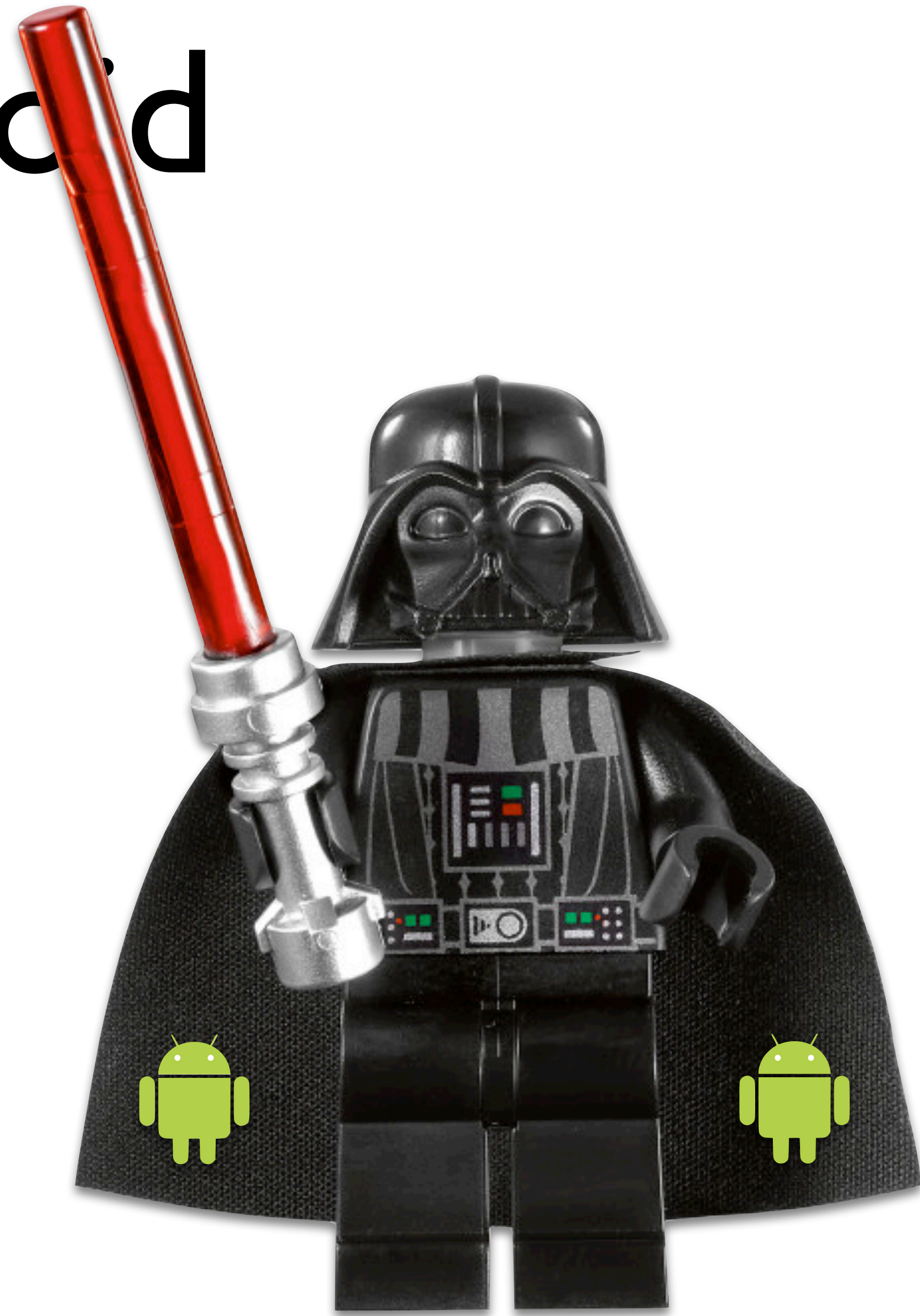
&

Schriftarten

Testbirds

- „Echte“ Tester
- Bezahlung nach gefundenen Bugs
- Testzeitpunkt
- Release Notes!?
- iOS vs. Android

iOS vs. Android



Wie geht's weiter?

Zukunftspläne



- Embracing iOS 7
- Sharing & Device Integration
- Drucken
- Detailsuche
- Währungen
- Traden?

Börse Frankfurt 3.0

Dr. Michael Lauer

Kai Teuber

Bilder

=====

Folien 1, 12, 23, 28, 38, 45, 47

=====

BULLE UND BÄR, (C) Gruppe Deutsche Börse, Benutzung mit freundlicher Genehmigung derselbigen.

=====

Folie 2

=====

Wasserhahn, (C) Michael Lauer Werkzeugkiste. CC-BY-SA

=====

Folie 5

=====

DAX-Kamera, (C) Gruppe Deutsche Börse, Benutzung mit freundlicher Genehmigung derselbigen.

=====

Folien 13-19

=====

Lego-Figuren, (C) Michael Lauer. CC-BY-SA

CERN Rechenzentrum, (C) Florian Hirzinger. Creative Commons Attribution-Share Alike 3.0 Unported

CERN Server, (C) Florian Hirzinger. Creative Commons Attribution-Share Alike 3.0 Unported

=====

Folie 40

=====

Dicker Daumen, (C) Michael Lauer. CC-BY-SA

=====

Folien 41, 44

=====

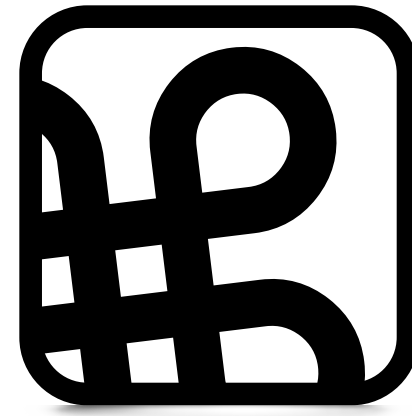
Lego-Figuren, (C) Michael Lauer. CC-BY-SA

=====

Folie 42

=====

Legosteine, (C) Michael Lauer. CC-BY-SA



Macoun