

# Sponsors and Partners

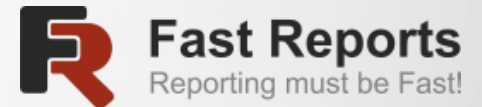
## Strategic Sponsors



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# CQRS for everyone

**Maciej Aniserowicz**

# Agenda

- CQRS = Command Query Responsibility Segregation
- read-side
  - demo
- write-side
  - demo

# Anti-agenda (because: „for everyone“)

- Event Sourcing
- Message Queues
- Multiple data stores
- NoSQL
- DDD

# Command Query Responsibility Segregation

Google

CQRS



Web

Images

Videos

Books

Maps

More ▾

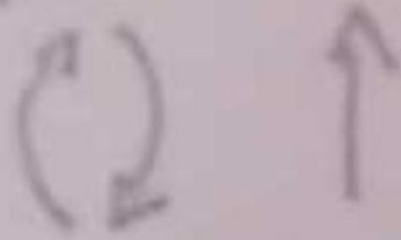
Search tools

Your search - **CQRS** - did not match any documents.

Did you mean: [CARS](#)



MODEL



CLIENT





# READ – problems

- queries on „domain” model
- complicated SQL generated by ORM
- repository pattern

```

public virtual ActionResult SearchNews(CityPage_SearchNewsRequest request)
{
    Company companyAlias = null;

    var query = _session.QueryOver<MailingMessage>()
        .Where(x => x.CanDisplayOnCompanyPage)
        .Fetch(x => x.Company).Eager
        .OrderBy(x => x.CreationDate).Desc
        .JoinQueryOver(x => x.Company, () => companyAlias)
        .Where(() =>
            companyAlias.CurrentProgram != null
            && companyAlias.StarterKitPurchaseDate != null
            && companyAlias.ModificationDate != null
        );

    if (request.CompanyIds.HasText())
    {
        int[] intIds = request.CompanyIds.Split(',').Select(x => int.Parse(x));
        query.AndRestrictionOn(() => companyAlias.Id).IsIn(intIds);
    }
    if (request.BranchId > 0)
    {
        CompanyBranch branchAlias = null;
        query.JoinAlias(x => x.Branches, () => branchAlias)
    }
}

```

SQL Server Profiler

File Edit View Replay Tools Window Help

Untitled - 1 (P-CLEVO)

EventClass	TextData	ApplicationName	NTUserNa...	LoginName	CPU	Reads	Writes
SQL:BatchStarting		Report Server	Reports...	NT SER...			
SQL:BatchCompleted		Report Server	Reports...	NT SER...	0	10	
Audit Logout		Report Server	Reports...	NT SER...	0	3053	
RPC:Completed	exec sp_reset_connection	Report Server	Reports...	NT SER...	0	0	
Audit Login	-- network protocol: LPC set quote...	Report Server	Reports...	NT SER...			
SQL:BatchStarting		Report Server	Reports...	NT SER...			
SQL:BatchCompleted		Report Server	Reports...	NT SER...	0	4	
SQL:BatchStarting		Report Server	Reports...	NT SER...			
SQL:BatchCompleted		Report Server	Reports...	NT SER...	0	10	
Audit Logout		Report Server	Reports...	NT SER...	0	3067	
RPC:Completed	exec sp_reset_connection	Report Server	Reports...	NT SER...	0	0	
Audit Login	-- network protocol: LPC set quote...	Report Server	Reports...	NT SER...			
SQL:BatchStarting		Report Server	Reports...	NT SER...			
SQL:BatchCompleted		Report Server	Reports...	NT SER...	0	4	
SQL:BatchStarting		Report Server	Reports...	NT SER...			
SQL:BatchCompleted		Report Server	Reports...	NT SER...	0	10	

```

-- network protocol: LPC
set quoted_identifier on
set arithabort off
set numeric_roundabort off
set ansi_warnings on
set ansi_padding on
set ansi_nulls on
set concat_null_yields_null on
set cursor_close_on_commit off
set implicit_transactions off
set language us_english
set dateformat mdy
set datefirst 7

```

Trace is running.

Aktualności i promocje z miasta: BeaStudio  
2014-09-16Promocje jesienne  
Beastudio

Zapraszamy na zabiegi gabinetowe po  
lecie. Oto nasze propozycje: Zabieg  
łączony przywracający... (czytaj więcej)

BeaStudio  
2014-09-05

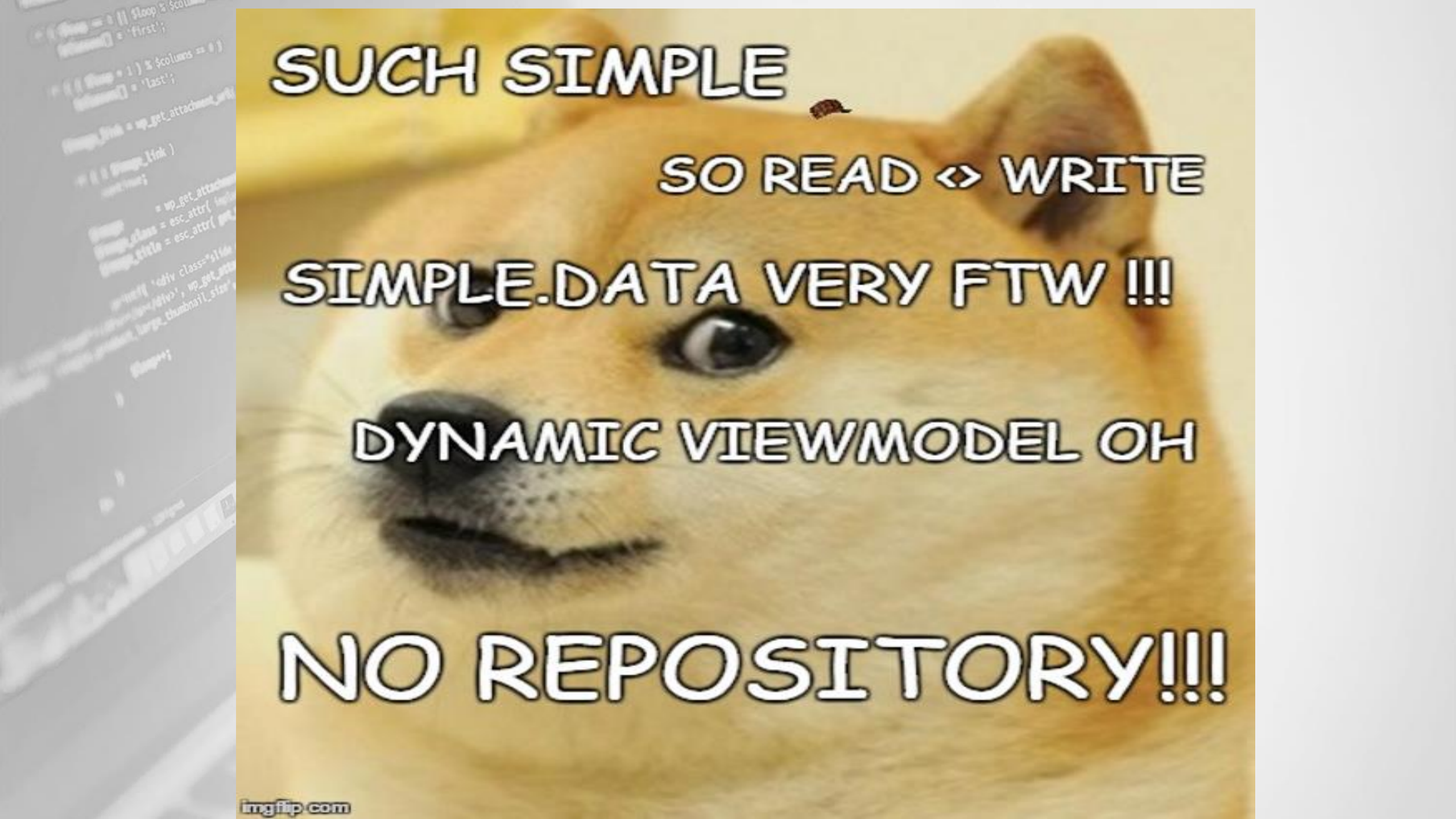
I Konferencja B  
Komorki macierzyst  
kosmetykach. ASTO  
wrzesien,... (więcej)

```

1 select c.id, c.name, ct.displayname, n.content from news n
2     join companies c on c.id = n.companyid
3     left outer join cities ct on c.cityid = ct.id and ct.isactive = 1
4 where
5     n.isarchived = 0
6     exists (
7         select 1 from usersubscriptions us
8         where us.city = ct.id
9     )
10 and c.id in (1, 24, 146)

```

# READ - demo



**SUCH SIMPLE**

**SO READ <> WRITE**

**SIMPLE.DATA VERY FTW !!!**

**DYNAMIC VIEWMODEL OH**

**NO REPOSITORY!!!**

```
    { $loop = 1 || $loop = 2 } $loop = 3 } $loop = 4 } $loop = 5 } $loop = 6 } $loop = 7 } $loop = 8 } $loop = 9 } $loop = 10 } $loop = 11 } $loop = 12 } $loop = 13 } $loop = 14 } $loop = 15 } $loop = 16 } $loop = 17 } $loop = 18 } $loop = 19 } $loop = 20 } $loop = 21 } $loop = 22 } $loop = 23 } $loop = 24 } $loop = 25 } $loop = 26 } $loop = 27 } $loop = 28 } $loop = 29 } $loop = 30 } $loop = 31 } $loop = 32 } $loop = 33 } $loop = 34 } $loop = 35 } $loop = 36 } $loop = 37 } $loop = 38 } $loop = 39 } $loop = 40 } $loop = 41 } $loop = 42 } $loop = 43 } $loop = 44 } $loop = 45 } $loop = 46 } $loop = 47 } $loop = 48 } $loop = 49 } $loop = 50 } $loop = 51 } $loop = 52 } $loop = 53 } $loop = 54 } $loop = 55 } $loop = 56 } $loop = 57 } $loop = 58 } $loop = 59 } $loop = 60 } $loop = 61 } $loop = 62 } $loop = 63 } $loop = 64 } $loop = 65 } $loop = 66 } $loop = 67 } $loop = 68 } $loop = 69 } $loop = 70 } $loop = 71 } $loop = 72 } $loop = 73 } $loop = 74 } $loop = 75 } $loop = 76 } $loop = 77 } $loop = 78 } $loop = 79 } $loop = 80 } $loop = 81 } $loop = 82 } $loop = 83 } $loop = 84 } $loop = 85 } $loop = 86 } $loop = 87 } $loop = 88 } $loop = 89 } $loop = 90 } $loop = 91 } $loop = 92 } $loop = 93 } $loop = 94 } $loop = 95 } $loop = 96 } $loop = 97 } $loop = 98 } $loop = 99 } $loop = 100 }
```

# REPOSITORY

mocks?

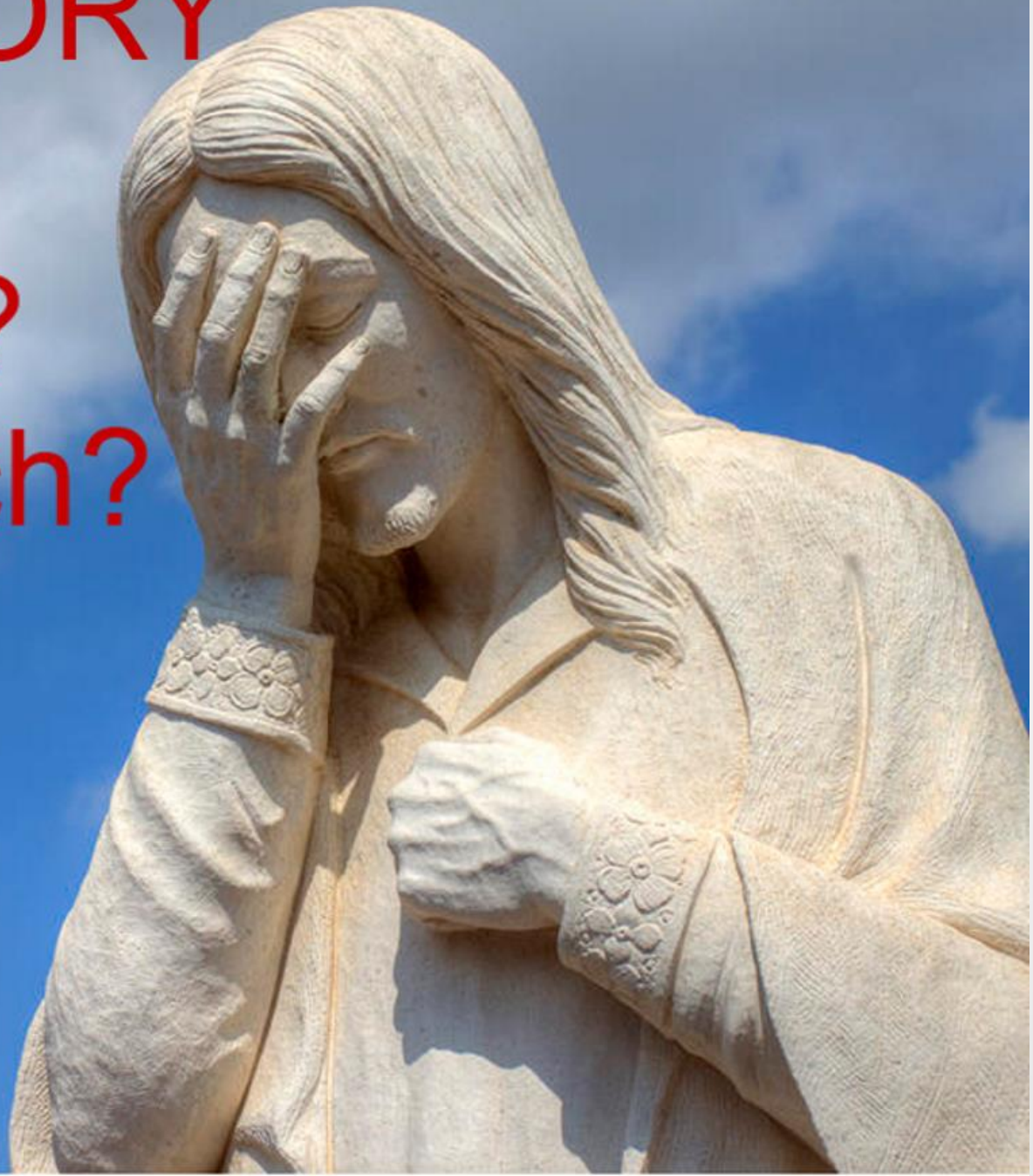
DB switch?

ORM switch?

reusable

methods

???



# WRITE – problems

- „fat” controllers
- system API all over the place
- maaaany dependencies
- hard to test

# WRITE - demo

```
for (loop = 0; loop < $columns; loop++)
  $columns[loop] = 'first';

for (loop = 1; loop < $columns; loop++)
  $columns[loop] = 'last';

$loop_link = wp_get_attachment_link($loop);

for (loop = 1; loop < $columns; loop++)
  $loop_link = wp_get_attachment_link($loop);

$loop_class = esc_attr($loop);
$loop_title = esc_attr($loop);

<div class="loop">
  <img alt="loop">
  </div>

loop++;
```

OCP

API

stupid controllers

simple handlers

extremely testable

BY THE POWER OF GREYSKULL...



...I HAVE THE POWER!



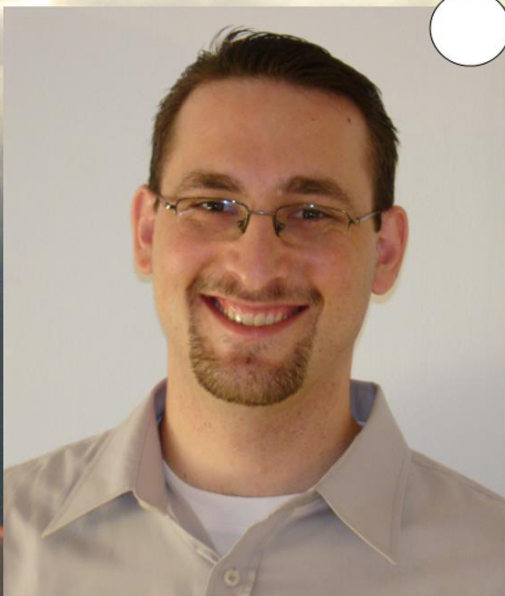
# Examples (Dialer app)

- Callbacks – in Dialer application
  - schedule a "callback" in X minutes when person phone is busy
    - WhenPhoneBusy\_ScheduleCallback
    - CallbackSelector : ISelectNextPersonToDialStrategy
  - another event: "callback scheduled"
- "Agent ranking"
  - who sold the most? - handle OrderTaken event
  - who talked to most customers? - handle PhoneAnswered event
  - ...

# When NOT to apply?

## NO CQRS:

- \* CRUD
- \* 1-user domain
- \* system-wide



# Recap

- read
  - as simple as possible
- write
  - focus on what is really IMPORTANT

# DEV TALK.PL

PROGRAMISTYCZNY GŁOS W TWOIM DOMU

## 14 – CQRS with Udi Dahan

13/04/2015

SHARE +

CQRS

ENGLISH

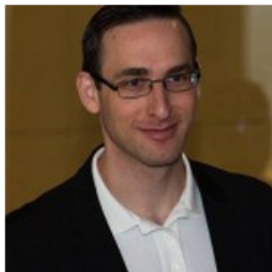
UDI DAHAN

Lubię to!

27

Tweetnij

6



Post po polsku poniżej / Polish version below

14th episode of DevTalk is a special one. First of all: this is the first episode in english! Second: my guest is a well-known, widely respected expert, the one and only [Udi Dahan](#)!

Udi is a creator of [NServiceBus](#) and founder of Particular Software. His thoughts about software architecture and best development practices – that often define the “industry standards” – can be found on a fascinating [blog](#). Udi is one of the best-known speakers worldwide. He also offers advanced technical [courses](#). Follow him on Twitter: [@UdiDahan](#).

We talk about CQRS – Command Query Responsibility Segregation. Udi – together with [Greg Young](#) – was one of the first promoters and teachers of this approach to building complex software systems. BUT we do not discuss various CQRS implementation details. This conversation focuses on something that is often ignored by developers: what should we do to meet end users’ needs, not always putting our own desire to implement the “newest and

### MENU

- › O DevTalk
- › Współpraca

### SOCIAL



### FACEBOOK

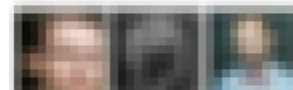


DevTalk

Lubisz to.

Lubisz to.

Ty i 915 innych osób lubicie obiekt DevTalk.



# THX! and...

<http://bit.ly/ma-181116>

## Testowanie automatyczne

MACIEJ ANISEROWICZ

WARSZAWA 18 XI

discount: netdd (-35%)

**devstyle.pl**



# Questions...?



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