#Coding

Refactoring Legacy Code

#4<DEV>

Alberto Acerbis

AGIC

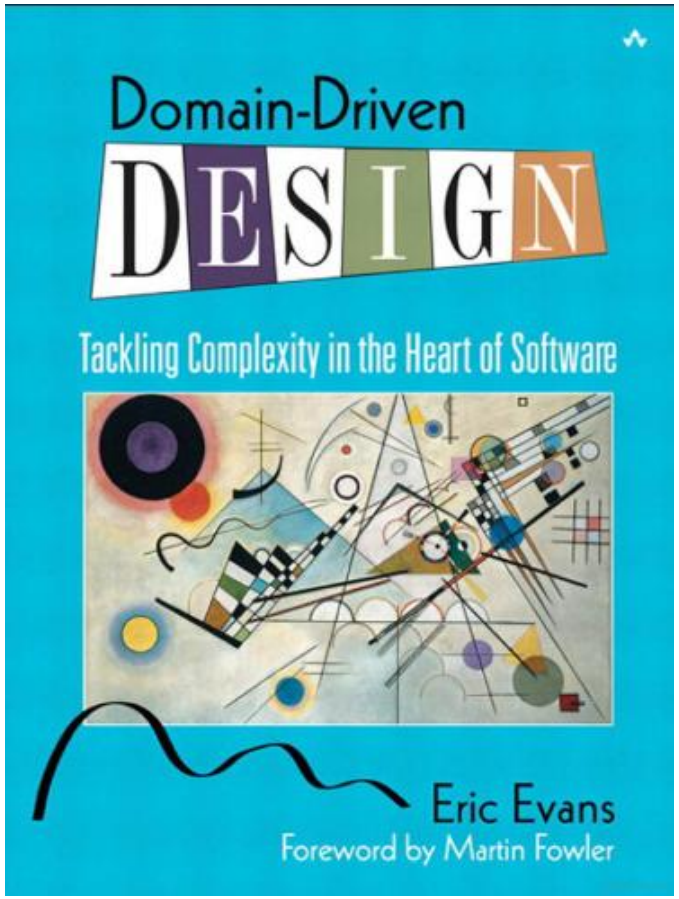
CONSOFT INFORMATICA

present exprivia group

KEY2

It was the year 2003

Eric,
we have got
a problem!



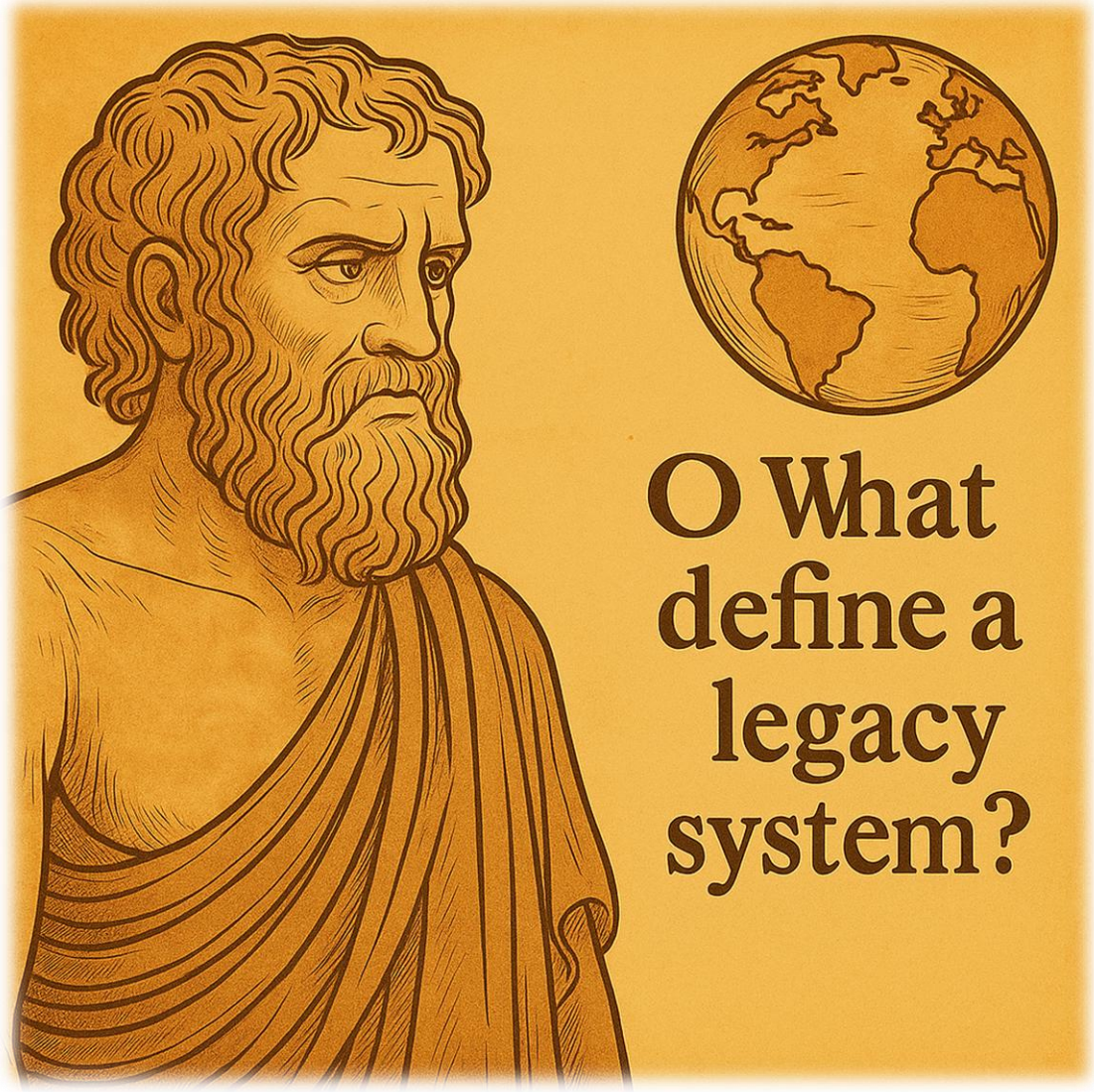
Your job is not to write working code,
your job is to design a working system.

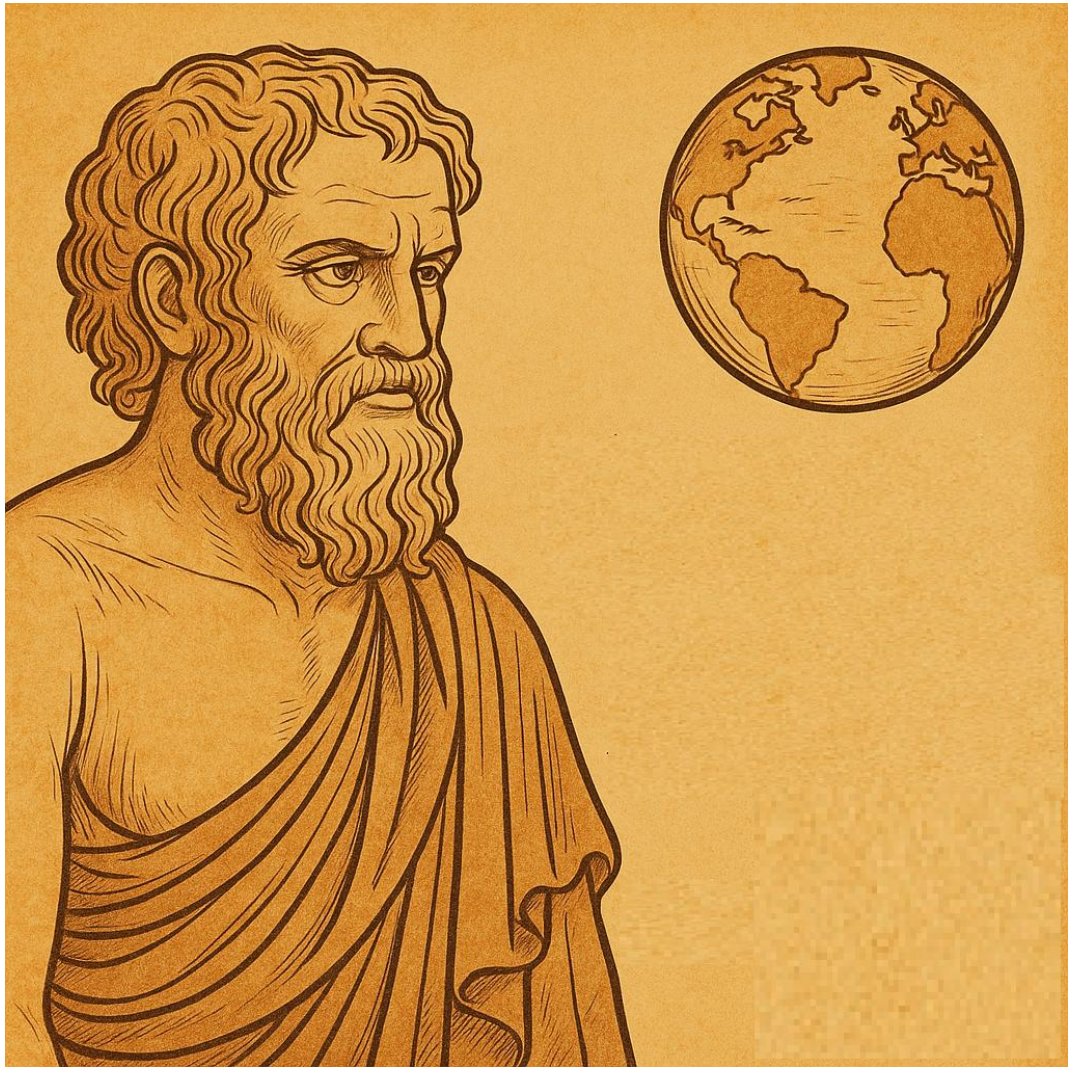
Greenfield

- Nessun vincolo da sistemi o processi esistenti.
- Libertà totale nelle scelte architetturali e tecnologiche.
- Maggiore creatività, ma anche più incertezza.
- Rischio di reinventare ciò che già funziona.

Brownfield

- Si parte da sistemi, infrastrutture o processi già esistenti.
- Sfida principale: integrazione e compatibilità.
- Maggiori vincoli, ma anche meno incognite.
- Approccio pragmatico, spesso più rapido nell'apporto di valore.


O What define a legacy system?

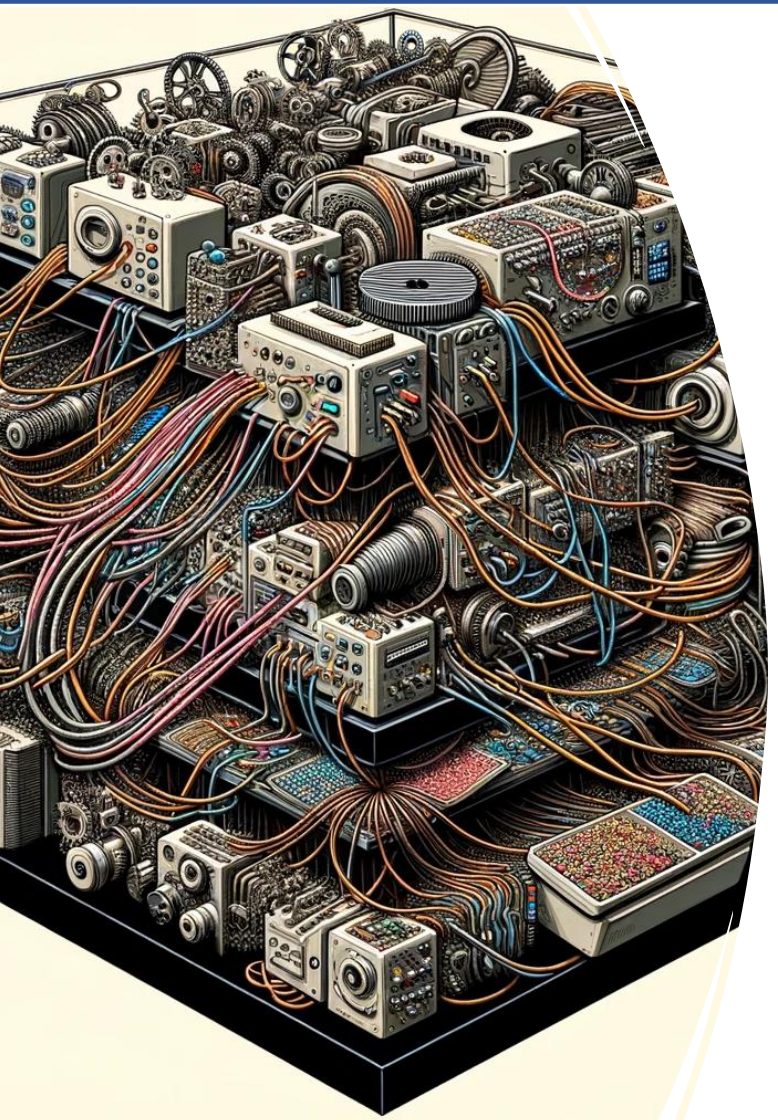


Panta Rhei

- Un Sistema Legacy è ciò che resiste al fluire, ciò che non scorre.
- E’ il fiume che non cambia corso, mentre tutto intorno ad esso muta.
- Il nuovo che avanza e il vecchio che persiste.

Big ball of mud

Mancanza di un'architettura chiara, che porta a un sistema strutturato in modo casuale e difficile da comprendere o modificare.

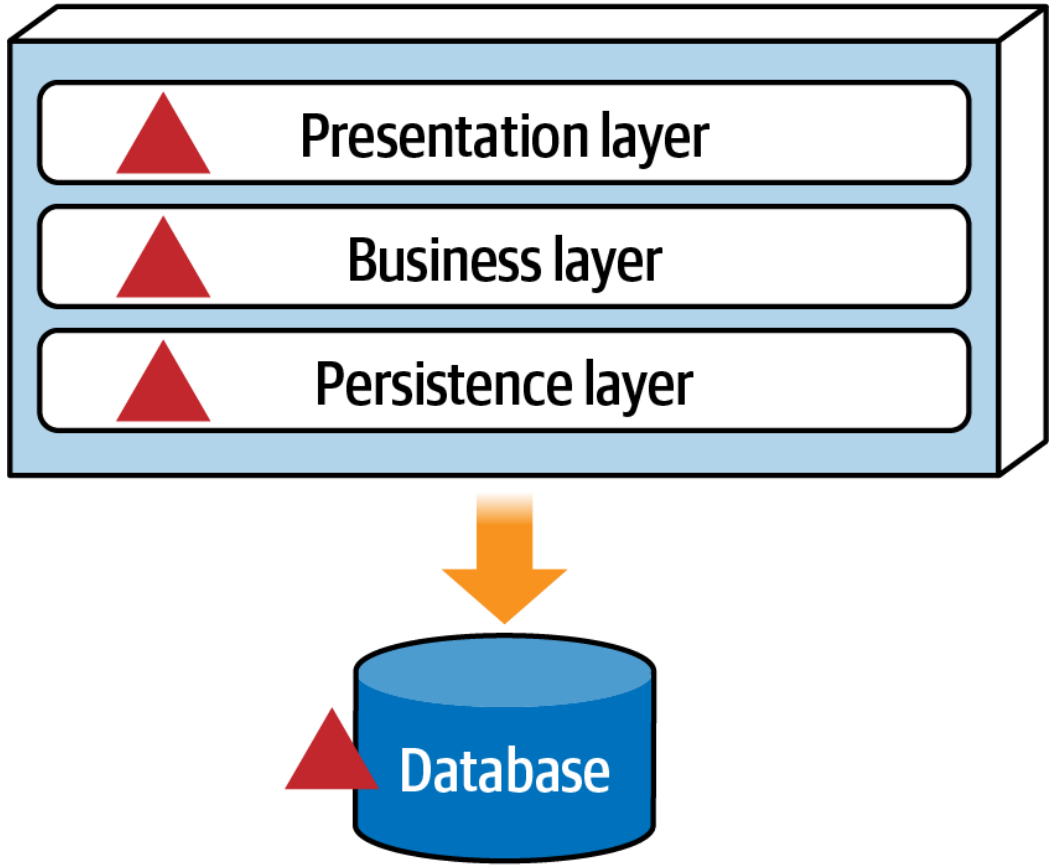


Lack of modularity

Mancata corretta incapsulazione delle diverse funzionalità, con conseguente creazione di un sistema in cui le modifiche apportate a un modulo si ripercuotono sugli altri.

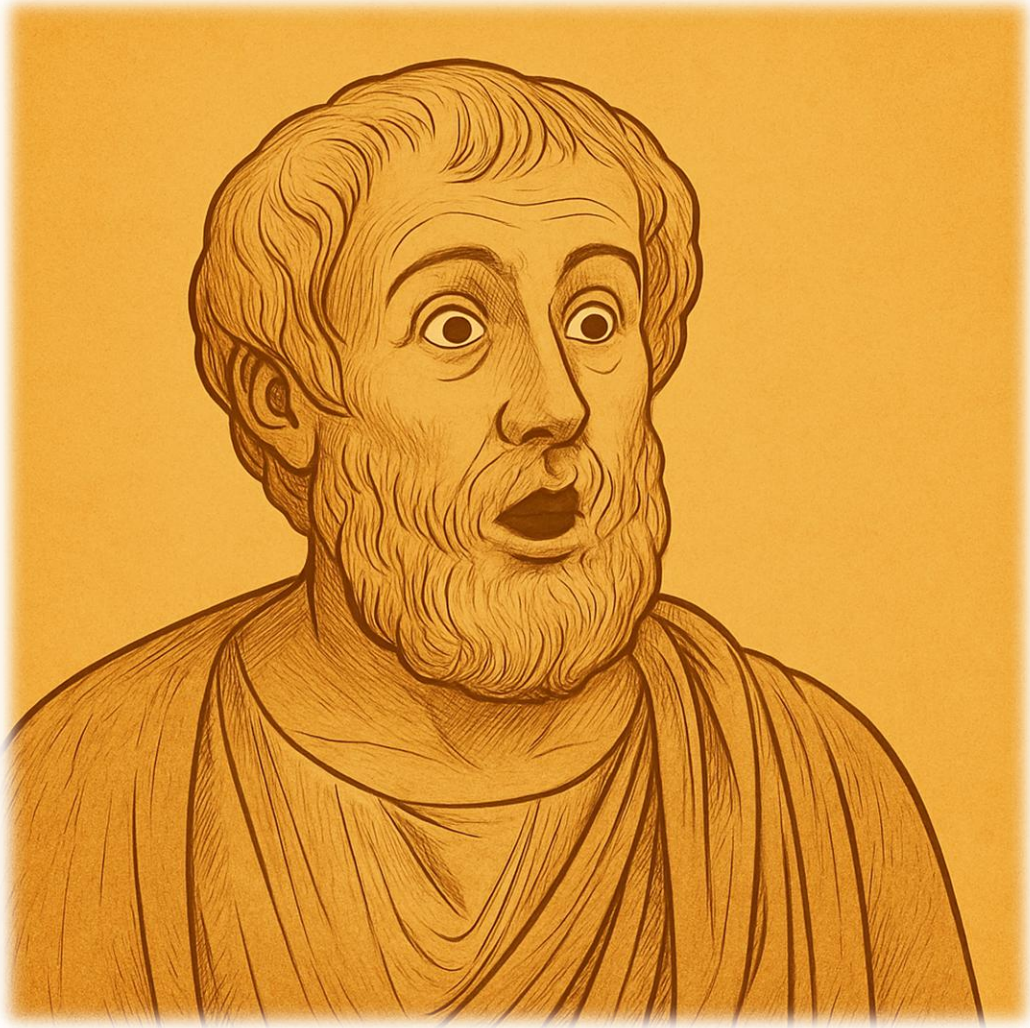
Monolithic database design

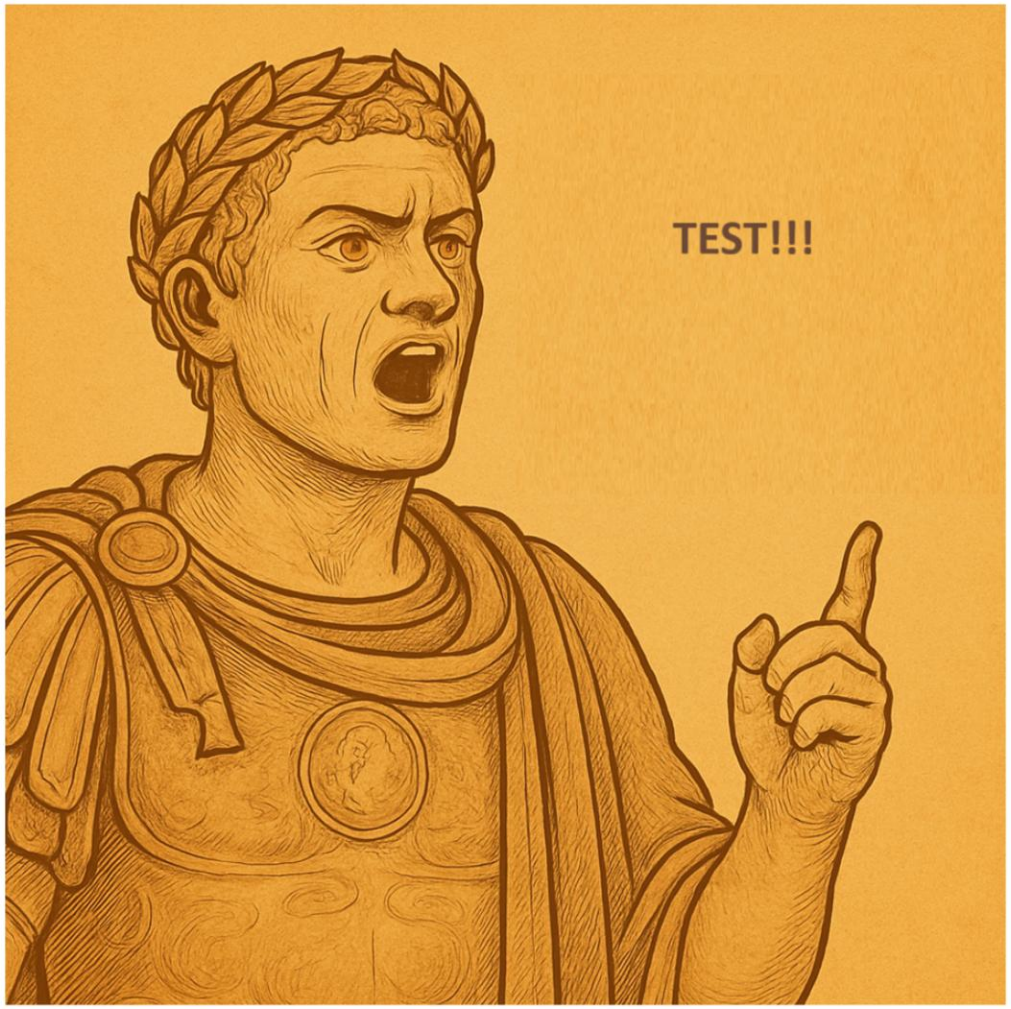
Un unico database per tutte le esigenze applicative, che crea un collo di bottiglia e complica qualsiasi tentativo di scalabilità o separazione delle problematiche.



Application-level change scope

(Triangle represents where change occurs)

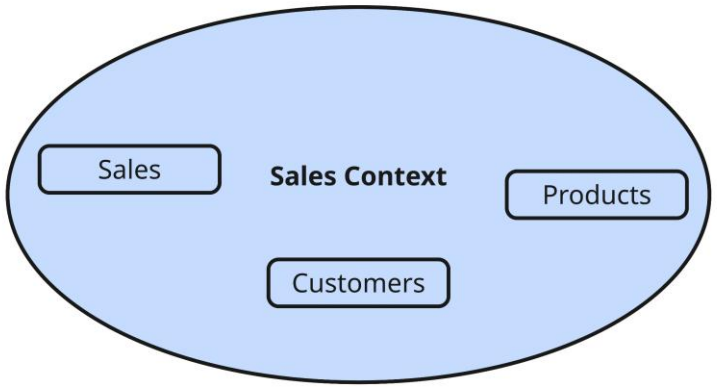


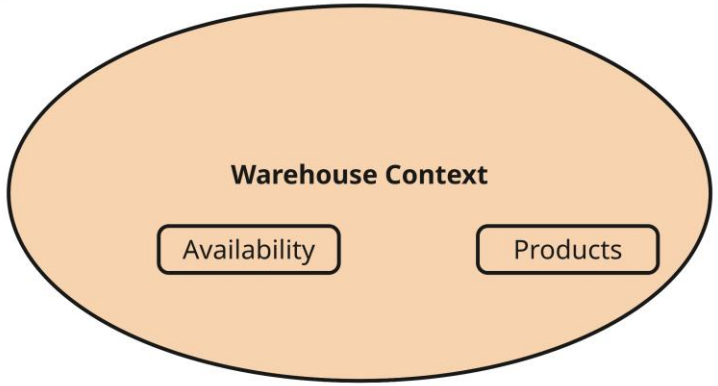


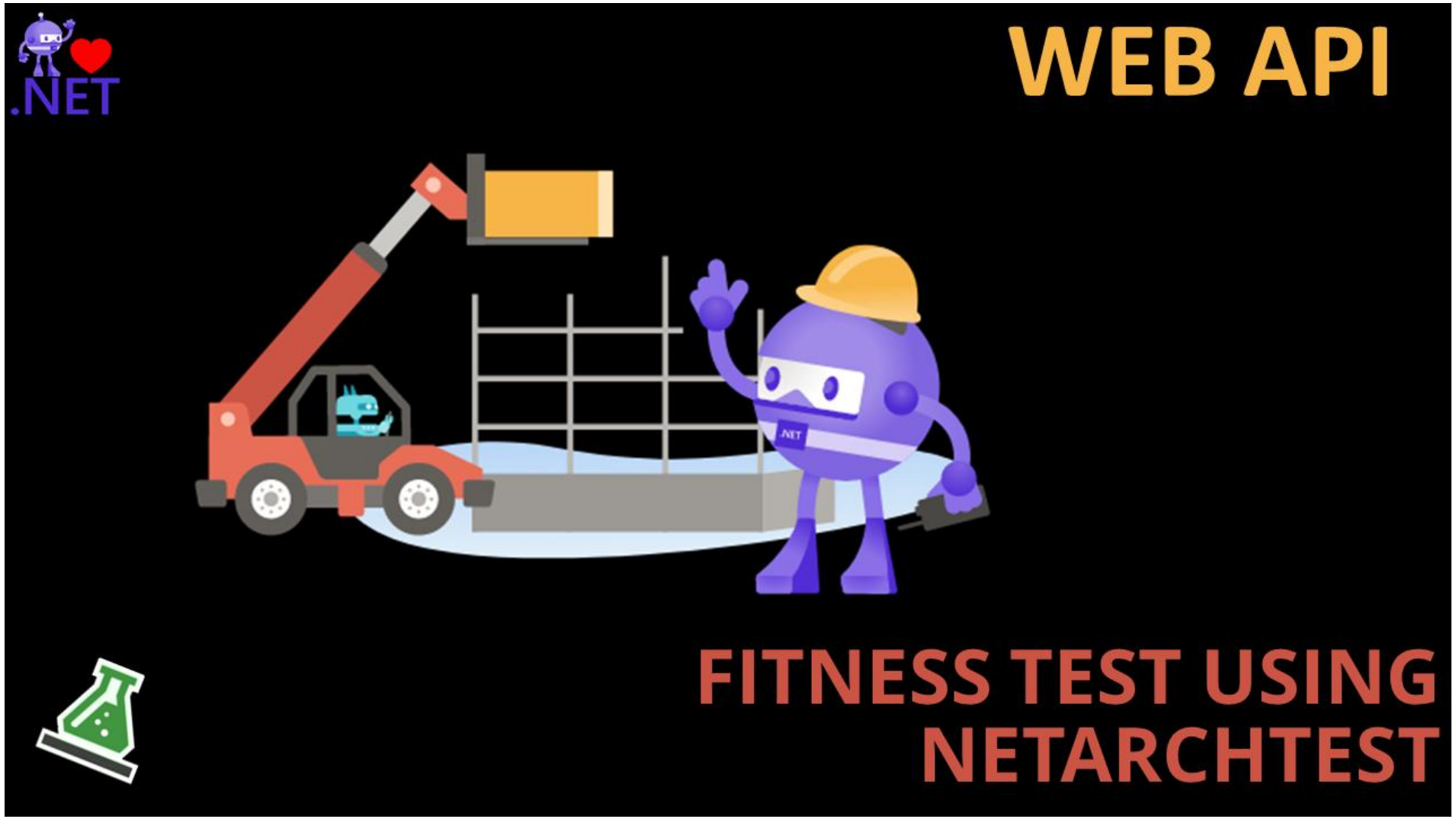
Test di Integrazione

- 🚦 *Il test di integrazione è il semaforo verde verso la produzione.*
- 🌉 *Un ponte sicuro tra codice e valore.*

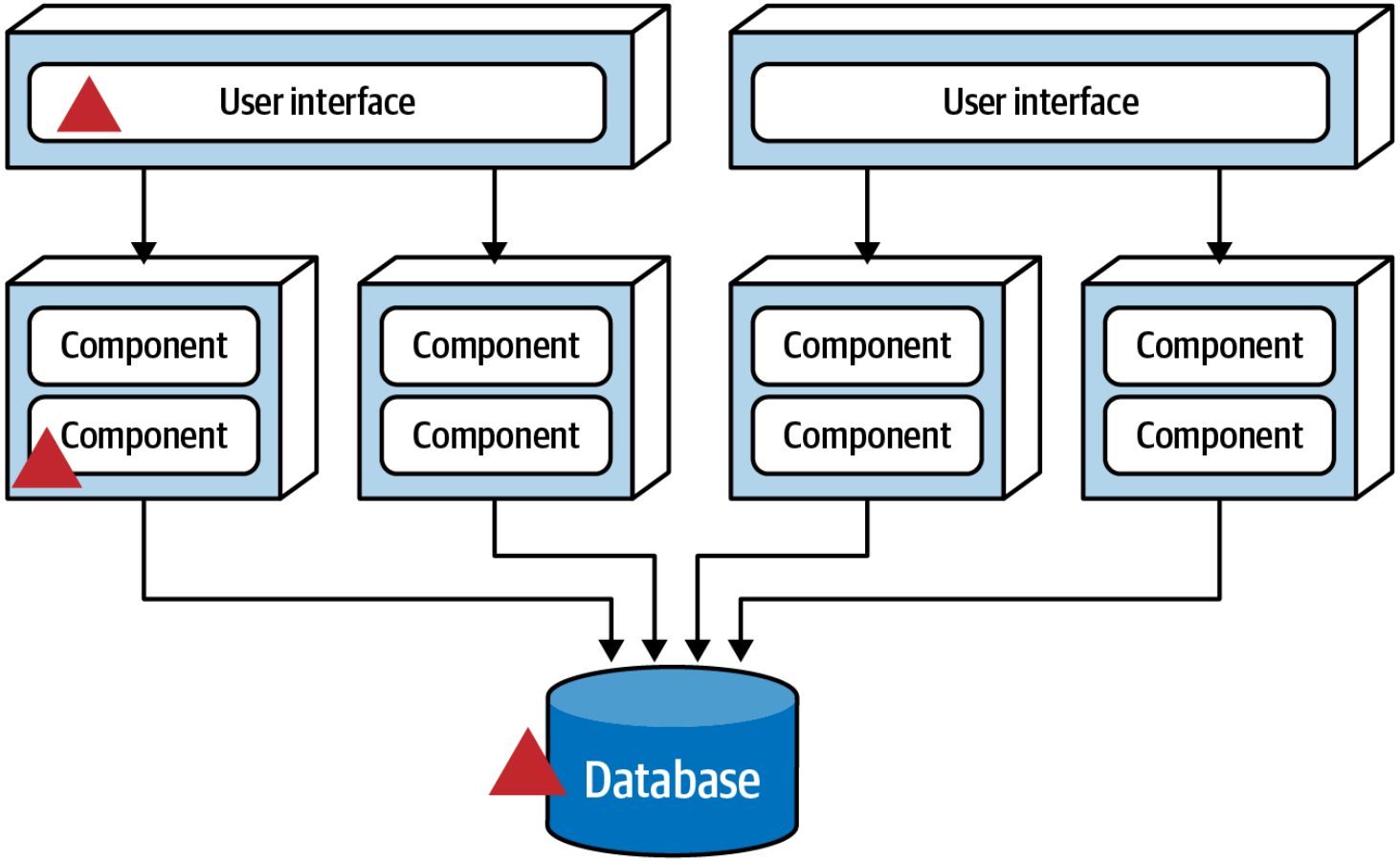
Context Mapping





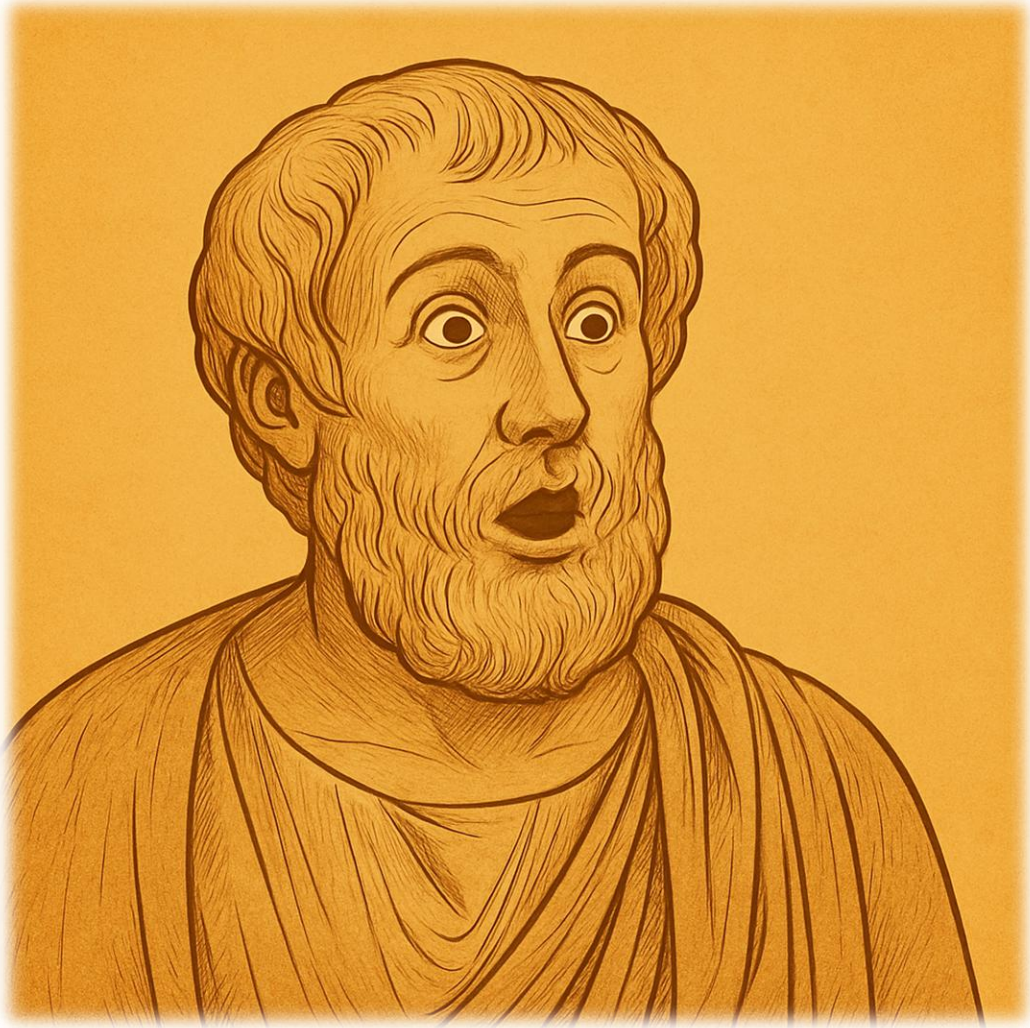

.NET
WEB API
FITNESS TEST USING
NETARCHTEST

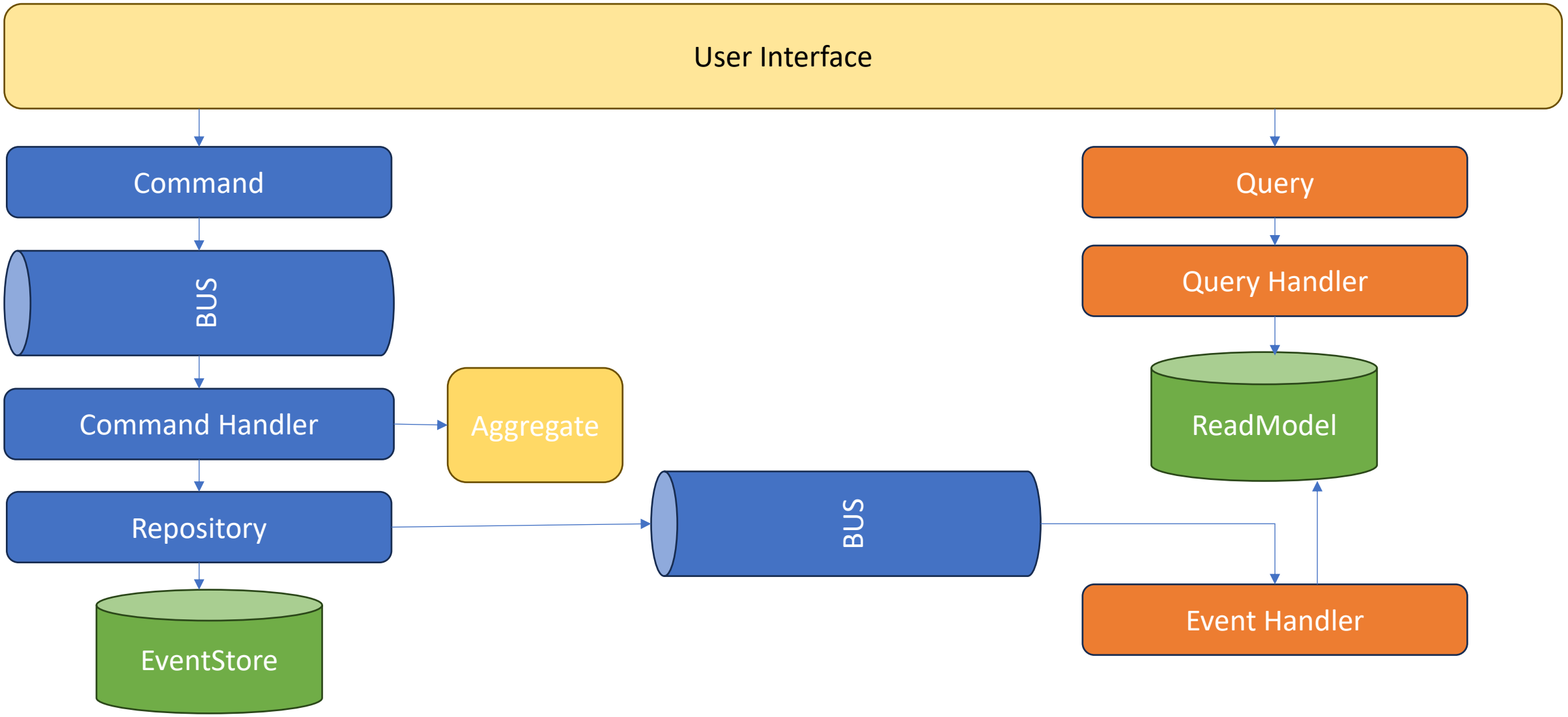

Panta Rei

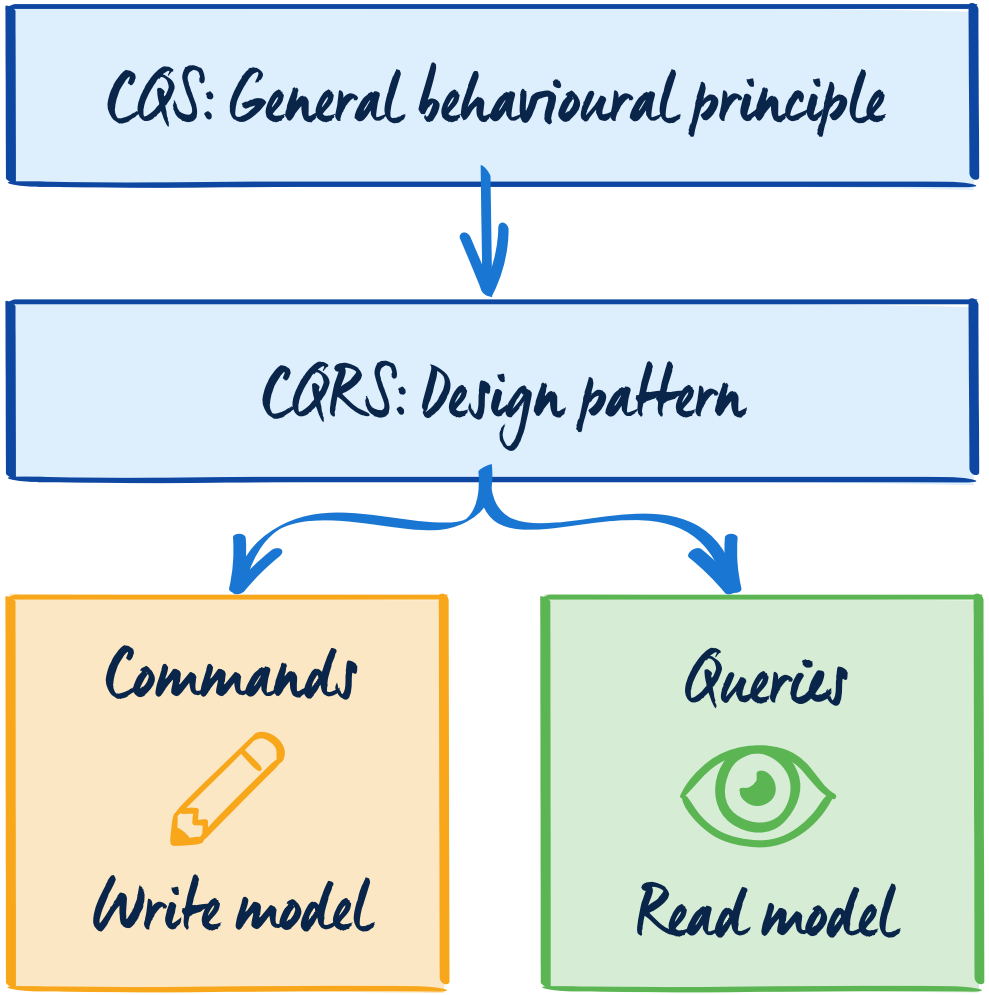


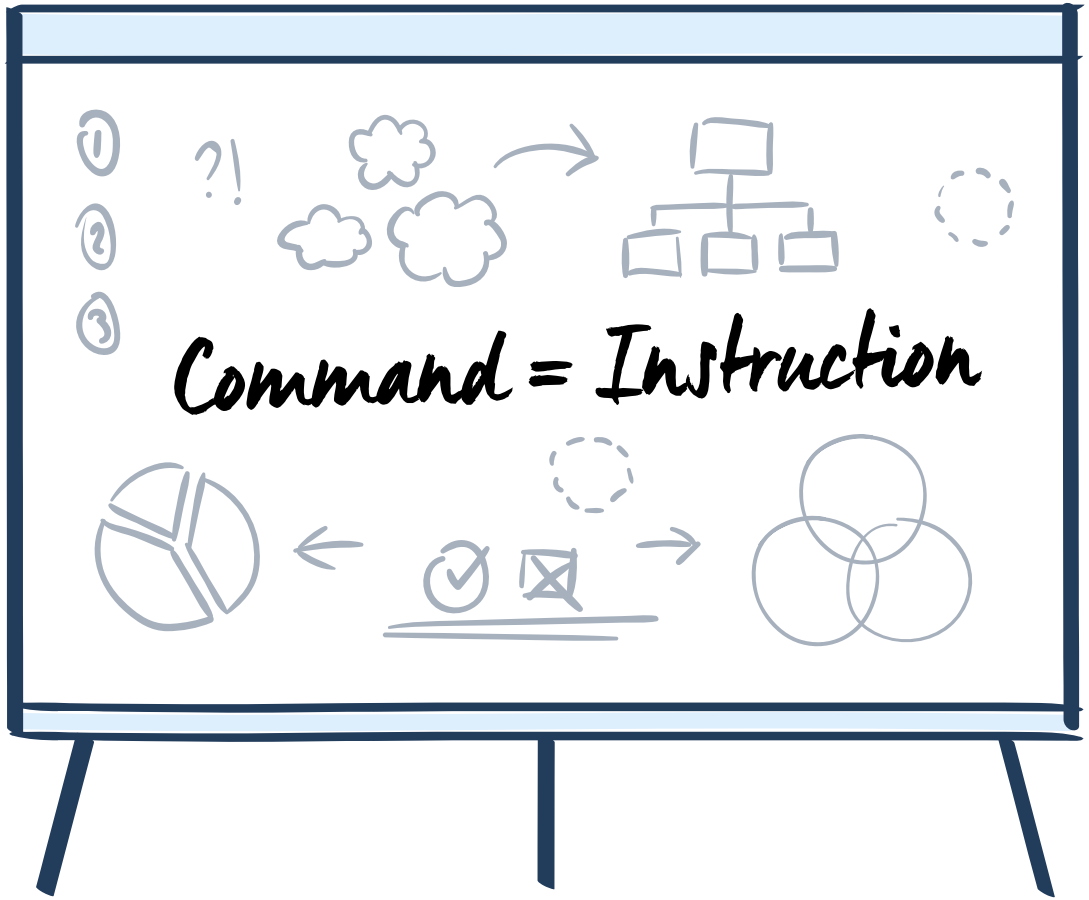
Domain-level change scope

(Triangle represents where change occurs)

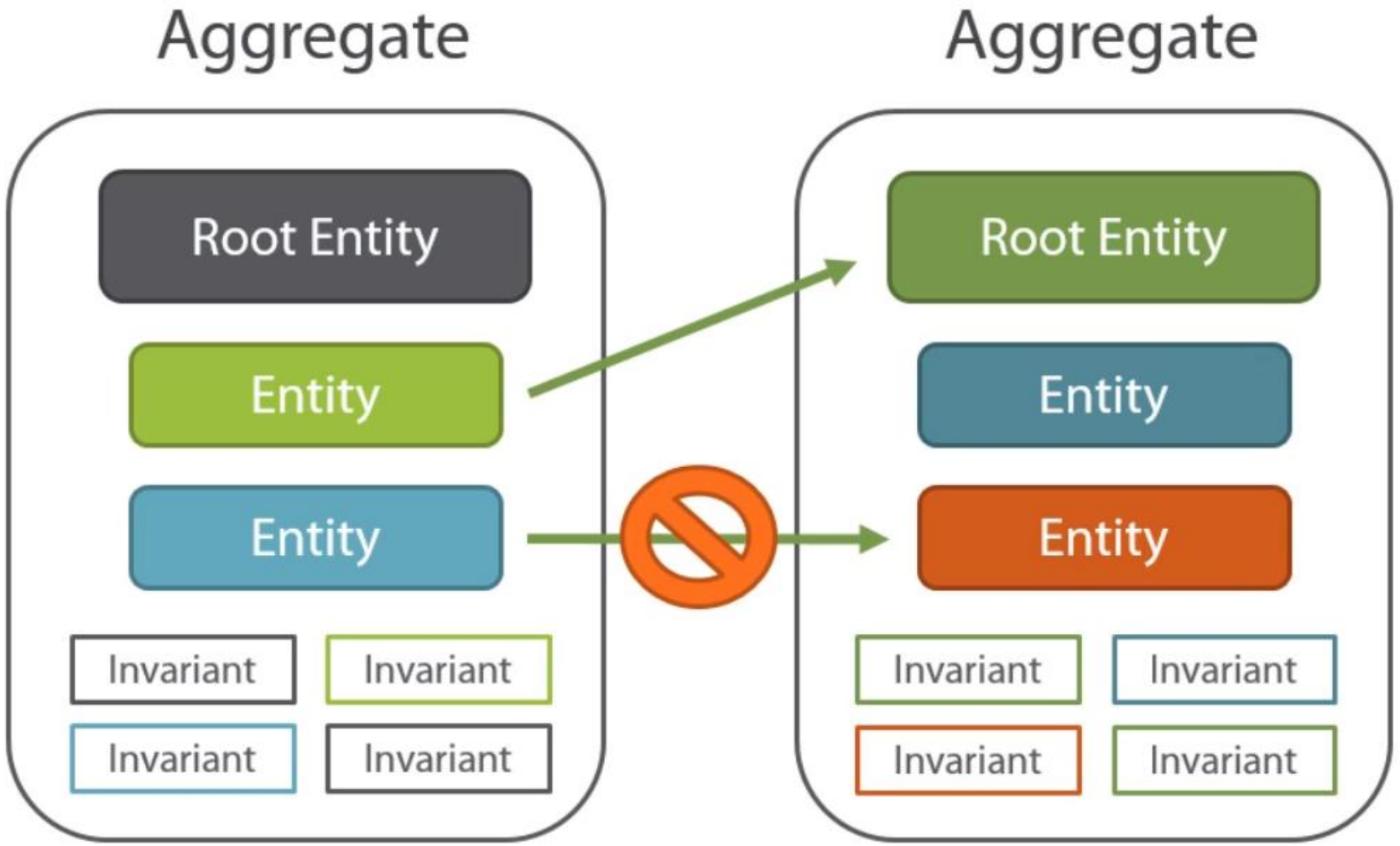


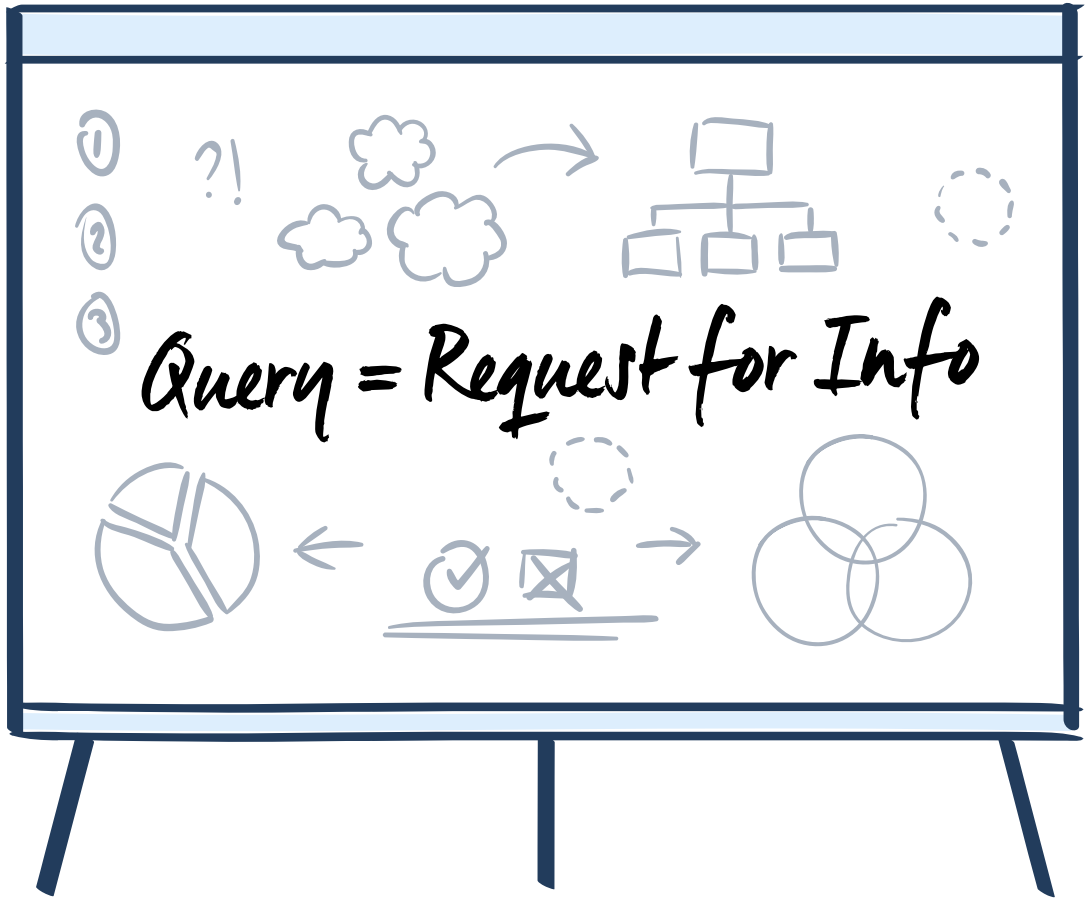

User Interface
Command
BUS
Command Handler
Aggregate
Repository
EventStore
BUS
Query
Query Handler
ReadModel
Event Handler


CQS: General behavioural principle
CQRS: Design pattern
Commands
Write model
Queries
Read model

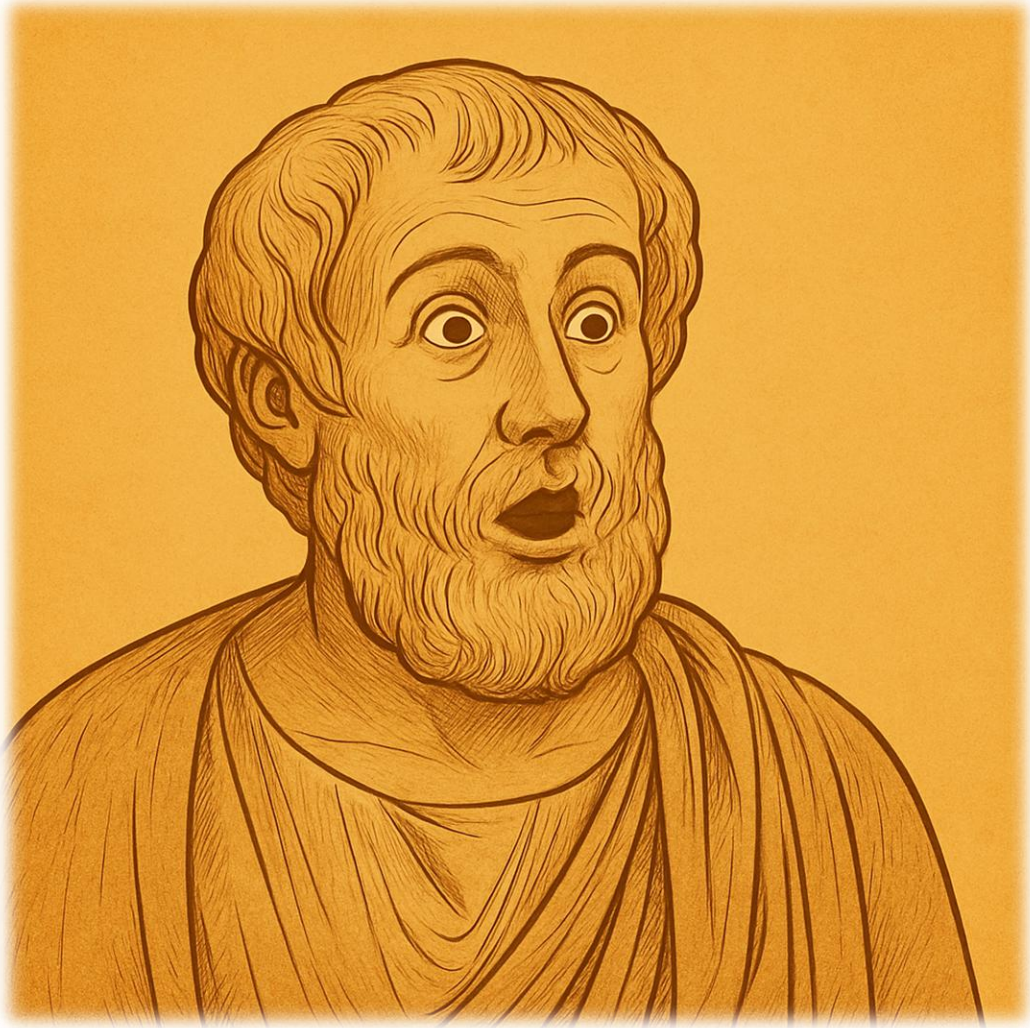

Command = Instruction

Aggregate


Aggregate
Root Entity
Entity
Entity
Invariant
Invariant
Invariant
Invariant
Aggregate
Root Entity
Entity
Entity
Invariant
Invariant
Invariant
Invariant


Query = Request for Info

- L’idea fondamentale è quella di divider uno scenario in tre sezioni:
- **Given**: descrive lo stato dell’aggregato prima dell’invio del comando. Prerequisito.
- **When**: rappresenta il commando da inviare all’aggregato.
- **Then/Expect**: descrive i cambiamenti di stato previsti come risulato del comando.



Partendo dal contesto #file:rest-api.prompt.md implementa una solution .NET che ne rispetti i requisiti nella cartella src.

Not THE solution, but A solution

Disclaimer

Ho condiviso ciò che funzionato per me; non è un approccio universale.

Our Context

Le soluzioni si devono adattare alle dimensioni del Team, allo stack tecnologico...

Your Mileage

Prendete I principi, adattate l'implementazione alle vostre esigenze.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KEY2

Alberto Acerbis

INTR3 25

Microsoft® MVP Most Valuable Professional

alberto.acerbis@intre.it

https://github.com/BrewUp/DDD-Europe-2025

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