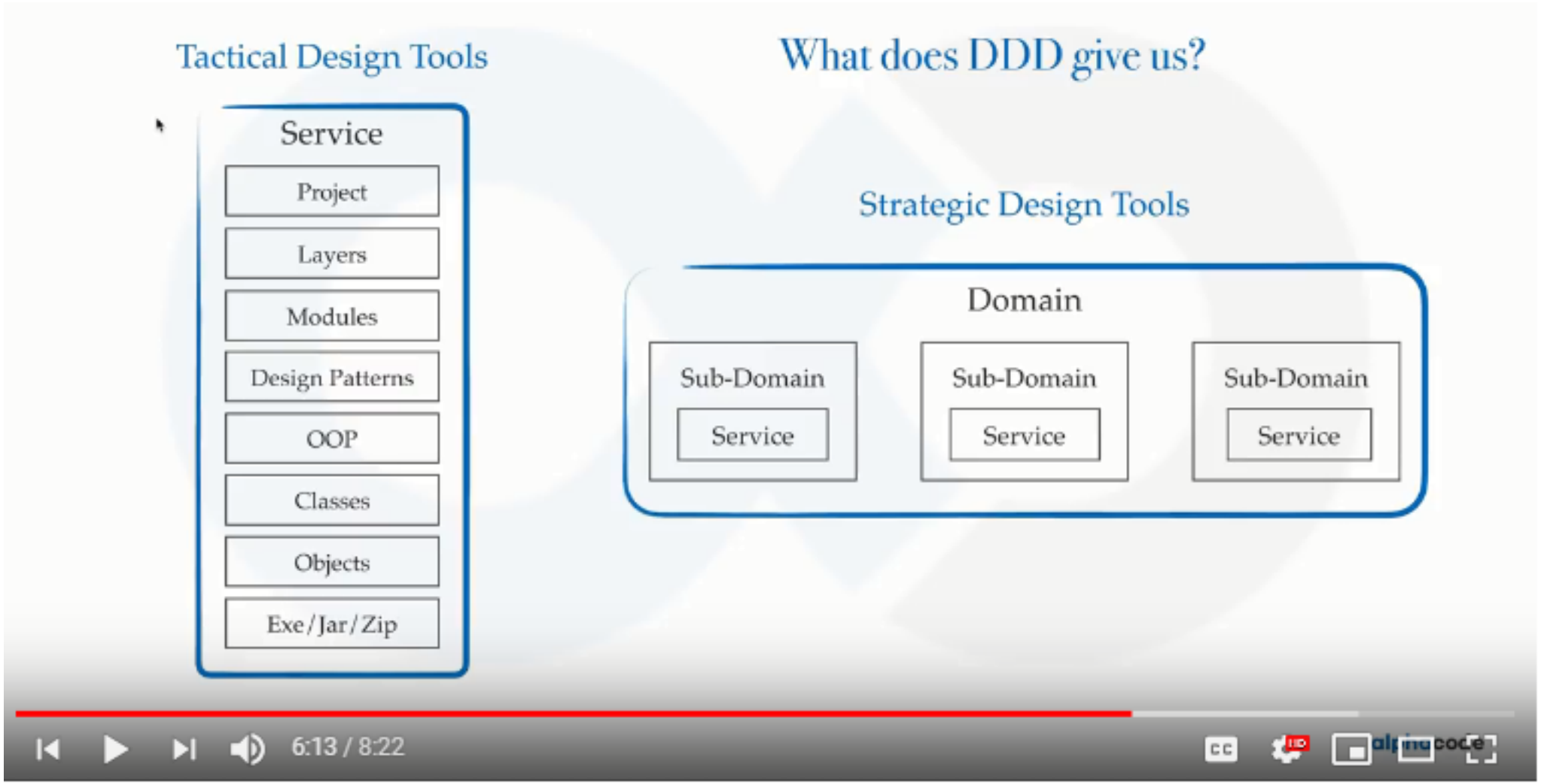

2. What is Domain Driven Design?

9,056 views

337 117 İndir 720 SHARE SAVE ...

Alpha Code

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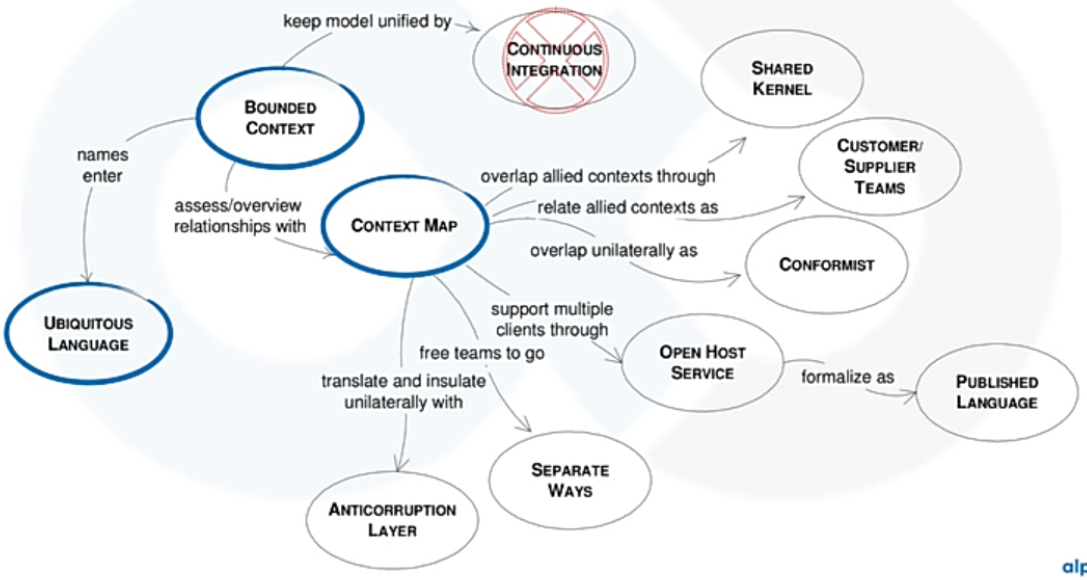
Strategic Design Tools



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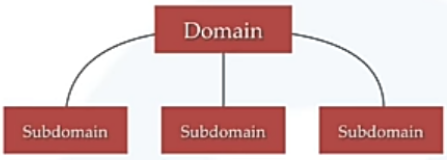
Problem Space



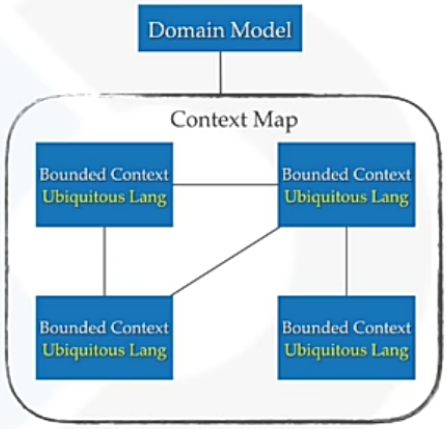
Domain Model - abstracts subdomain

Domain model to Bounded context is like Class to Object

Type of Subdomains

- Core Sub-Domain
- Supporting Sub-Domain
- Generic Subdomains

Solution Space



Context Map = Map of relationships between Bounded Contexts

Eg:

Domain: World | Subdomain: Country | Domain model: Country's map | Bounded context: eg Japan

Ubiquitous Language: Japan's administrative nomaclature, which is specific to Japan,
and is only unambigious when mentioned in Japan,
eg: Prefecture in Japan is 1+ provinces. In other countries province means 1+ prefectures

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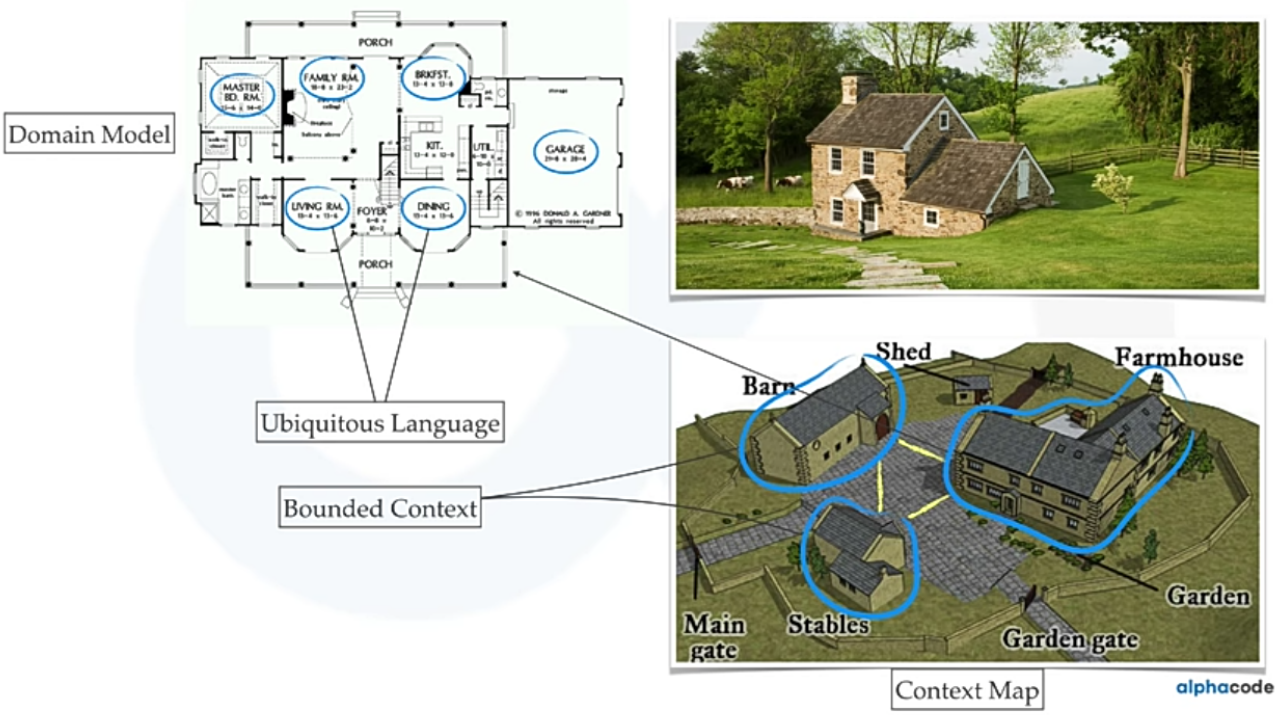

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Context Relationship Types

Published Language: The interacting BCs agree on a common a language (for example a bunch of XML schemas over an enterprise service bus) by which they can interact with each other

Open Host Service: BC specifies a protocol (for e.g a RESTful web service) by which any other BC can use its services

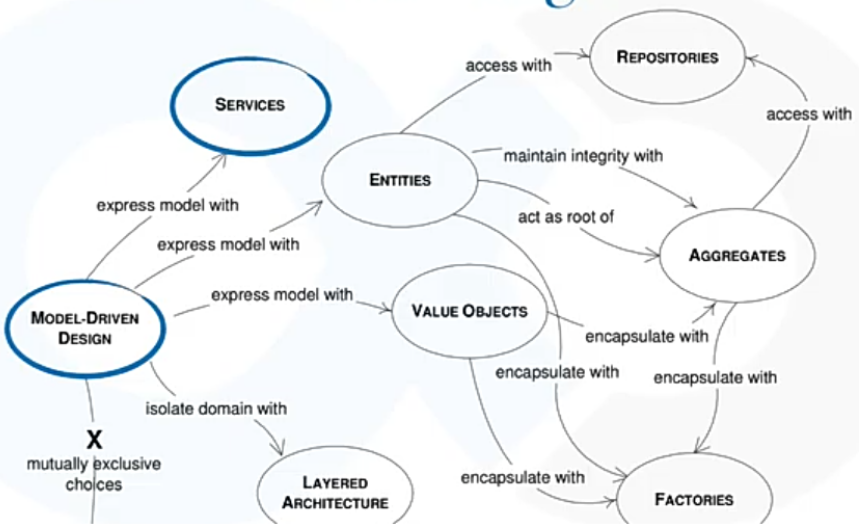
Shared Kernel: Two BCs use a common kernel of code (for example a library) as a common lingua-franca, but otherwise do their other stuff in their own specific way

Customer/Supplier: One BC uses the services of another and is a stakeholder (customer) of that other BC. As such it can influence the services provided by that BC

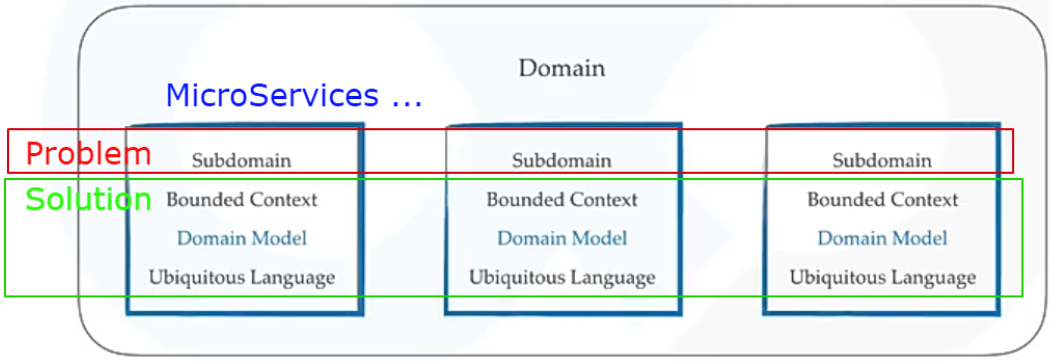
Conformist: One BC uses the services of another but is not a stakeholder to that other BC. As such it uses "as-is" (conforms to) the protocols or APIs provided by that BC

Anti-Corruption Layer: One BC uses the services of another and is not a stakeholder, but aims to minimize impact from changes in the BC it depends on by introducing a set of adapters.

Tactical Design



Model Driven Design



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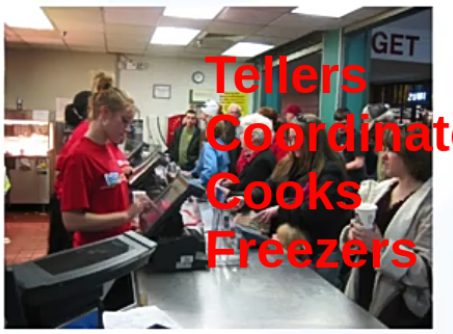
Layered Architecture

McDonalds analogy



Request Handlers	Presentation, UI, View
Controllers	Application, Service
Business	Business logic, Domain
Persistence	Data access, logging, networking, and other services which are required to support a particular business layer

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Value Objects

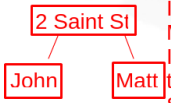
- One of the best things about good design
- Eg. What is a String?
- It's a general purpose value object designed to handle complexities of char arrays
- Value objects reduces complexity and forces ubiquitous language

Float for Money

String for Email

Features of a Value Object?

- Don't care about uniqueness
- Always immutable
- Rich domain logic
- Auto-validating
- Strong equality
- Thread safe



If address (2 Saint St) is value object.
Matt & John both stay there.
If John move houses,
then the value object (2 Saint St)
SHOULDNT change.
If otherwise,
then Matt's address would also change,
which is wrong

Entities

- Can be uniquely identified using an ID
- Consists of value objects
- Generally persisted as a row in DB
- Typically mutable
- Generally implements some business logic

If address matters, then it should have ID and be an Entity.
EG: Electricity billing company charging to a particular address.
If address dont matter, then it can be a Value Object.
EG: Post office deliver mails to John and Matt, who stays at the same address.
The important thing here is an unique person ID, not an unique address ID.

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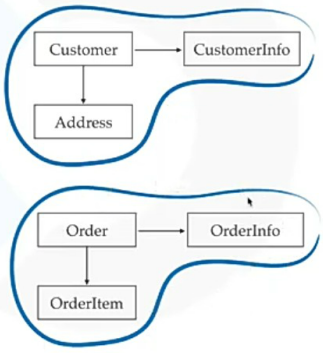
Aggregates

- When the object graph becomes big it becomes difficult to maintain
- An aggregate is collection of entities and values which comes under a single transaction boundary
- An aggregate controls the change
- An aggregate always has a root entity
- The root entity governs the lifetime of other entities in the aggregate
- An aggregate is always consistent
- Domain events are generated to ensure eventual consistency



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Factories & Repositories

Entities & Values

Aggregate

- Factories helps you create new aggregates
- Repository helps you get persisted aggregates
- Repository ≠ DAO

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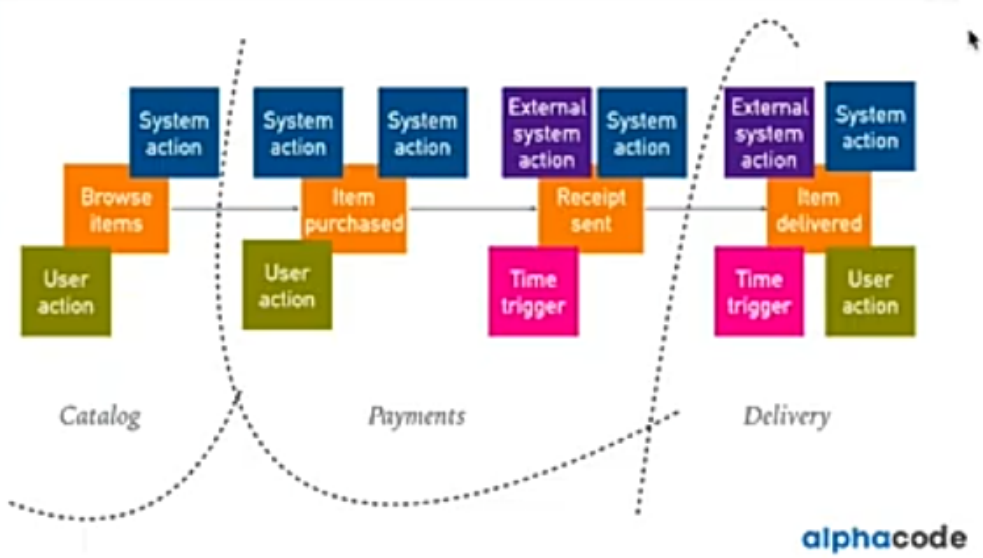
How does event storming work?

- First bring the right people in
- Then take sticky notes and colour code them to events, commands, policies, processes, errors, roles and aggregates etc
- Take a white board and start writing interesting events in sequence
- Then start adding commands, aggregates, policies etc
- After the first pass, start identifying bounded contexts



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Implementing DDD in code

```
public class ShippingController extends Controller{
  private CartService cartService;

  public void process(ShippingForm form) throws Exception, SQLException{
    CartBean cartBean = cartService.getCart(form.getCartId());
    BigDecimal cost = null;

    if (cartBean.getTotal() <= 100){
      cost = new BigDecimal(4.99);
      if (form.getOption() == 1) {
        for (Item i : cartBean.getItems()) {
          if (i.getCat() == 'B') {
            cost.add(new BigDecimal(2.99));
          }
          if (i.getCat() == 'U') {
            cost.add(new BigDecimal(i.getWeight() / 1000)
                .multiply(new BigDecimal(2.99)));
          }
        }
      }
      if (form.getOption() == 2) {
        for (Item i : cartBean.getItems()) {
          if (i.getCat() == 'B') {
            cost.add(new BigDecimal(4.99));
          }
          if (i.getCat() == 'U') {
            cost.add(new BigDecimal(i.getWeight() / 1000)
                .multiply(new BigDecimal(2.99)));
          }
        }
      }
    }
    form.setCost(cost.setScale(0, ROUND_HALF_EVEN));
  }
```

- Magic Numbers
- Duplicate code
- Primitive Obsession
- Mixed Concerns
- Fuzzy Terminology