



CQRS dla każdego

„co Bóg rozdzielił, dev niech nie łączy”

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- dev @ Ultrico
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- C# MVP

DEVTALK.PL
PROGRAMISTYCZNY GŁOS W TWOIM DOMU

Spis treści

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

Spis anty-treści (bo "dla każdego")

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

Command Query Responsibility Segregation

A screenshot of a Google search results page. The search bar at the top contains the query "CQRS". Below the search bar, there are navigation links for "Web", "Images", "Videos", "Books", "Maps", "More", and "Search tools". A red horizontal line is positioned below the "Web" link. The main content area displays the message "Your search - **CQRS** - did not match any documents." followed by a "Did you mean: [CARS](#)" suggestion.



MODEL

() ↑

CLIENT

READ WRITE
MODEL
Query() ↑ according
Clipart

READ – problemy

- ❖ zapytania na modelu "domenowym"
- ❖ skomplikowany SQL z ORM
- ❖ repository pattern

Controller_CityPage_Searc X

Web.Mvc.Controllers.HomeController

```
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);
    }
}
```

BenefitClub - program x

benefitclub.pl

GMail HipChat Toggl FogBugz YouTrack Ultrico misc dialer

Aktualności i promocje z miasta: [wszystkie](#)

BeaStudio 2014-09-16 Promocje jesienne BeaStudio Zapraszamy na zabiegi gabinetowe po lecie. Oto nasze propozycje: Zabieg łączony przywracający... czyta więcej	BeaStudio 2014-09-05 I Konferencja E Komórki macierzyste kosmetykach. ASTO wrzesien,... więcej
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SearchNews(CityPage_SearchNewsRequest request)

SQL Server Profiler

EventClass	TextData	ApplicationName	NTUserName	LoginName	CPU	Reads	Writes
SQL:BatchStarting		...	Report Server	Reports...	NT SER...	0	10
SQL:BatchCompleted		...	Report Server	Reports...	NT SER...	0	3053
Audit Logout		Report Server	ReportS...	NT SER...	0	0	
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...	0	4	
SQL:BatchStarting		...	Report Server	ReportS...	NT SER...	0	10
SQL:BatchCompleted		...	Report Server	ReportS...	NT SER...	0	4
SQL:BatchStarting		...	Report Server	ReportS...	NT SER...	0	10
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...	0	4	
SQL:BatchStarting		...	Report Server	ReportS...	NT SER...	0	10
SQL:BatchCompleted		...	Report Server	ReportS...	NT SER...	0	4
SQL:BatchStarting		...	Report Server	ReportS...	NT SER...	0	10
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
```

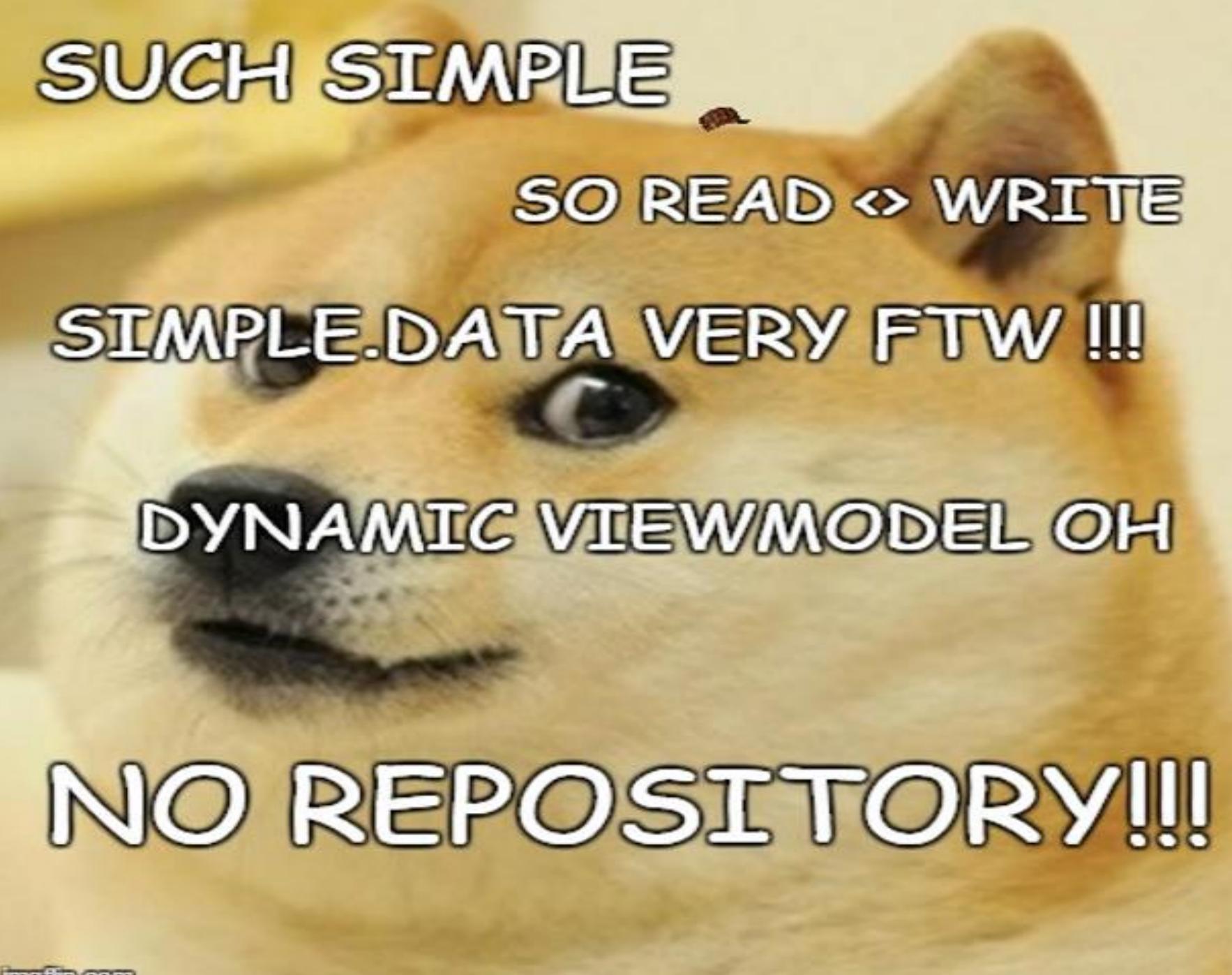
Trace is running.

untitled • (sublime) - Sublime Text

```
File Edit Selection Find View Goto Tools Project Preferences Help
untitled
```

```
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

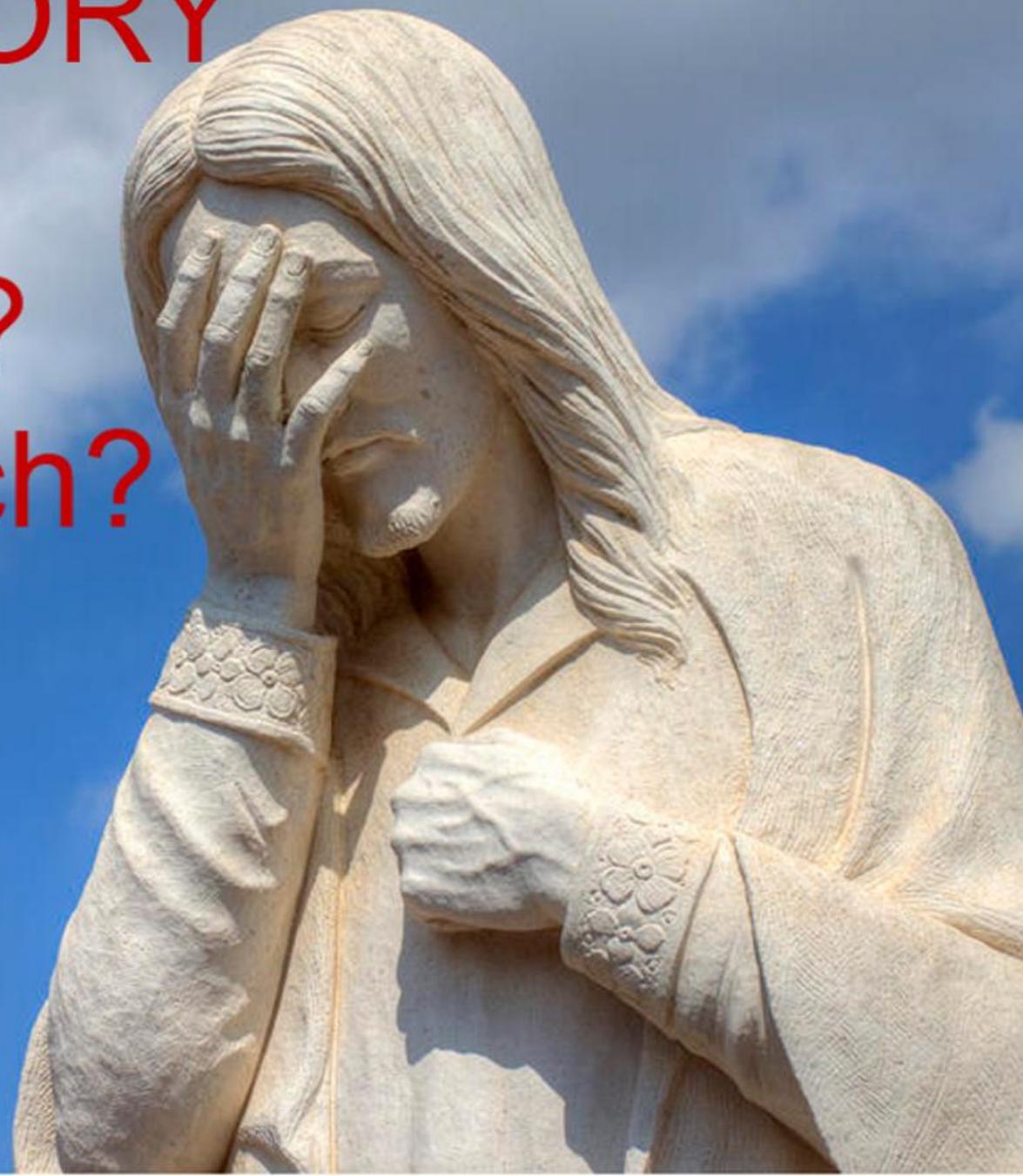
SO READ < > WRITE

SIMPLE.DATA VERY FTW !!!

DYNAMIC VIEWMODEL OH

NO REPOSITORY!!!

REPOSITORY
mocks?
DB switch?
ORM switch?
reusable
methods
???



WRITE – problemy

- ❖ "grube" kontrolery
- ❖ "rozproszone" API systemu
- ❖ dużo zależności
- ❖ trudno testowalne

WRITE - demo

By THE POWER OF GREYSKULL...

OCP
API

stupid controllers

simple handlers

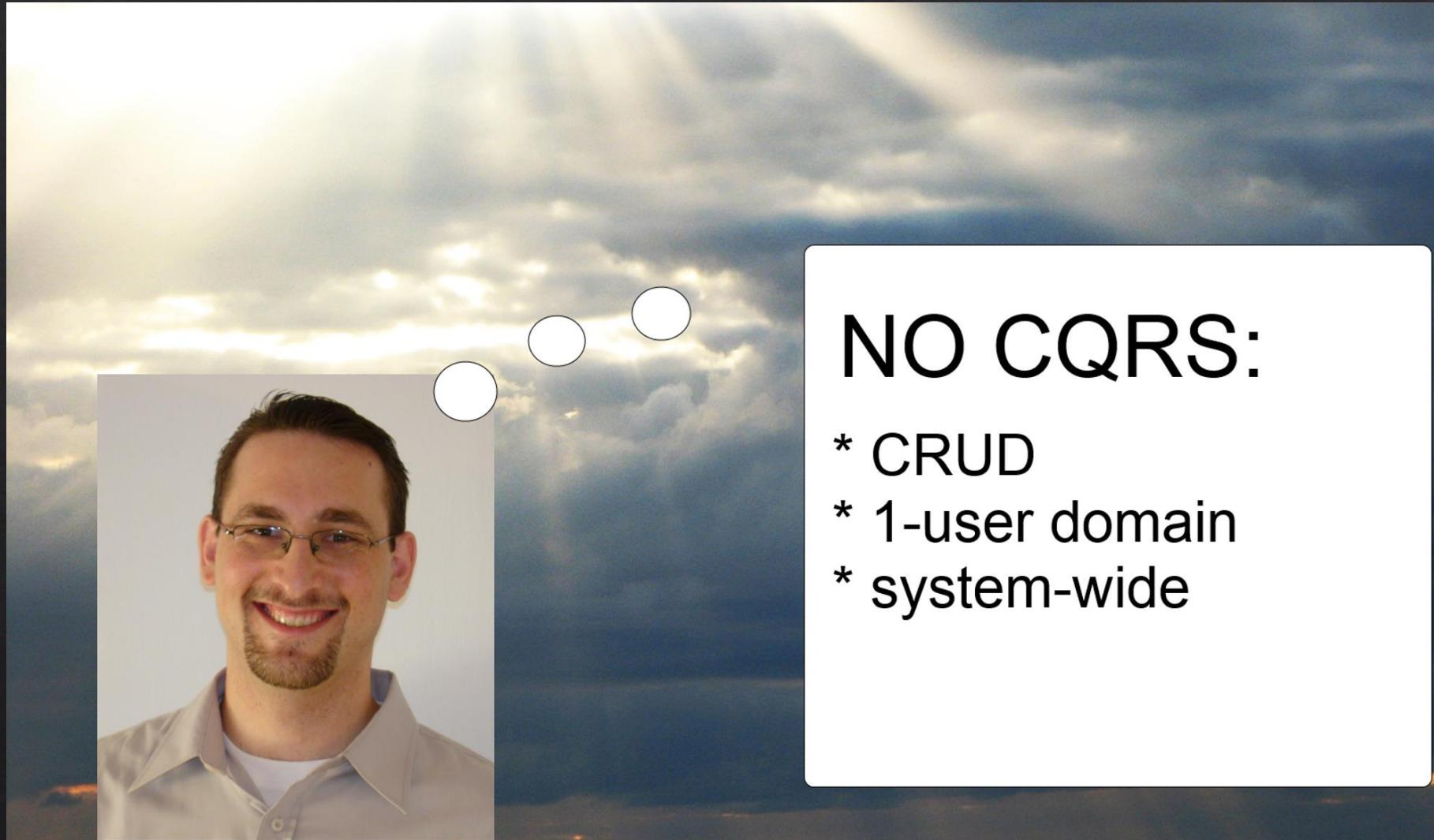
extremely testable

...I HAVE THE POWER!

Przykłady z życia (Dialer app)

- ❖ Callbacks - w aplikacji Dialera
 - ❖ schedule a "callback" in X minutes when person phone is busy
 - ❖ WhenPhoneBusy_ScheduleCallback
 - ❖ CallbackSelector : ISelectNextPersonToDialStrategy
 - ❖ kolejny event: "callback scheduled"
- ❖ "Agent ranking"
 - ❖ kto sprzedał najwięcej? - handle OrderTaken event
 - ❖ kto z iloma klientami rozmawiał? - handle PhoneAnswered event
 - ❖ ...

Kiedy nie stosować?



Co dalej?

- ❖ EventSourcing
- ❖ single "write" DB & multiple "read" DBs
- ❖ "service bus" - async/distributed handlers



EWOLUCJA - demo

Recap

- ❖ read
 - ❖ jak najprościej
- ❖ write
 - ❖ skupić się na tym co ważne

Linki / materiały

- ❖ Clarified CQRS by Udi Dahan: <http://www.udidahan.com/2009/12/09/clarified-cqrs/>
- ❖ DotNetRocks z Udim:
<http://www.dotnetrocks.com/default.aspx?showNum=1044>
- ❖ wszystko w połączeniu „Greg Young” i „CQRS”:
www.google.pl/search?q=greg+young+cqrs
- ❖ „Simple CQRS example” by Greg Young (code):
<https://github.com/gregoryyoung/m-r>
- ❖ CQRS Journey @ MSDN: <http://msdn.microsoft.com/en-us/library/jj554200.aspx>
- ❖ Martin Fowler o CQRS: <http://martinfowler.com/bliki/CQRS.html>

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14 – CQRS with Udi Dahan

SHARE +



CQRS

ENGLISH

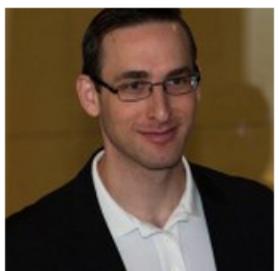
UDI DAHAN



27



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

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SOCIAL



FACEBOOK



Pytania...?

THX & Gimme Gimme Feedback

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