Is Domain-Driven Design more than Entities and Repositories?

by Jimmy Nilsson

QCon

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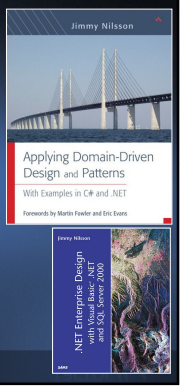
About Jimmy Nilsson

- Primarily a developer, but also a trainer and author
- Blogs at JimmyNilsson.com/blog/
- Author of *"Applying Domain-Driven Design and Patterns"* and *".NET Enterprise Design"*
- Co-founder and CEO of factor10



The situation for many developers and architects

DB-driven and
Transaction script focused

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First look: Same game, new name?

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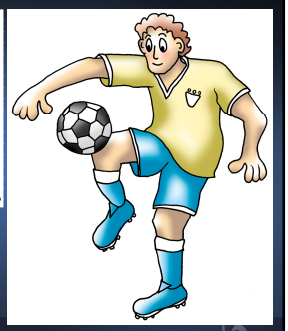
Closer look: Mess vs elegance!



First look: Nothing more than men running after a ball?

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Closer look: Philosophy!

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Closer look: Many more elements!

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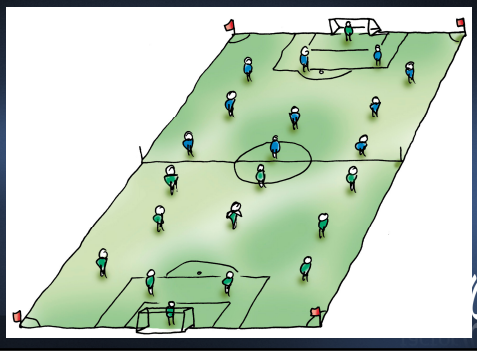
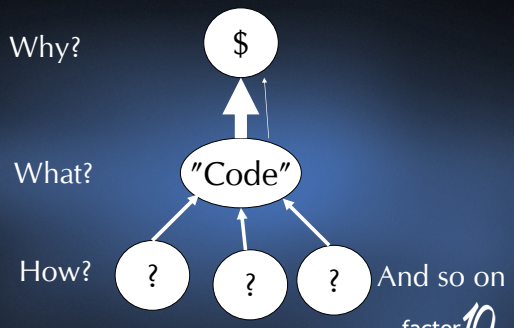
Closer look: Strategy!



Let's take a step back...



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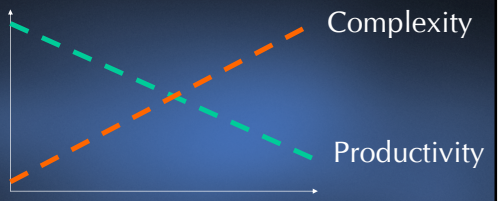
Software economics



Question is, do we have essential or accidental complexity?

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Why DDD?

Accidental complexity is bad

"Programming is understanding" (Kristen Nygaard)

"DDD = = OO done right"

Context is king

Semantics over technology

...

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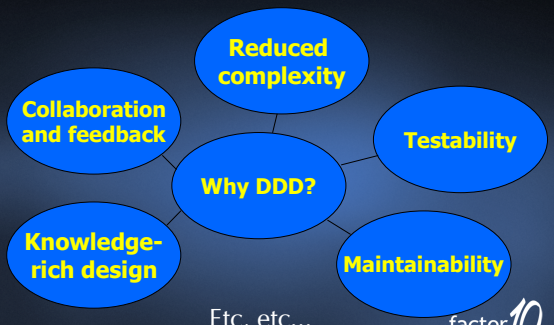
Common effects of DDD?



Etc, etc...

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Closer look: Philosophy!

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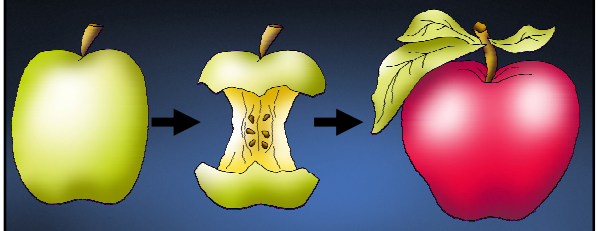
Main Focus of DDD?



- The core is the main focus!
- Forget distractions!

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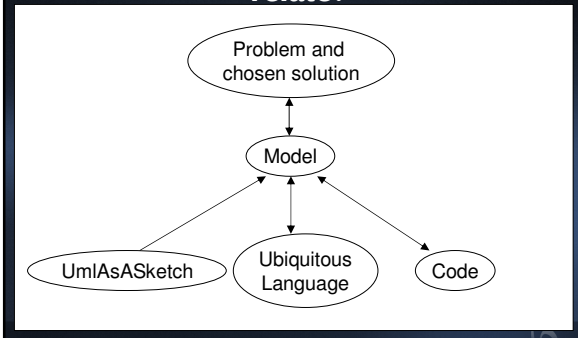
Model, code, etc... How do they relate?



Let's take simple example

"Customer has rentals"

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Some typical T-SQL code

```
...
IF (SELECT COUNT(*) FROM RentalLines
INNER JOIN Products ON LineItems.ProductId =
Products.Id WHERE RentalId = inserted.Id AND
RequiredAge > @ageOfCustomer) > 0 BEGIN
    ROLLBACK
    RAISERROR...
    RETURN
END

UPDATE Rentals SET Status = 4 WHERE Id = inserted.Id
...
```

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Another approach

```
public bool CanCheckOut()
{
    if (_status != RentalStatus.New)
        return false;

    if (Customer.Age < _HighestRequiredAgeOfAnyOfTheChosenFilms())
        return false;

    return true;
}

public void CheckOut()
{
    if (! CanCheckOut())
        throw new...

    ...

    _status = RentalStatus.CheckedOut;
}
```

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Closer look: Many more elements!

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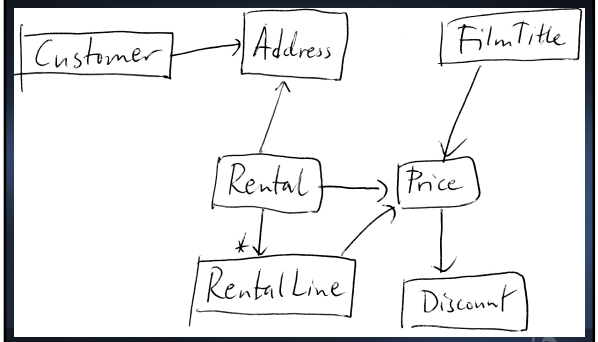
Value Objects



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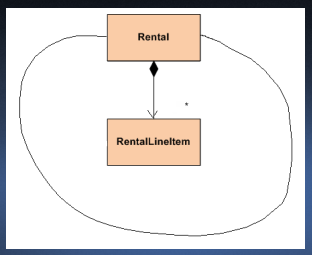
Some aggregate design thoughts



Has business meaning
Controlling dependencies coming in
Writes! Reads?
A *real* boundary
Controlling dependencies going out

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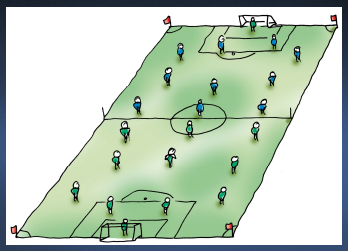
Closer look: Strategy!



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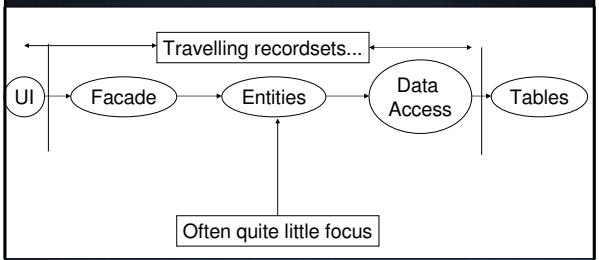
Classic layering (n-tier)



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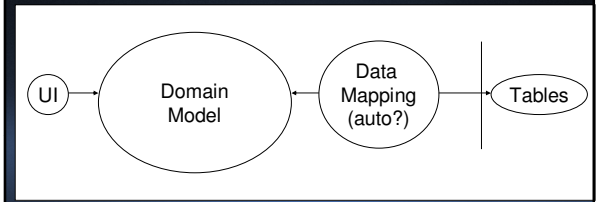
DDD basic layering



Strategic design [DDD]

A design language for design in the large

Bounded context

Set a boundary around a sub-model
Be explicit regarding the context

Example:
- Video rental
- Purchase

A style I often find good

- Avoid Enterprise Domain Model
- Avoid Integration DB
- Avoid huge teams
- Avoid unbalanced focus on loose coupling
- Avoid enforcing one ”internal” style

Nothing really new, more like an observation
A name? CCC? :-)

Isn’t it time to swap mess for elegance?

I think so.

References

[DDD] Eric Evans: Domain-Driven Design

[ADDDP] Jimmy Nilsson: Applying Domain-Driven Design and Patterns