DDD

TAKLING SOFTWARE COMPLEXITY

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What is it ?

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Domain Driven Design

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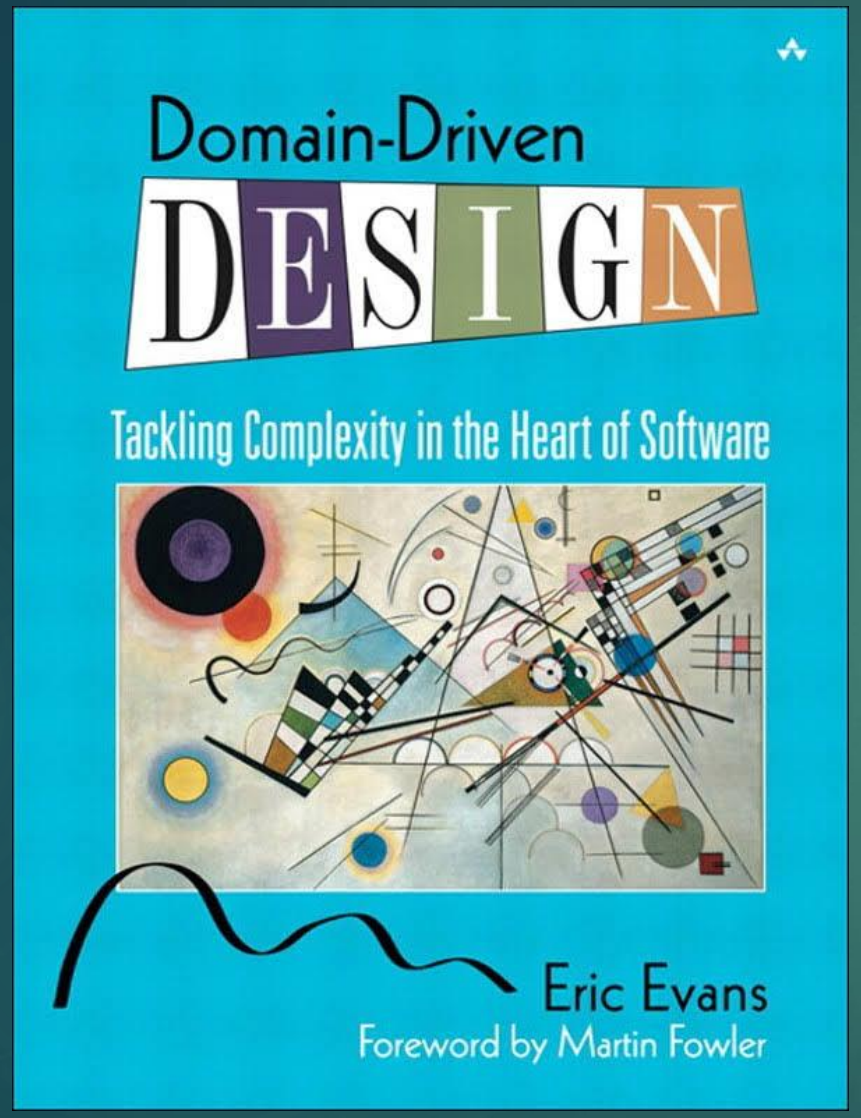

- Eric Evans - 2004

What is my domain ?

- It makes most of the value
- It differenciates us from the competition
- It's where risk lives
- The CEO comes to visit you, often.

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What is NOT my domain ?

- SQL Server, Oracle etc …
- Asp.Net, Entity Framework, etc …
- WhateverJS

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…Forget technical stuffs..

It's knowledge crunching

You learn from the business expert.

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It's talking the same language as the business guys,

The ubiquitous language.

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It's modeling with code,

Repel all technical considerations … for now.

So when we have deeper insight of the domain,

We refactor to keep code aligned with the domain.

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Become the business guy that codes.

What is DDD meant for ?

- DDD is good at rich business
  - Such as … legacy system ☺
- DDD is bad at poor business
  - Such as … CRUD* ☹

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*Create Read Update Delete

DDD Essentials

Curious about the domain

Talking the Domain Language

Focus on Core Domain

Modeling == Code

Strategic Design

(+ techniques to achieve that)

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Two levels of DDD

Strategic design

Organize to achieve a goal

Context

Context mapping

Tactical design

Supports strategical design

Value objects

Repository

Aggregates

Entities

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Let's talk about Contexts

« What I told you was true, from a certain point of view. » - O. Kenobi

CONTEXT REALLY MATTERS DON'T YOU THINK ?

Modeling all domain at once is very difficult.

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But why ?.. Sounds great..

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! UTOPIA ALERT !

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One Model to rule them all,
One Model to find them,
One Model to bring them all
And in Complexity bind them

https://en.wikipedia.org/wiki/File:Unico_Anello.png

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There are a lot of stackholders

Each owns a part of the domain

A lot of teams coding around

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The **more business experts** involved,
The **harder** to **get agreements**.

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The **more people coding**,

The **harder** to **keep things stable**.

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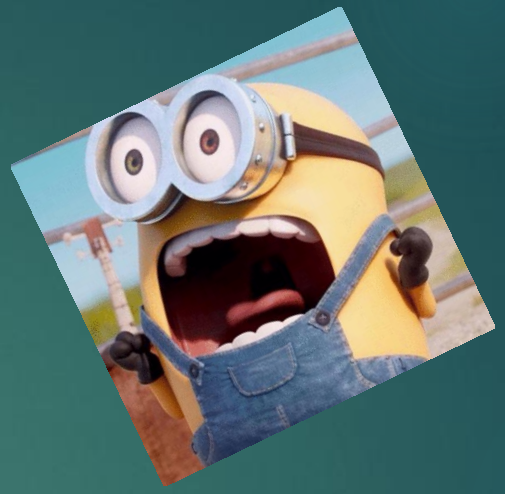
One model for all creates **behavioural coupling**.

http://iansrobinson.com/2009/04/27/temporal-and-behavioural-coupling/



Never !

What ?

… So DDD allows code duplication

WTF ?

No way !

‘Train yourself to let go of everything you fear to lose.’

Yoda.

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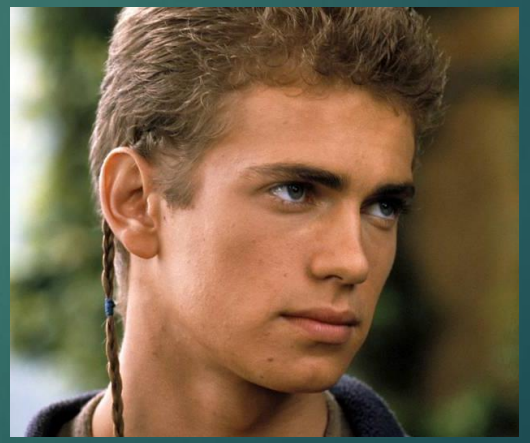
Same guy



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Why isn't Vader in Episode I then ?

It's the same guy all over 6 episodes.

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Switchability ?

Sith lord

Masters the force

Bad with lightsaber

Has a heavy suit

Interested in power

Not a jedi

No light saber

Lives with mummy

Interested in fixing

Padawan

Good with light saber

Interested in woman

Bad at acting

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- « Yet when code base on distinct model is combined, software becomes buggy, unreliable, and difficult to understand. »

ERIC EVANS ABOUT CODE SHARING

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« We are on a mission from god »

ELWOOD BLUES

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And this mission is **Accuracy**

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Being accurate doesn't scale.

So we create contexts.

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A context

- Has carefully set boundaries
  - In terms of team, usage, database
- Has its own language
- Has its own model

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Let's look at the Nerf Club,

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Repair gun

Nerf ops

Is notified when a nerf is broken

Analyze what went wrong

Says when a nerf is available

Battle booking

Assistant

Nerf gun availability

Book a nerf gun

Book a place

Run battle

Shooter

Shoot at each others to win

Interested in their shots statistics

Has health point

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What is a nerf gun ?

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- Domain context helps keeping code base clean
- A context's code base focuses on doing one thing
  - **accurately**
  - **well**

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So there will be multiple contexts

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Relationship exists between contexts.

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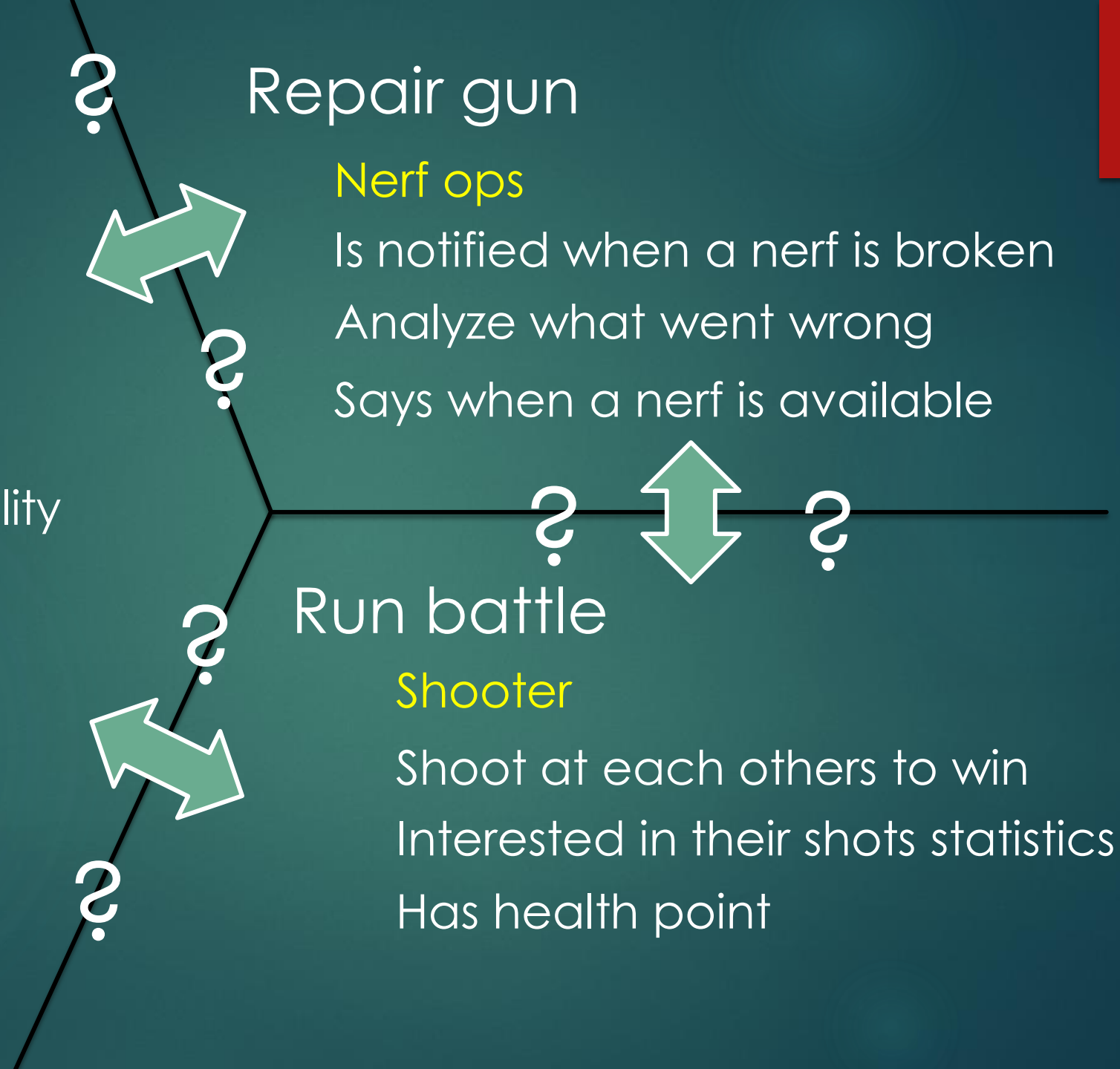

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First thing first,
Find the domain's shape

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What do you see ?

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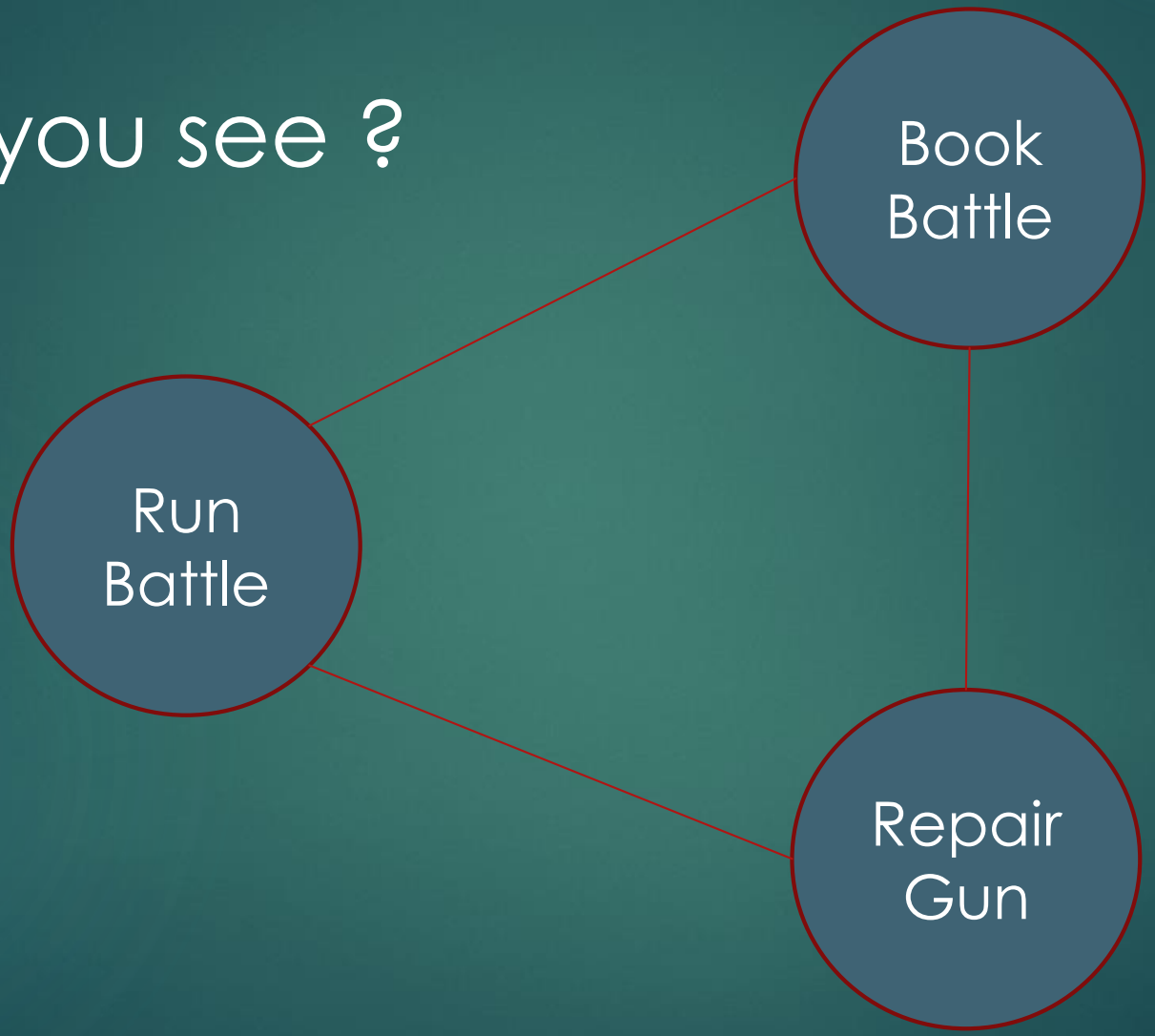

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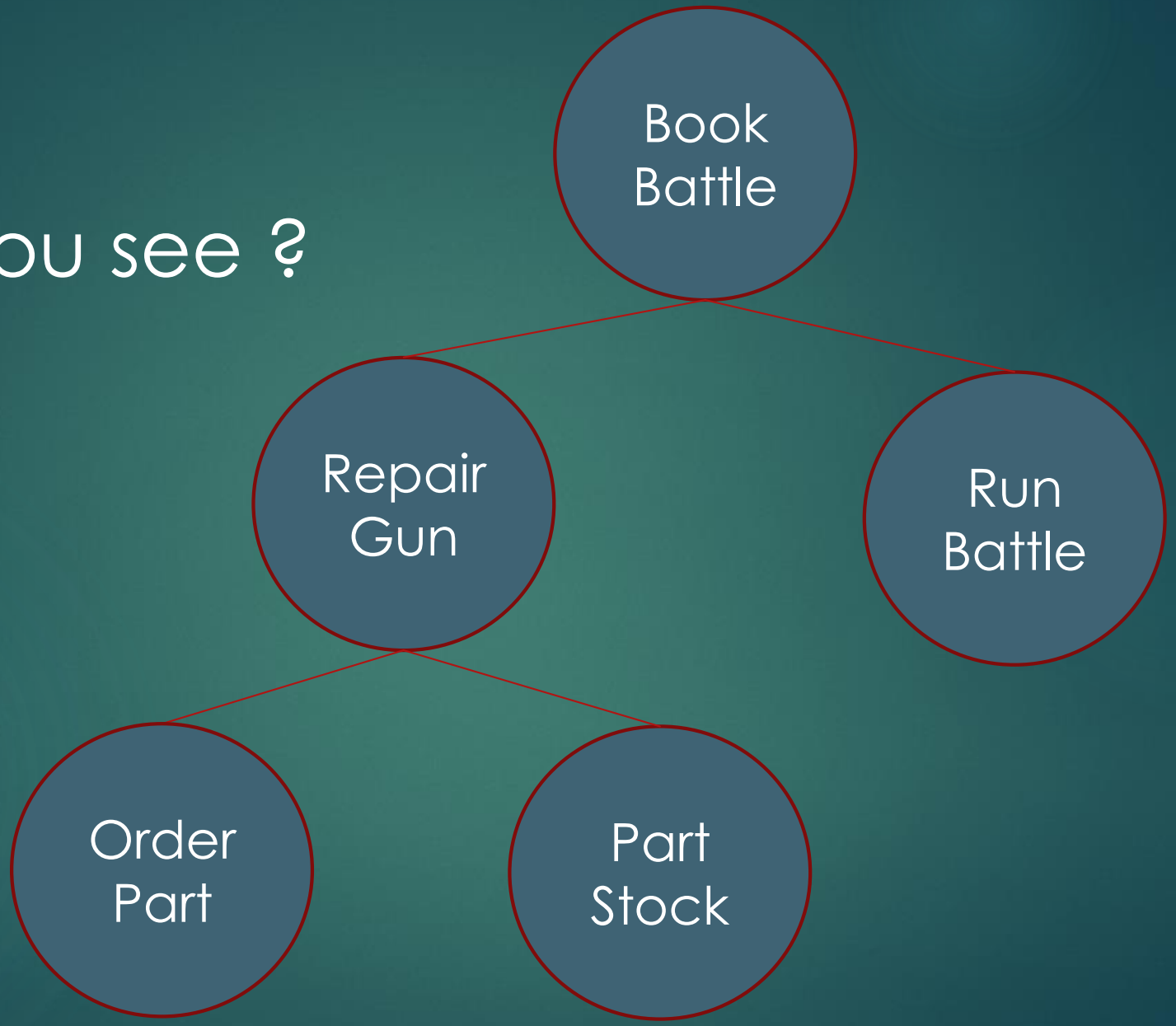

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There is no equality among contexts.

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- “Organizations which design systems are constrained to produce designs which are copies of the communication structures of these organizations.”

MELVIN CONWAY

https://en.wikipedia.org/wiki/Conway%27s_law

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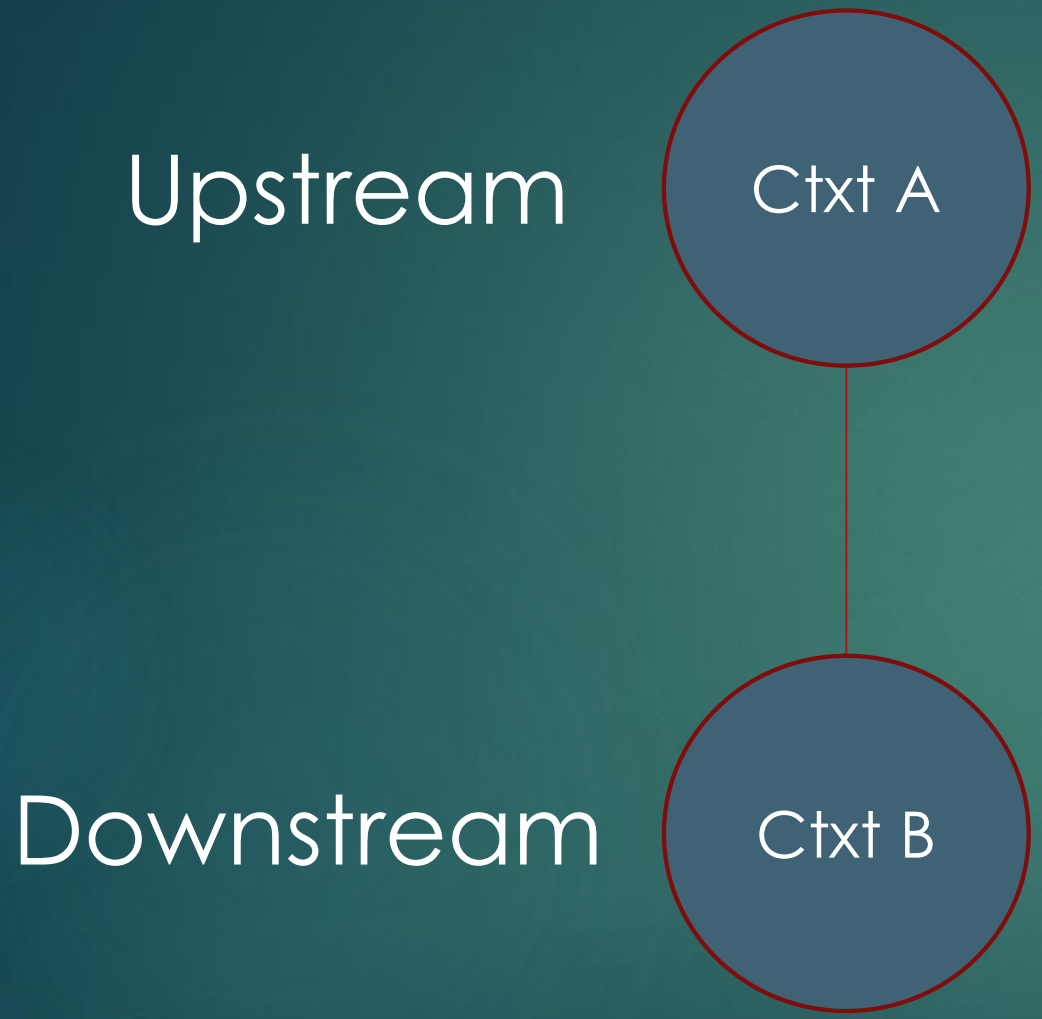

Power relationship ?

Technical constraint ?

Schedule ?

Ability to deliver ?

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Repair nerf gun

- Nerf ops
- Is notified when a nerf is broken
- Analyze what went wrong
- Says when a nerf is available

To be or not to be conformist ?

Battle booking

- Assistant
- Nerf gun availability
- Book a nerf gun
- Book a place

Run battle

- Shooter
- Shoot at each others to win
- Interested in their shots statistics
- Has health point

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Context map in a nutshell

- Context map describes upstream downstream relationships beween models
- Context map describes how contexts integrate with each other
- Contexts can use anti corruption layers to isolate themselves … or not.

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So what now ?

DDD is learning from domain expert so we can model accurately

DDD context map helps to define a strategy to respond to needs

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Are you ready for tactical DDD ?