Software Architecture Stories

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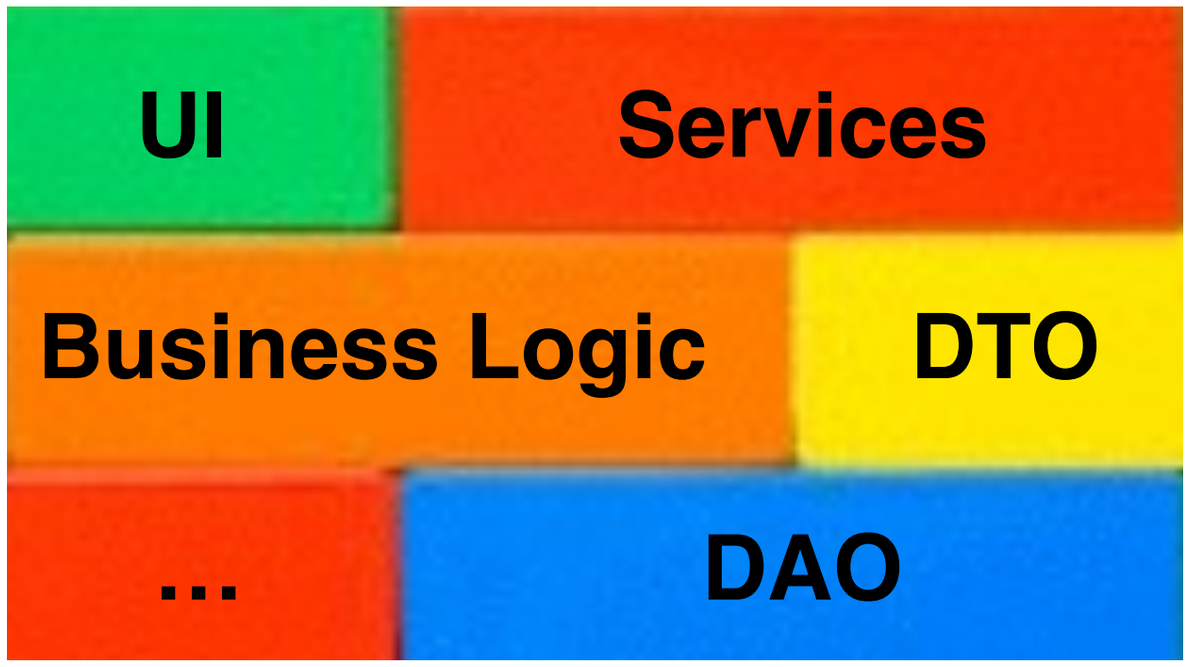
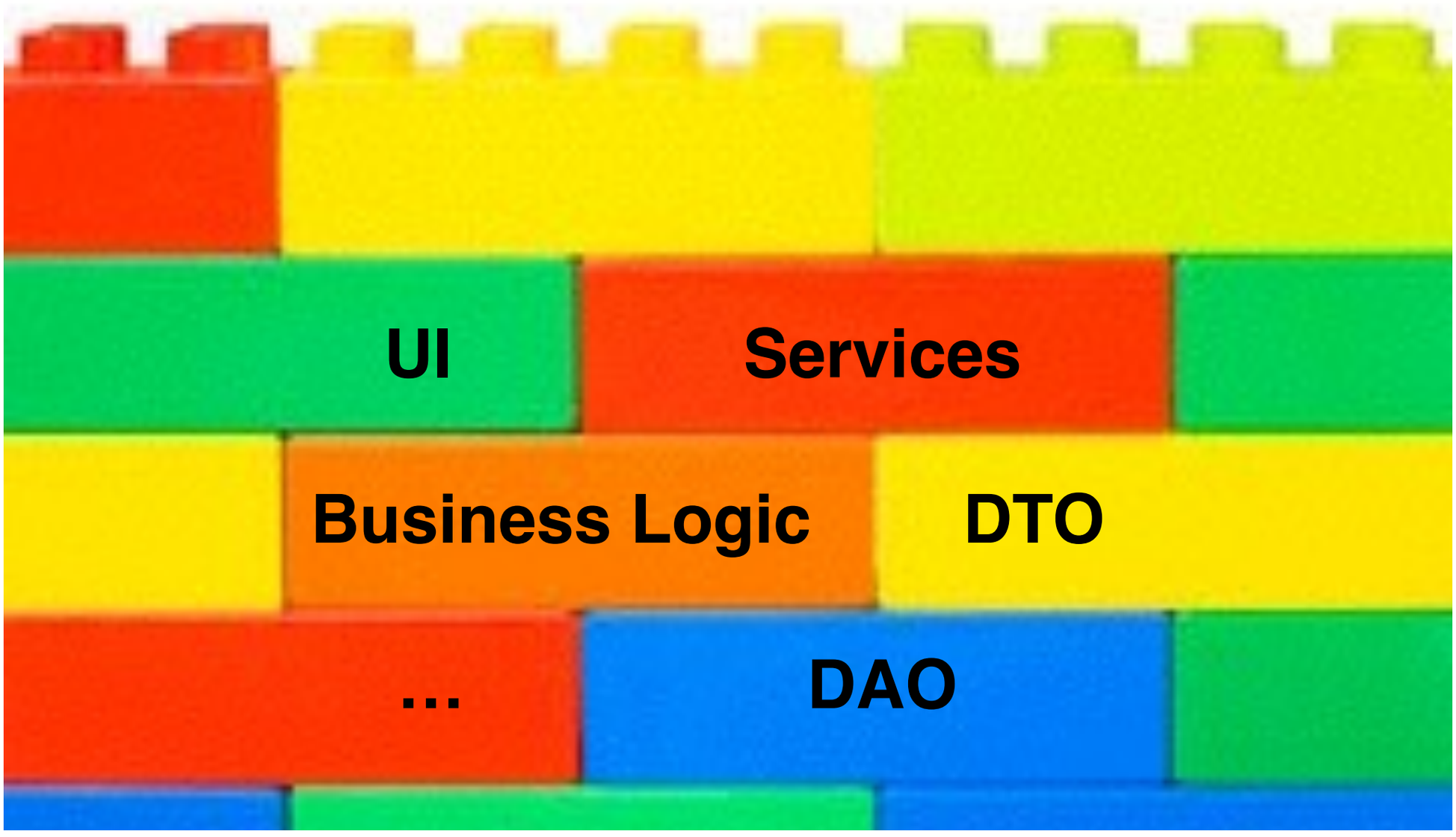
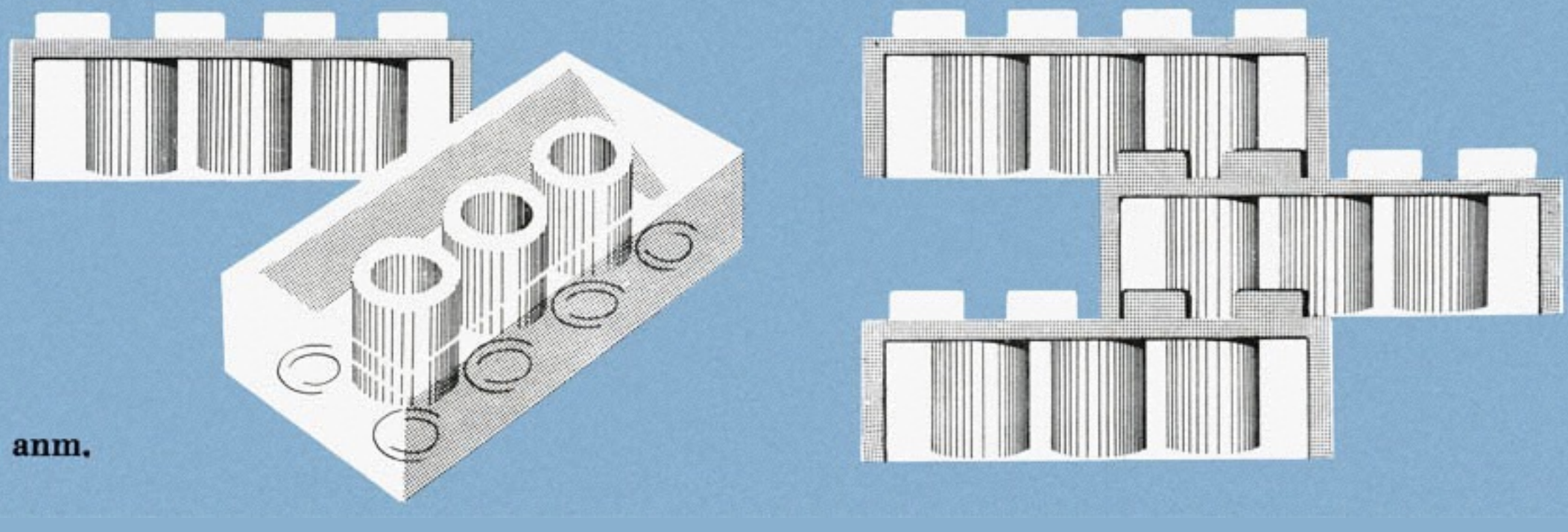
Inria
inventors for the digital world
50 YEARS



Enterprise Architectures



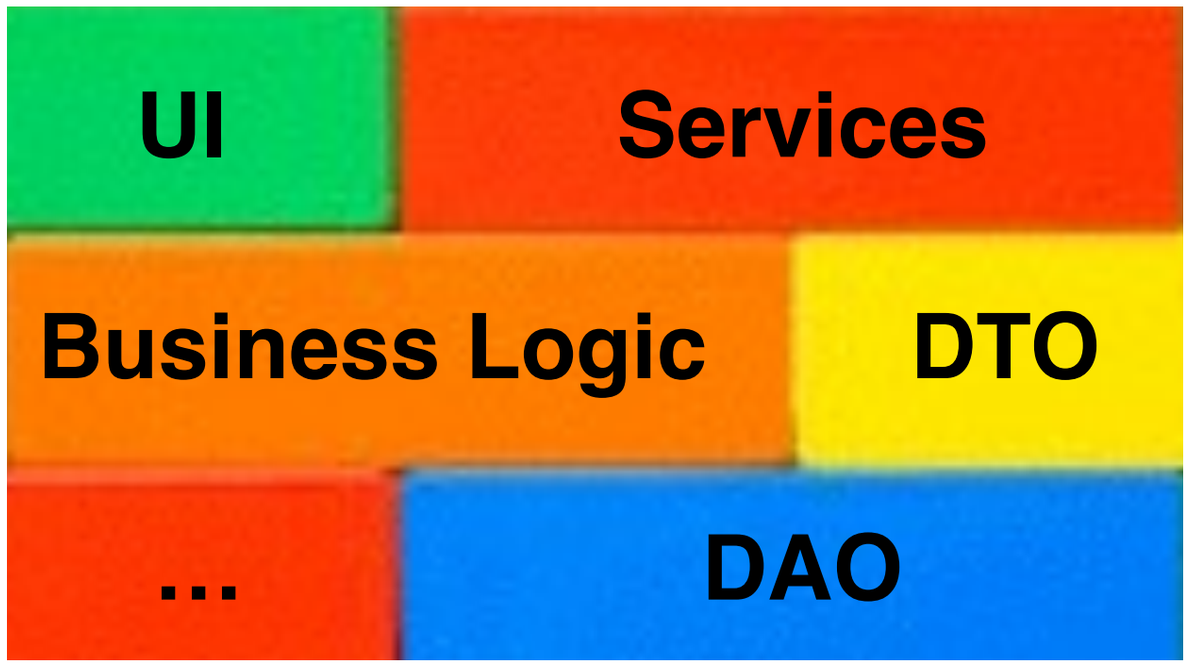
What I feel about Enterprise Architectures



The Stud-and-Tube coupling
Lego AS, 1958

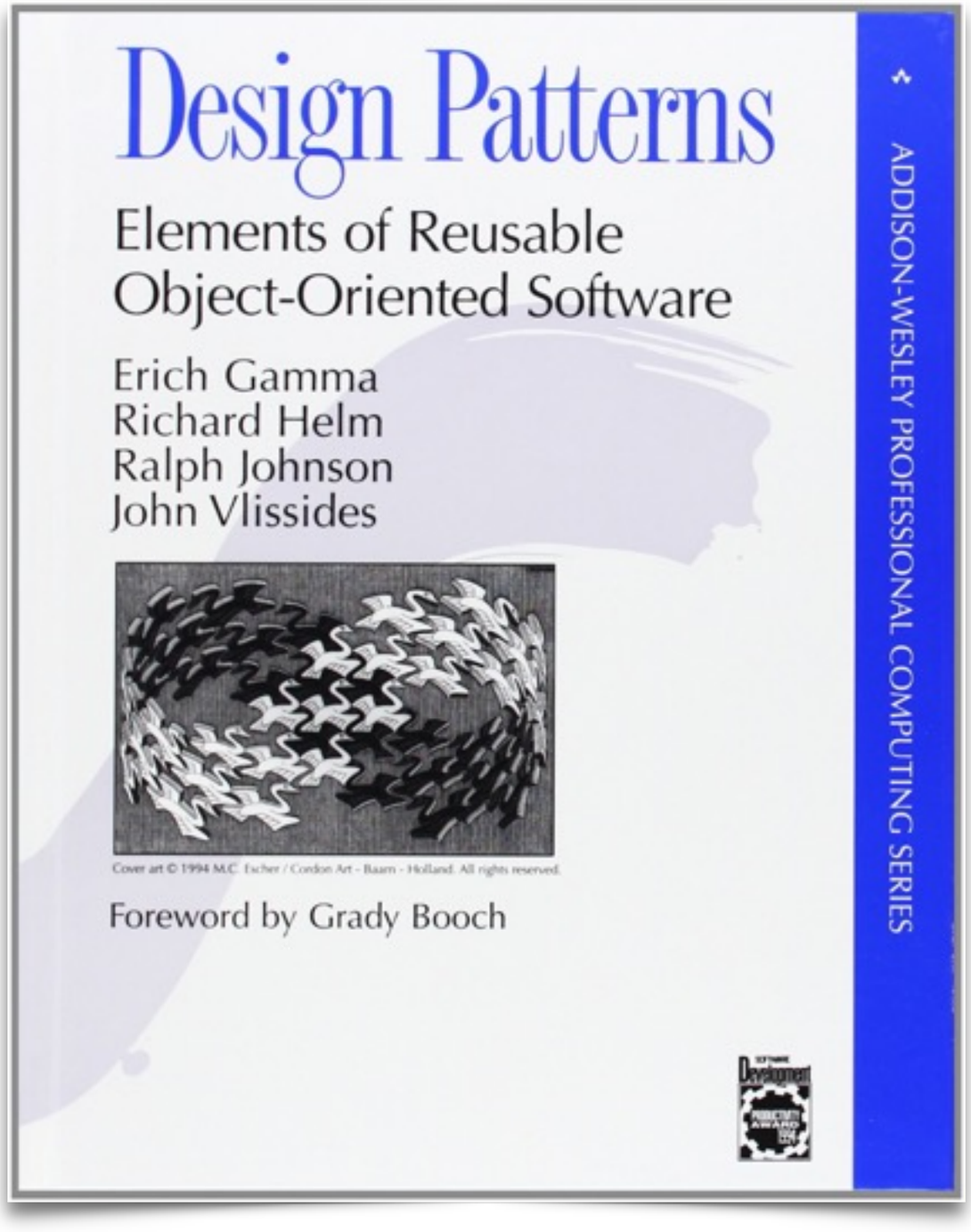
The Lego System

6 bricks => 915,103,765 combinations



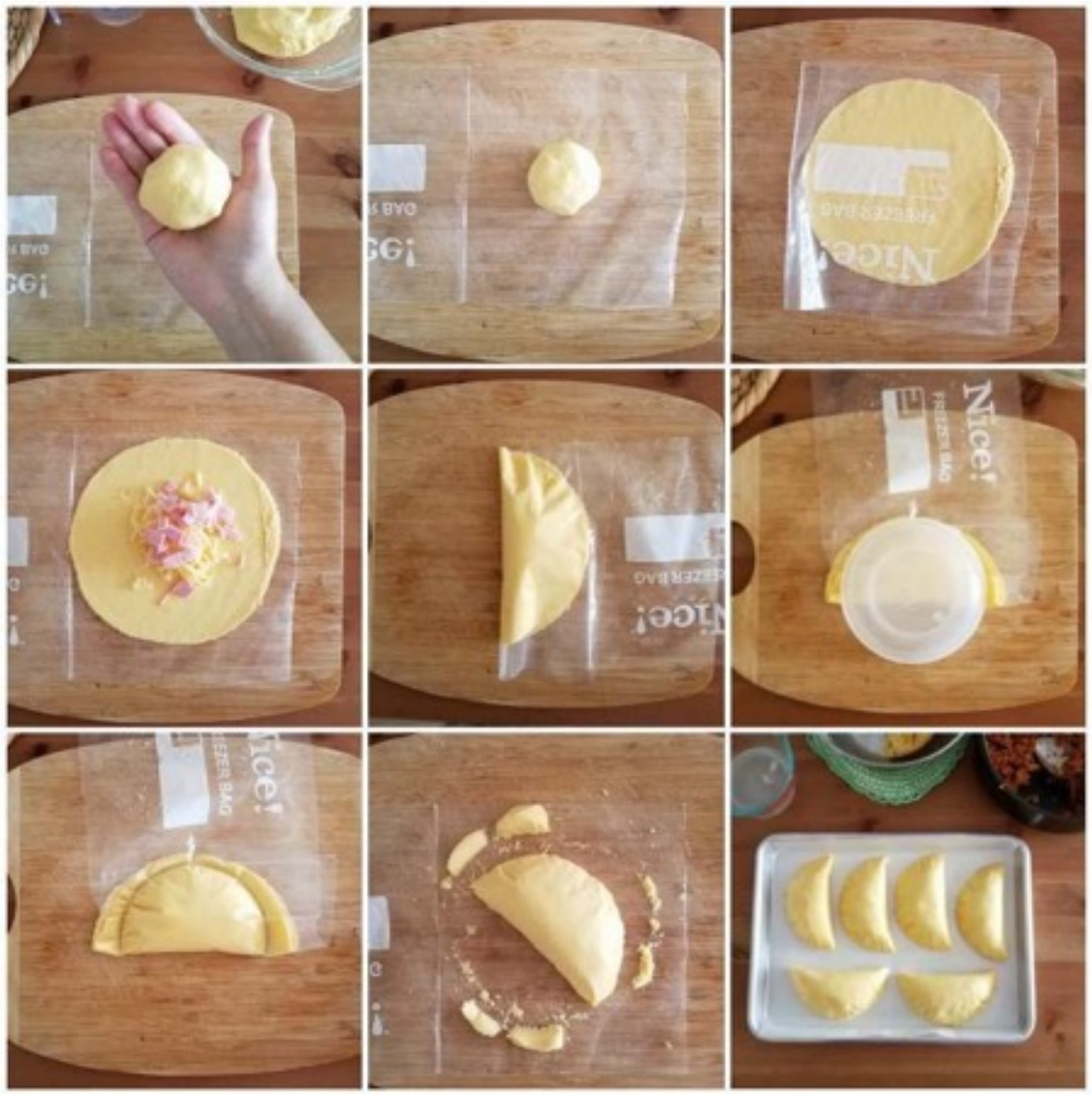
Not so Lego System…

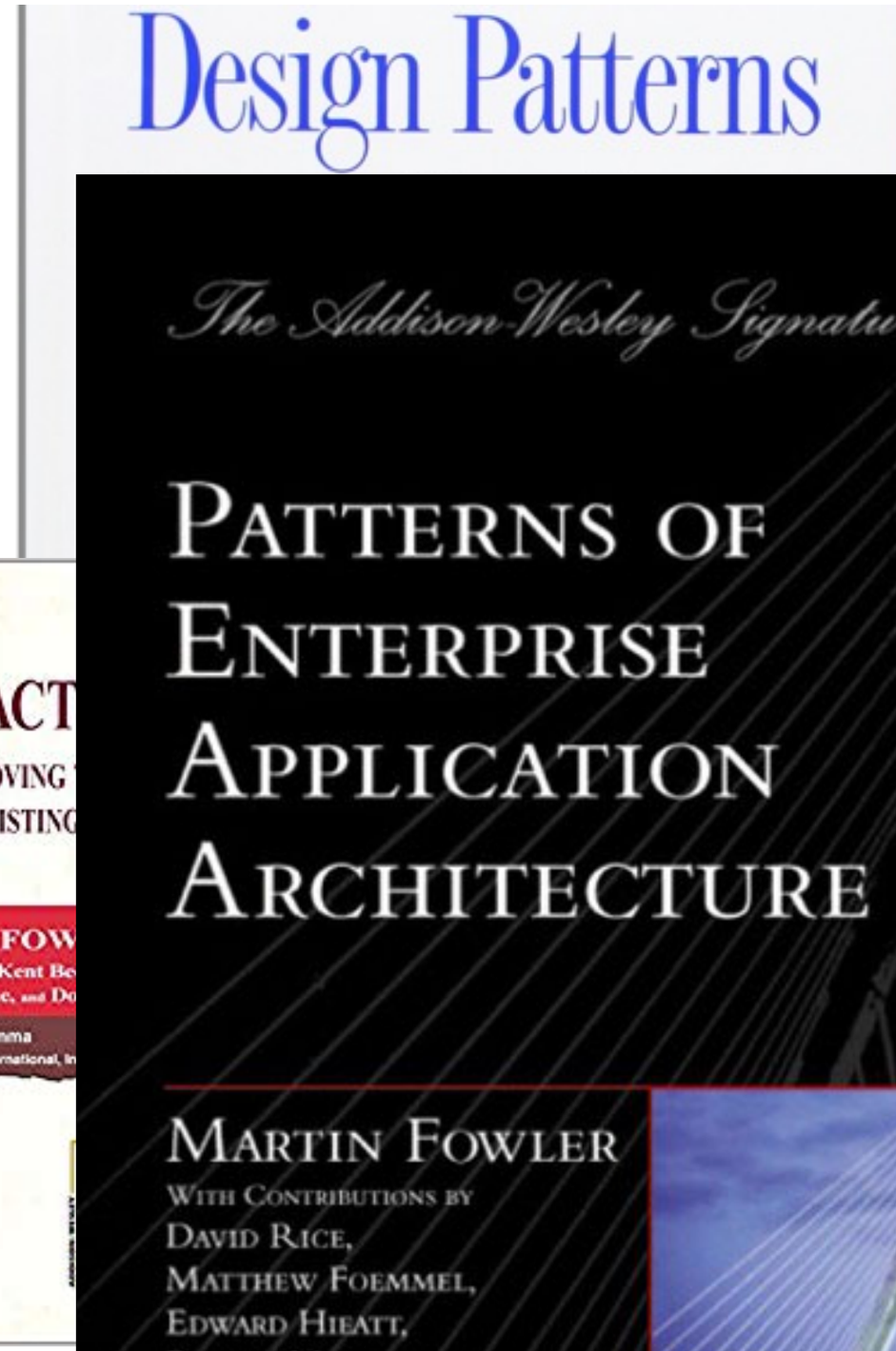
Patterns as small-scale architectures



Patterns as tools

Patterns as recipes



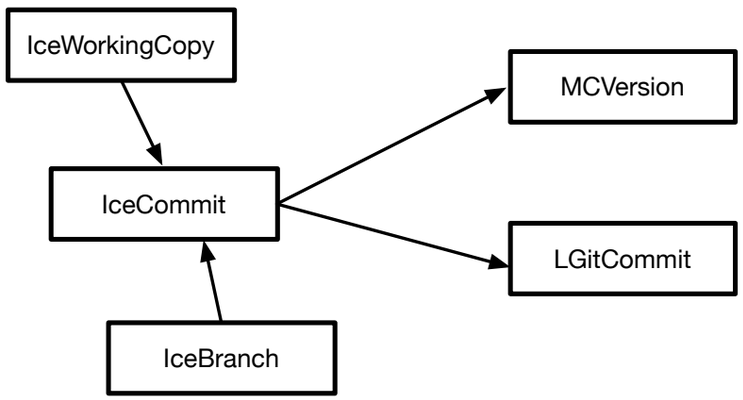


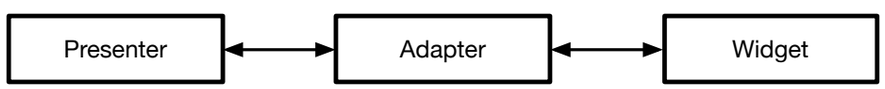
~~Architecture~~ crafting

Pattern cooking

- understand the architecture
- modify the architecture
- make your own architecture

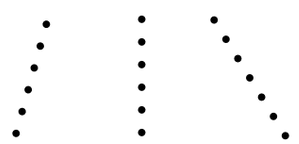
Three stories of Pattern cooking





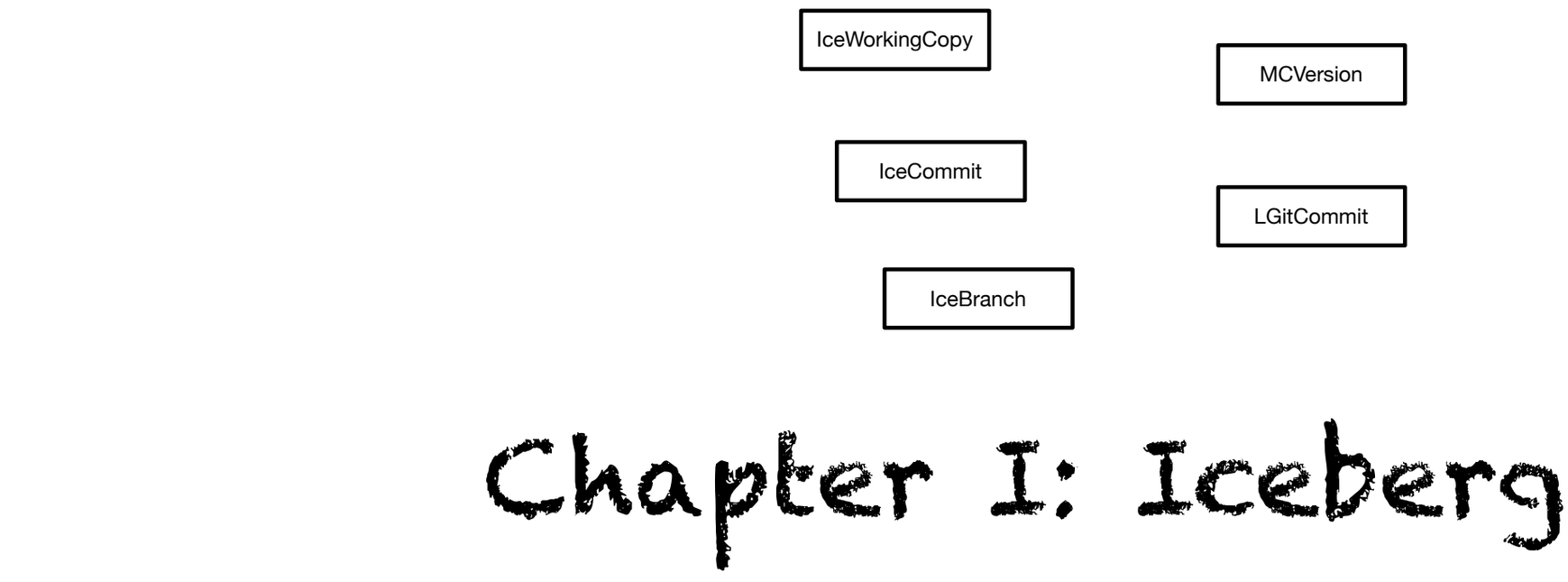

```
[ …a task… ] schedule

runner schedule: […a task…]
```

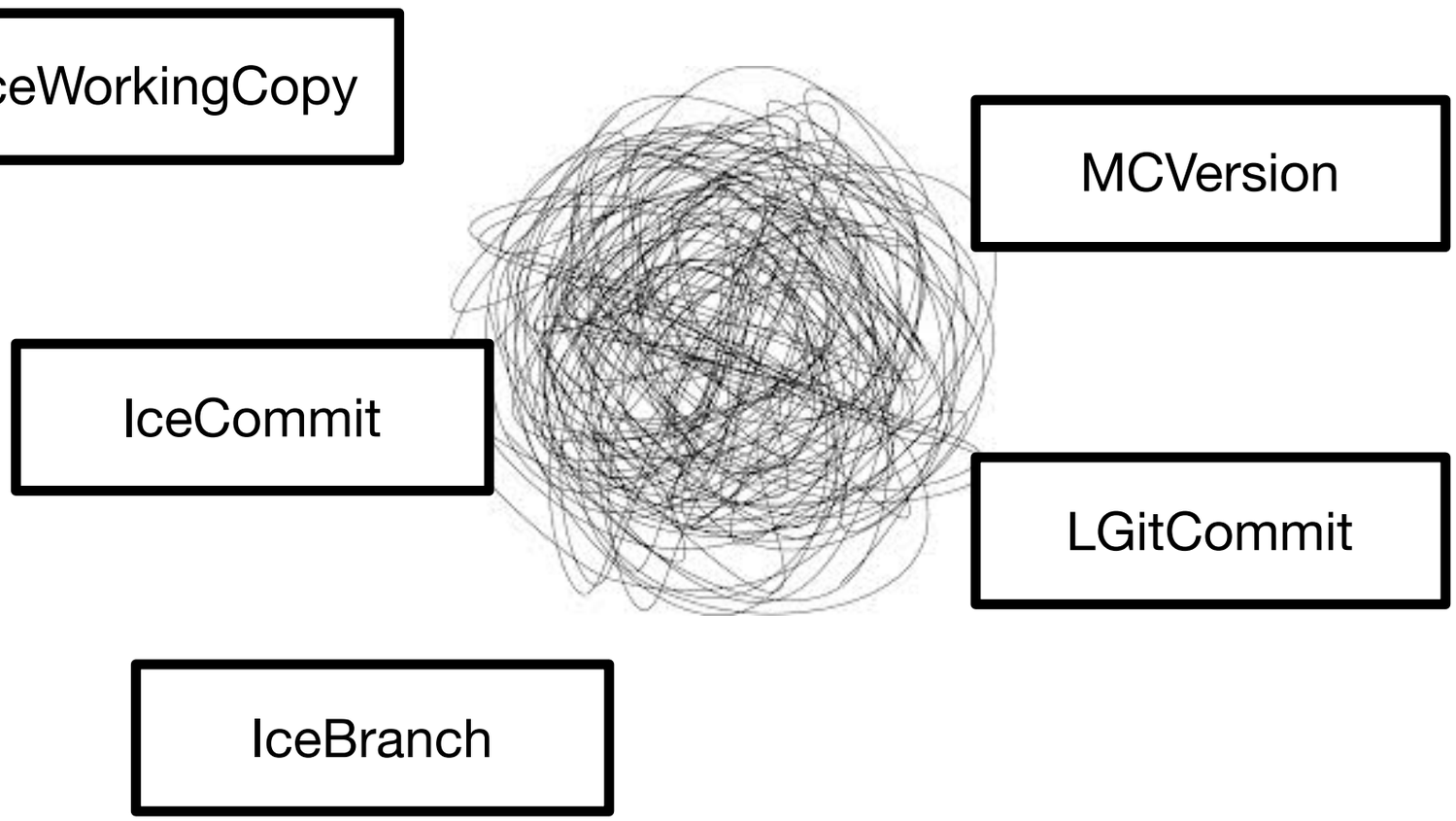


sync async …

Let’s talk about layers



Chapter I: Iceberg



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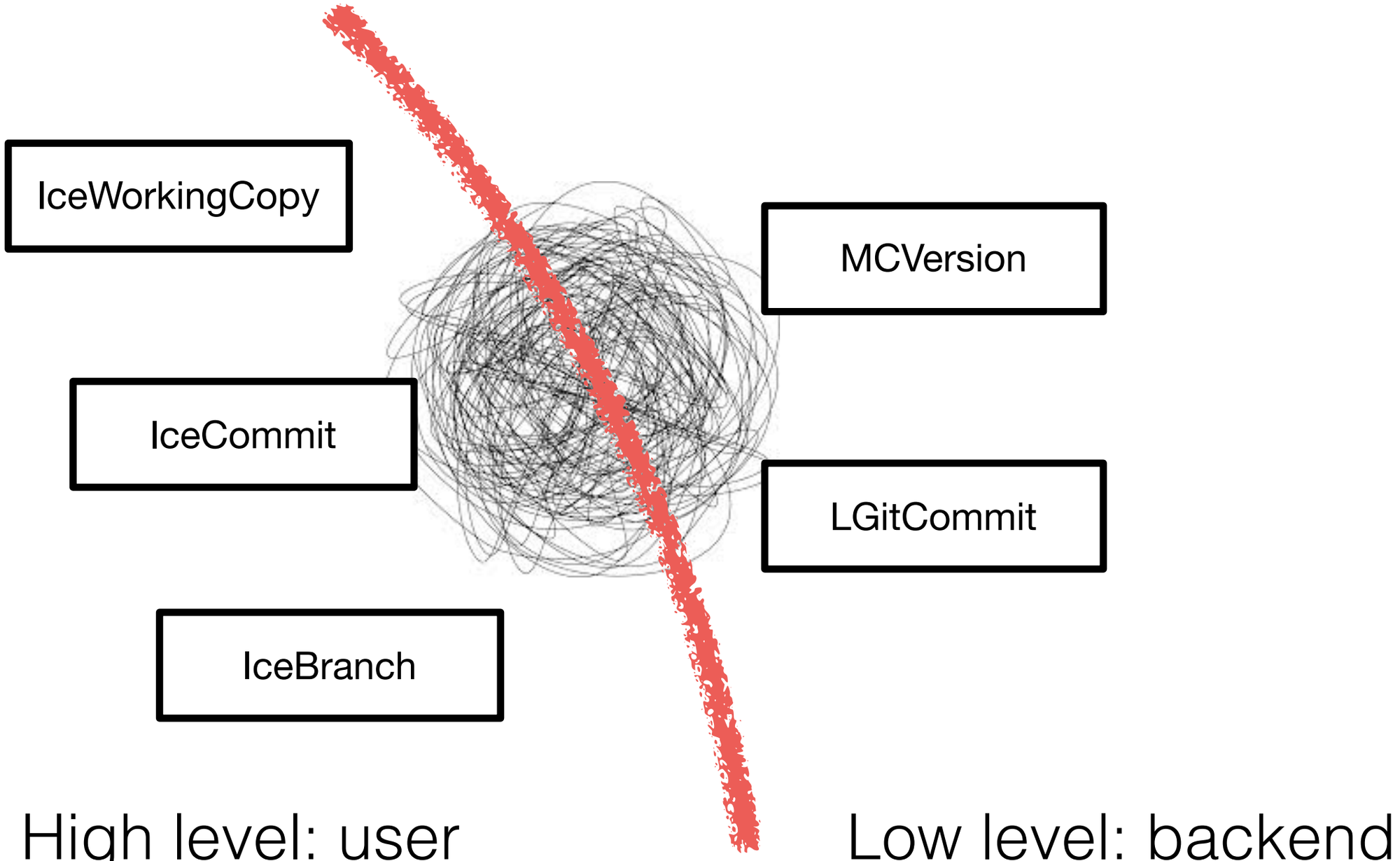
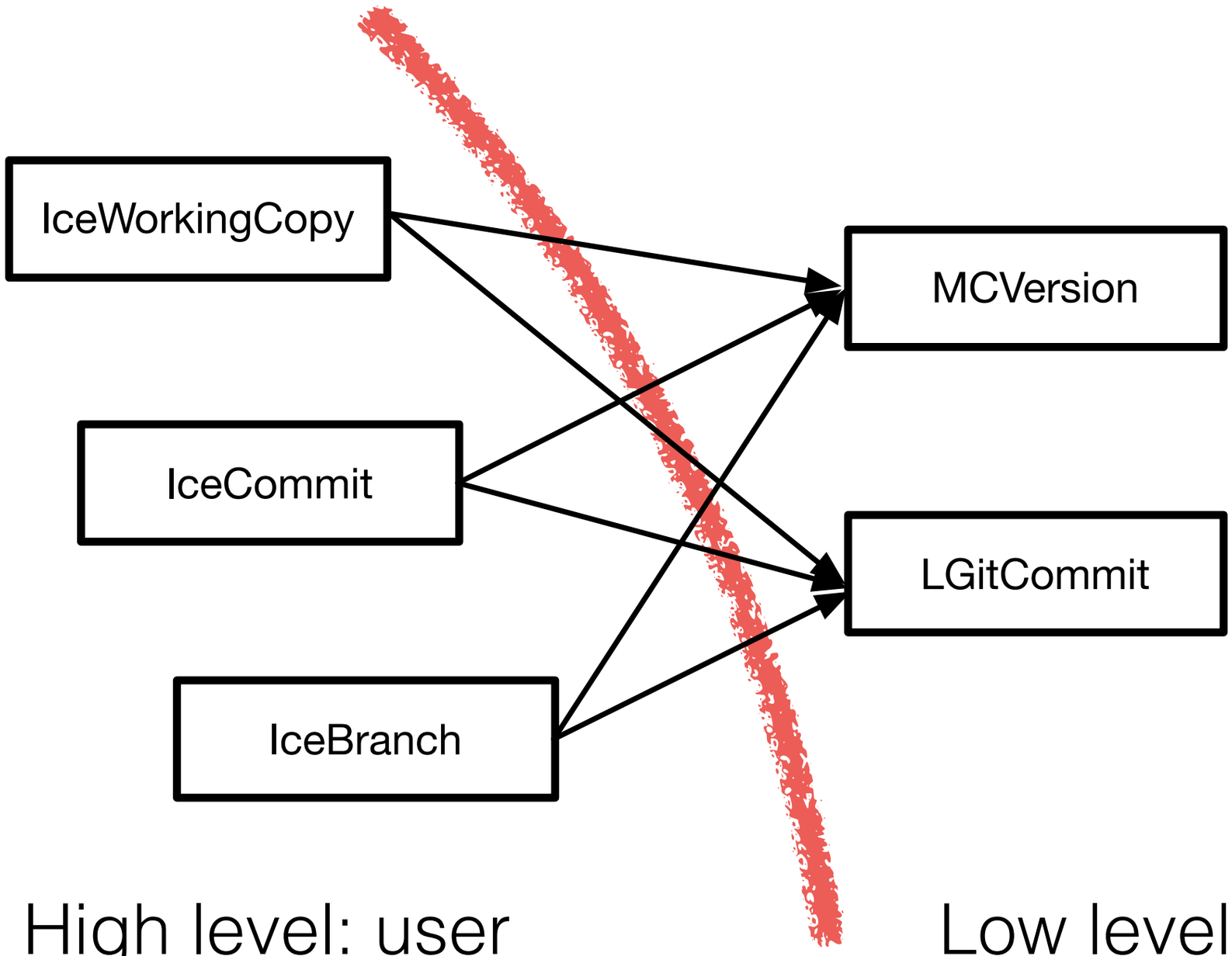


High level: user

Low level: backend

Chapter I: Iceberg

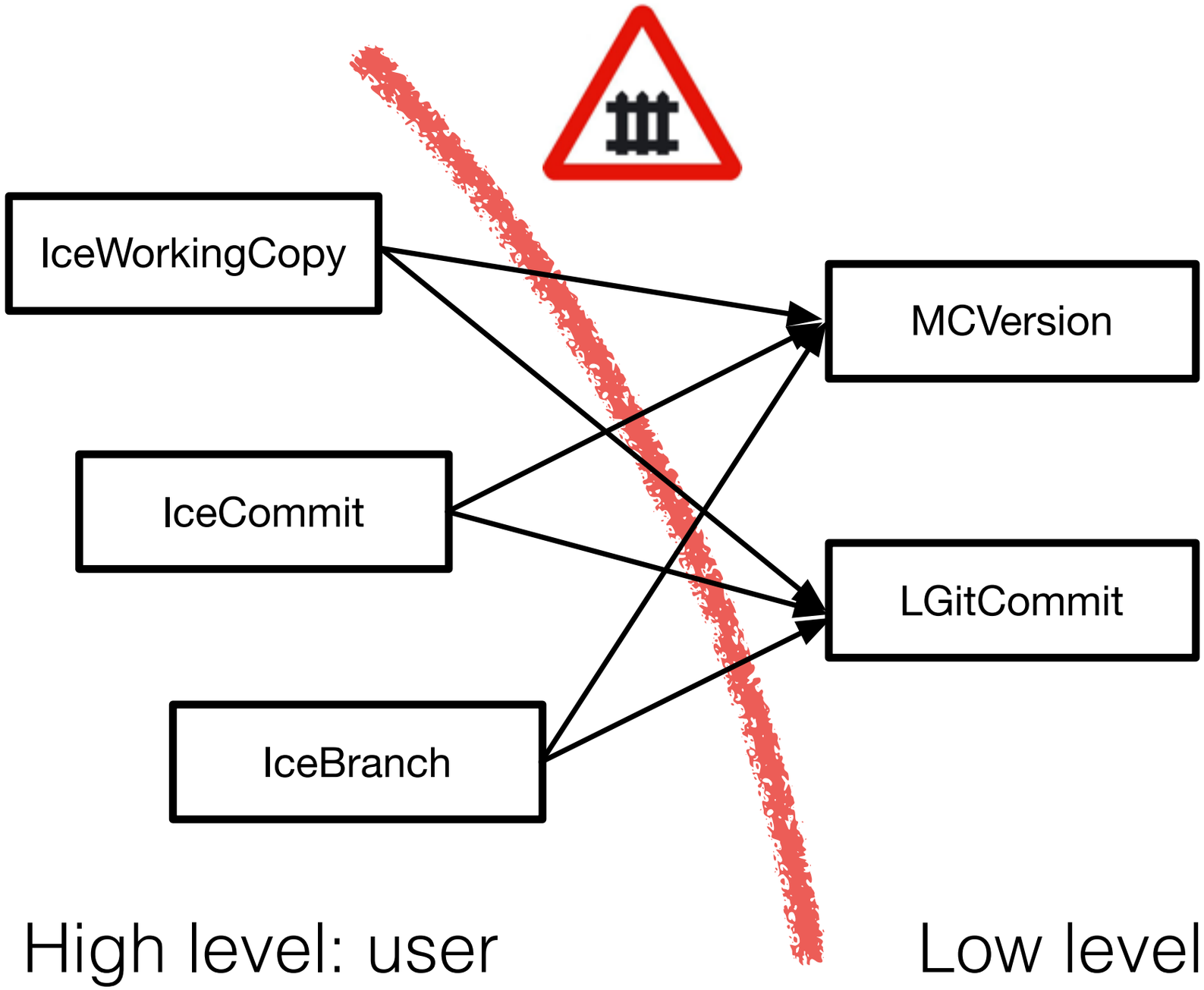


Chapter I: Iceberg

High level: user

Low level: backend

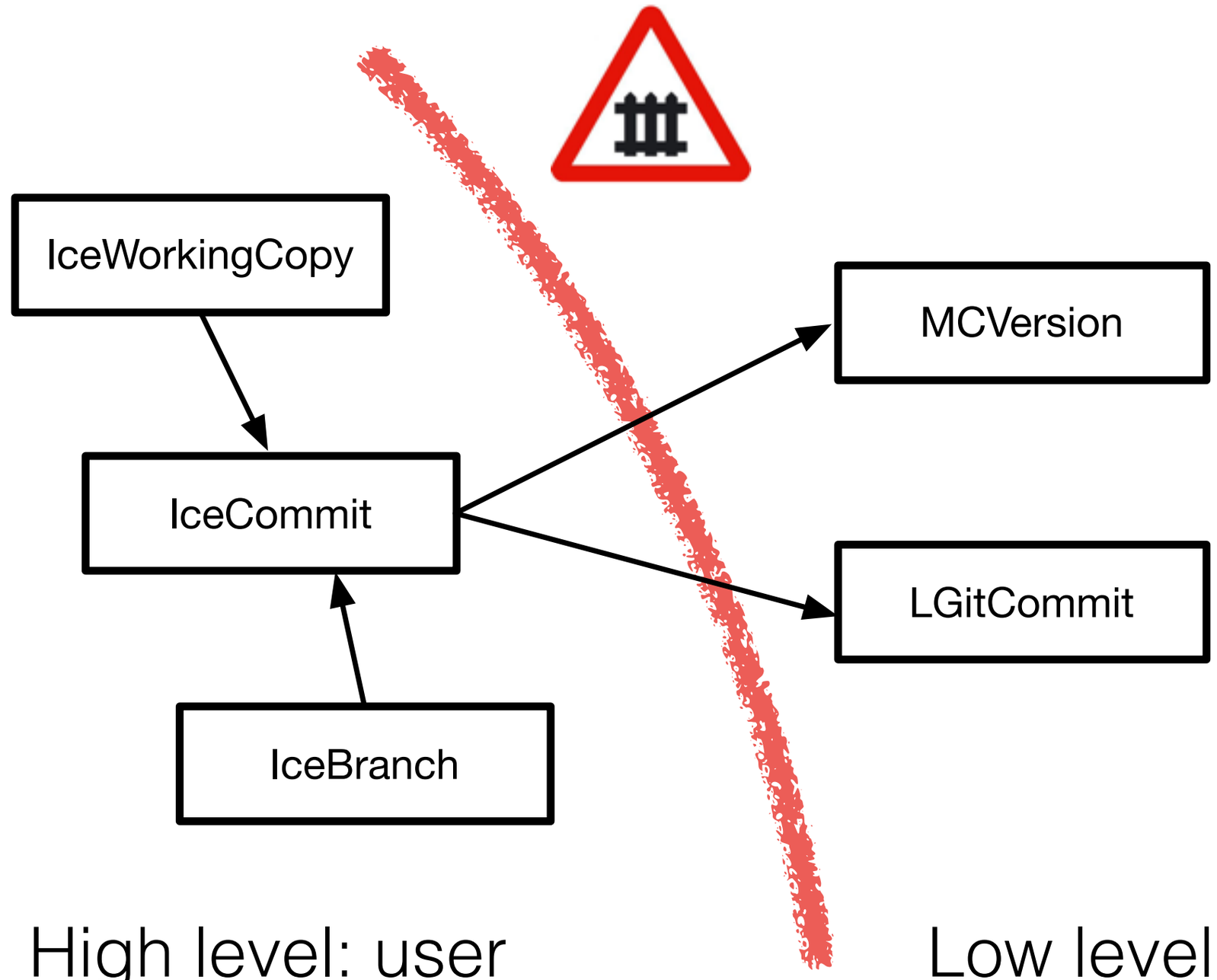
Chapter I: Iceberg



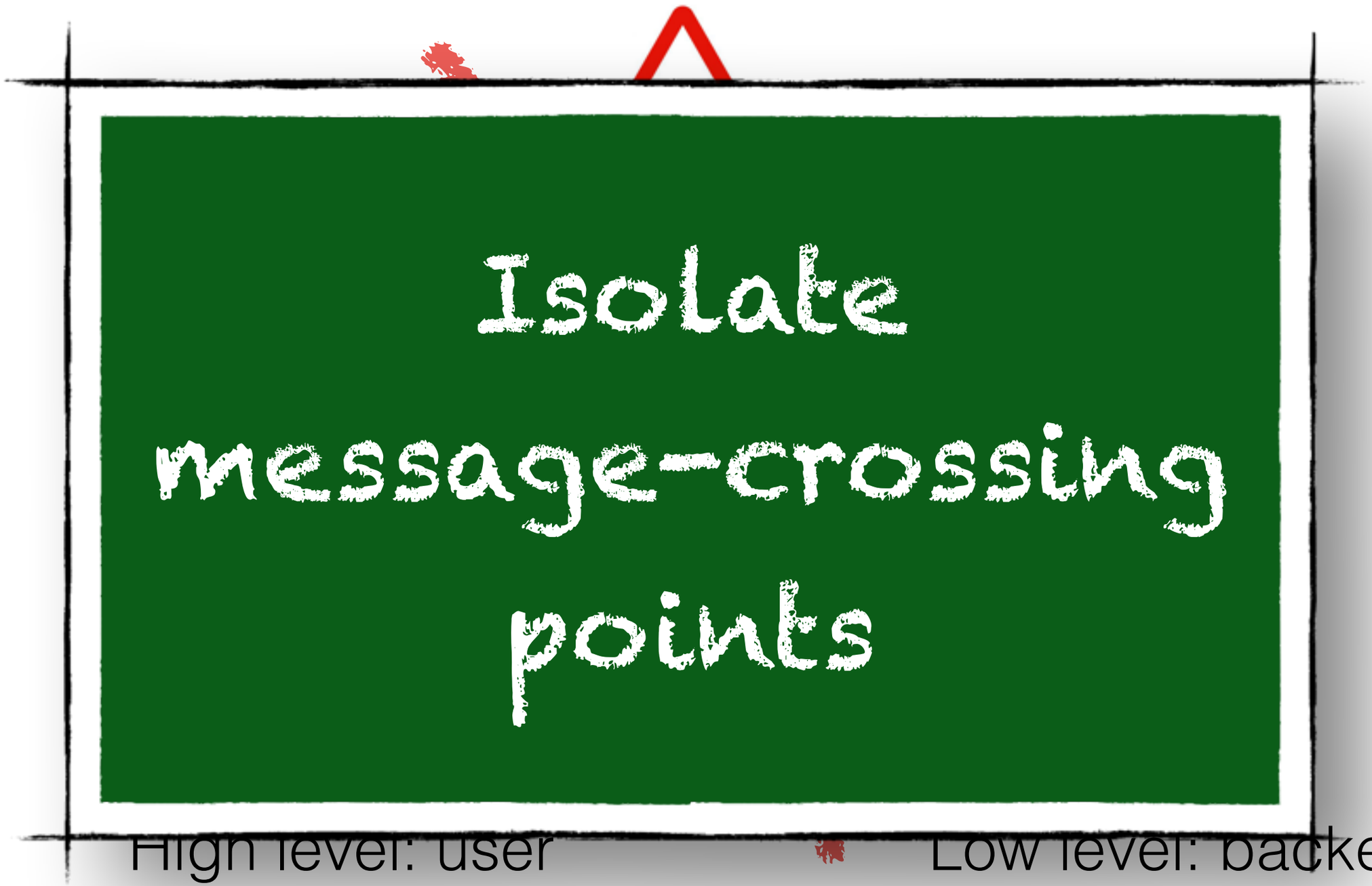
High level: user

Low level: backend

Chapter I: Iceberg



Chapter I: Iceberg



High level: user

Low level: backend

But several layers,
there will be…

Chapter II: Spec

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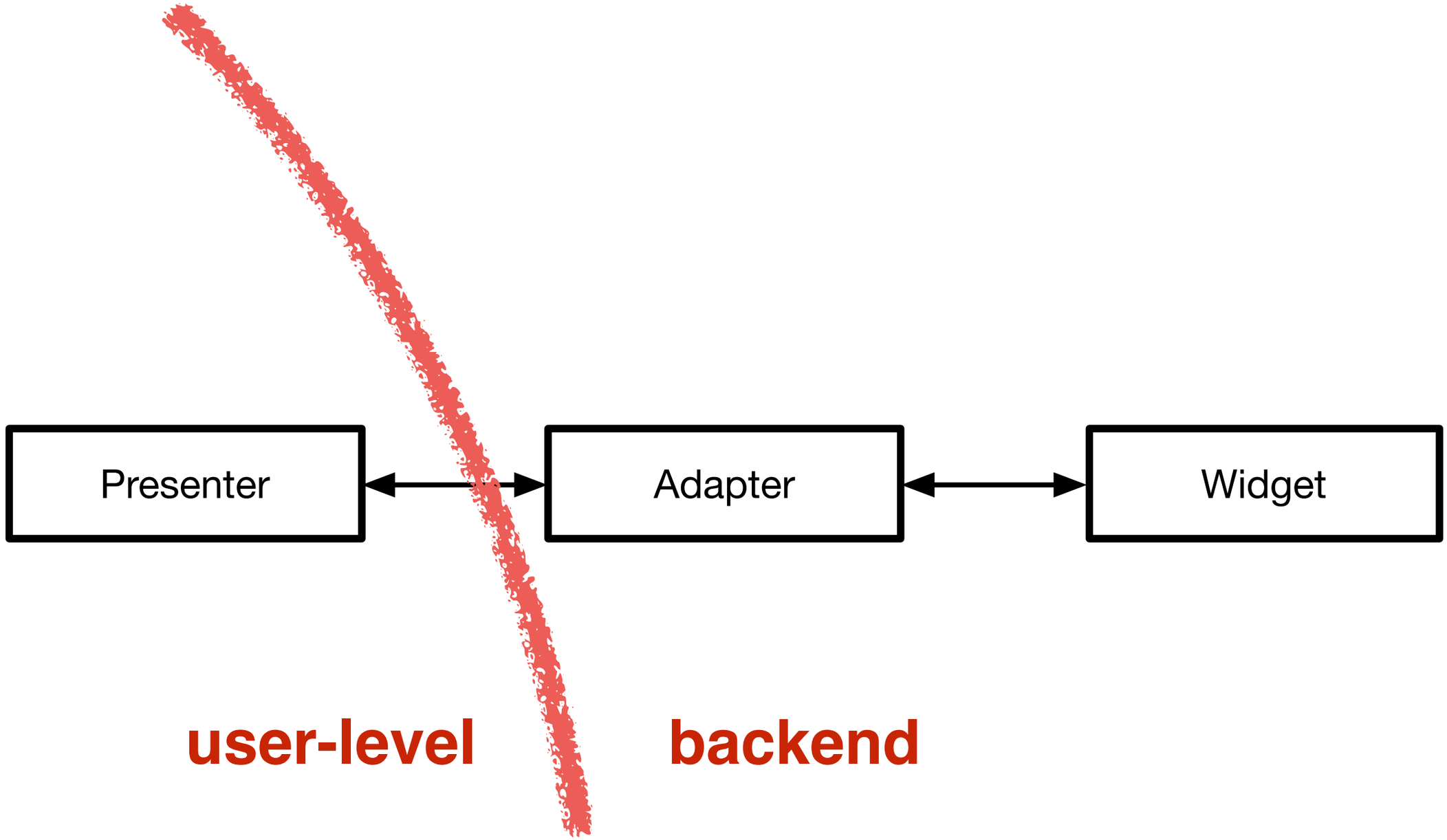
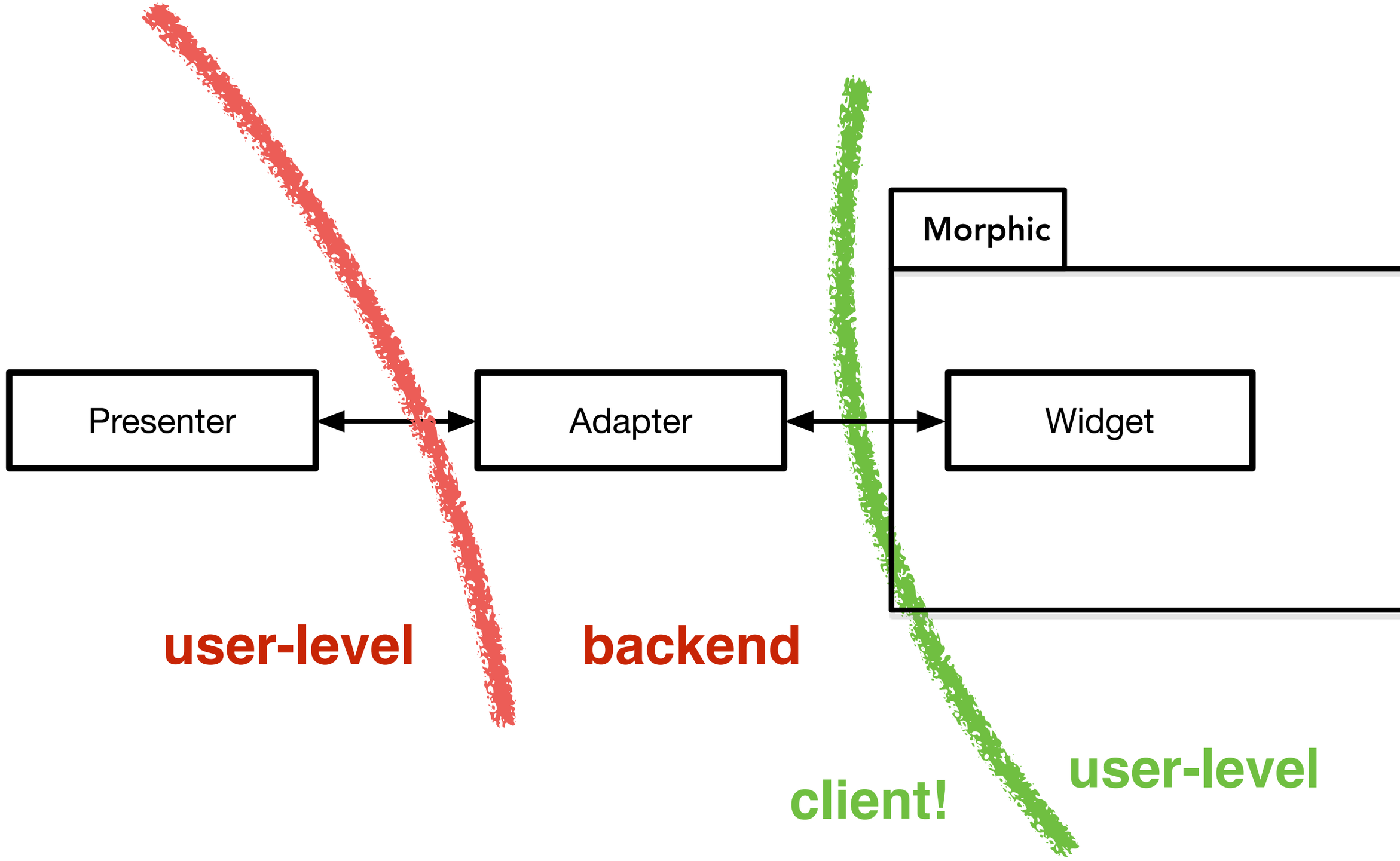
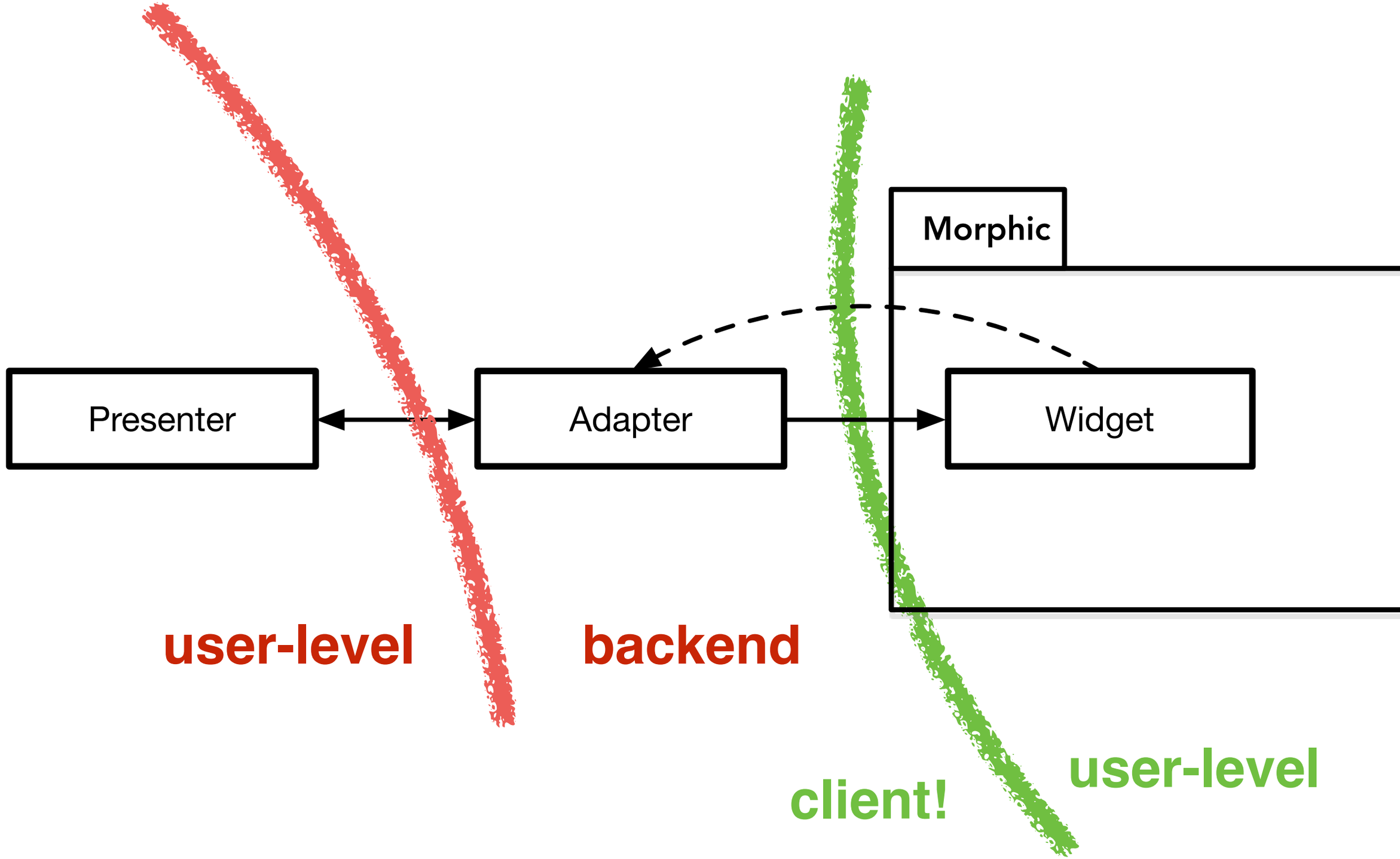


Chapter II: Spec



Chapter II: Spec

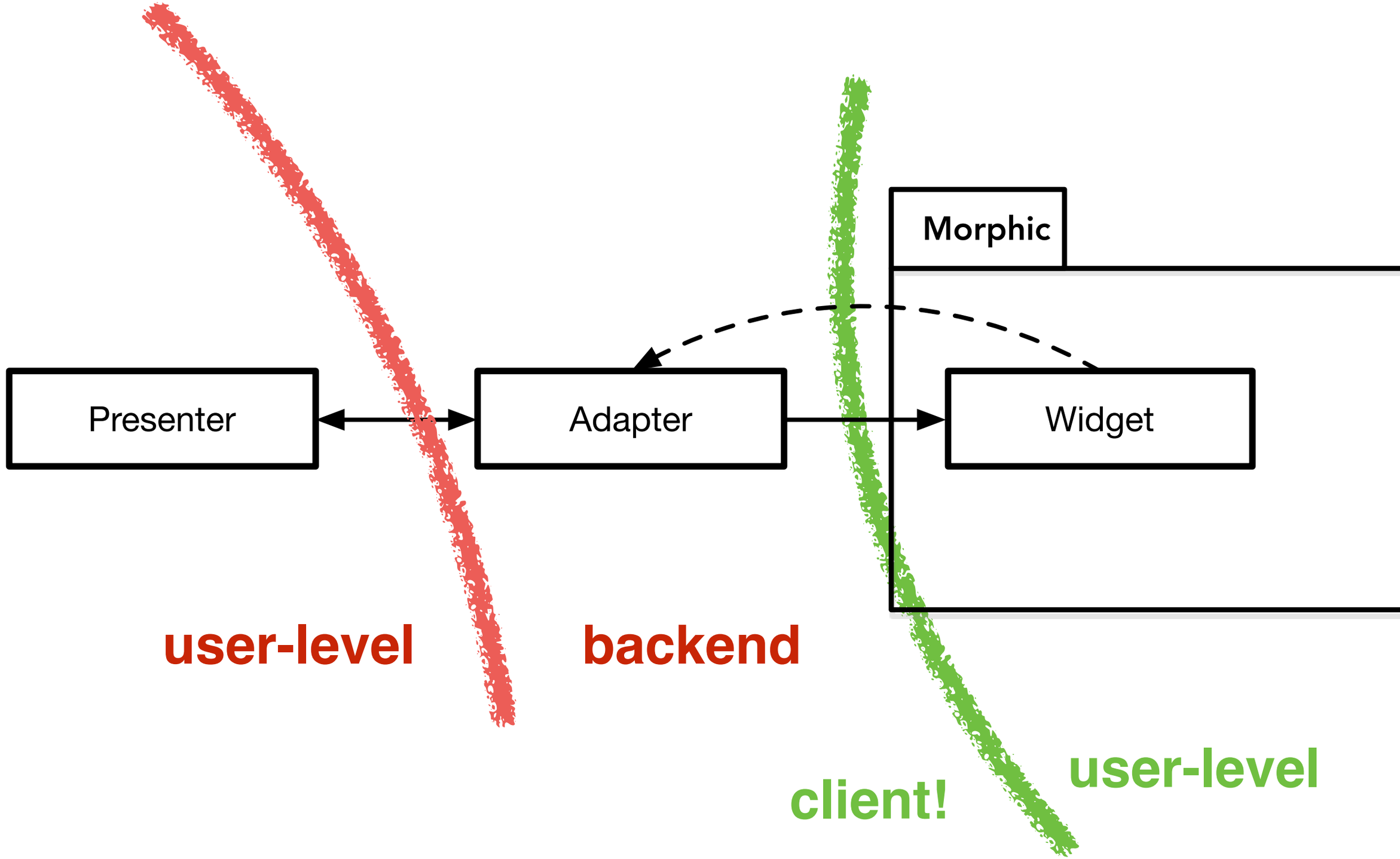


Chapter II: Spec

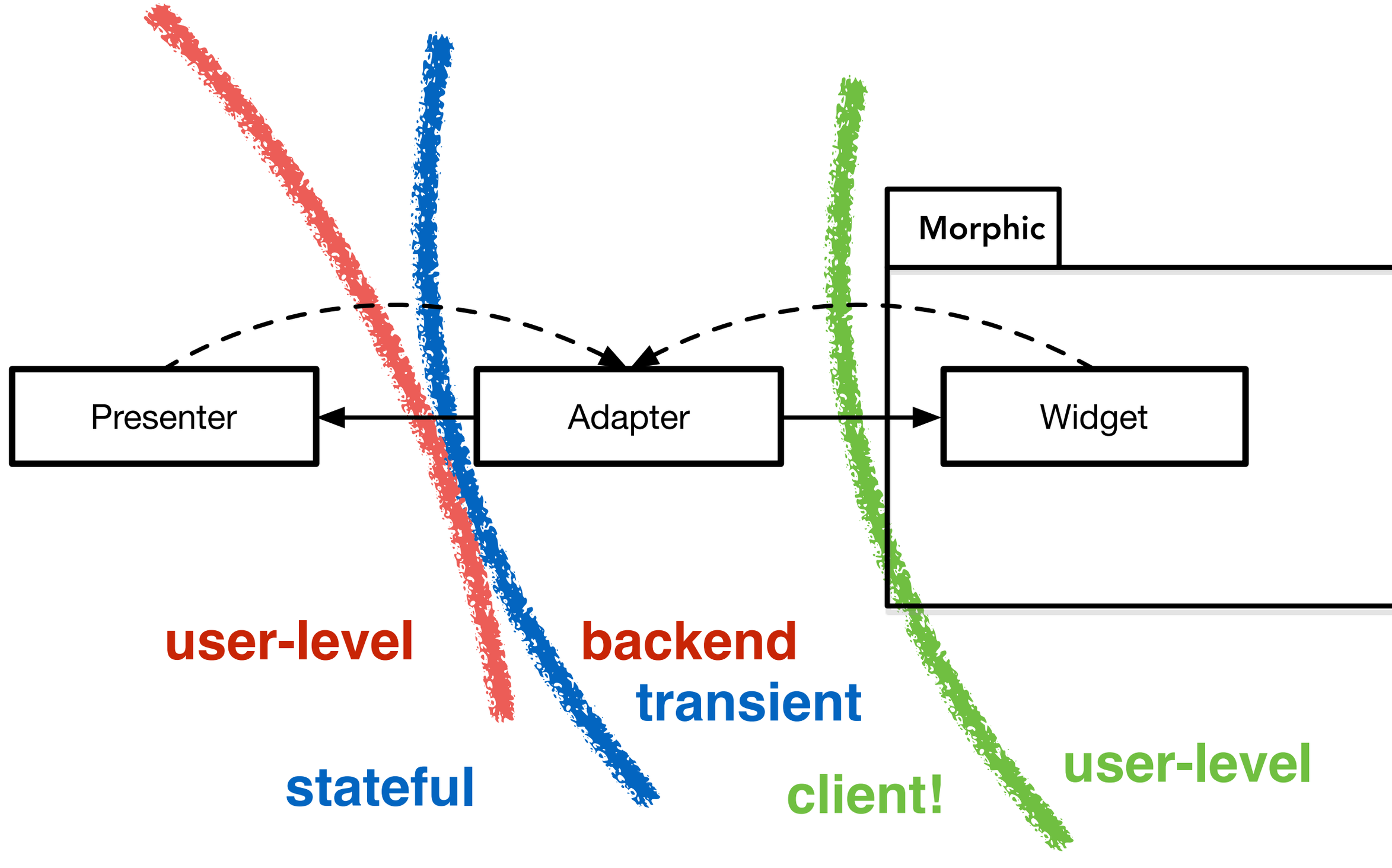
Loose coupling
via
event-messages

user-level
client!

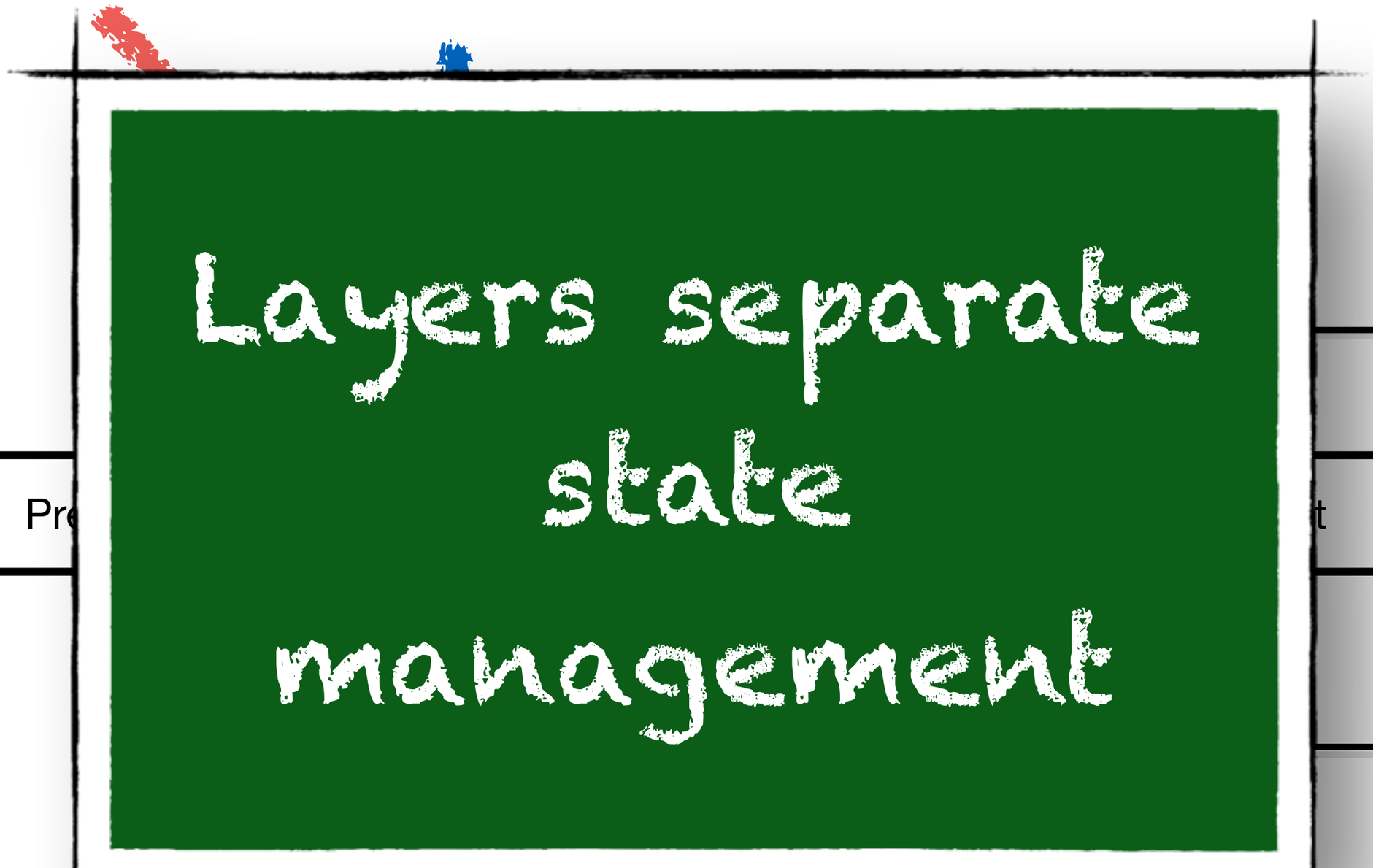
Chapter II: Spec



Chapter II: Spec



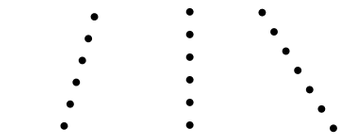
Chapter II: Spec



Separate components only they shall not…

```
[ …a task… ] schedule

runner schedule: […a task…]
```



Chapter III: TaskIt

Chapter III: TaskIt

```
[ …a task… ] schedule
```

and eventually execute

Chapter III: TaskIt

`[ …a task… ] schedule`

and eventually execute

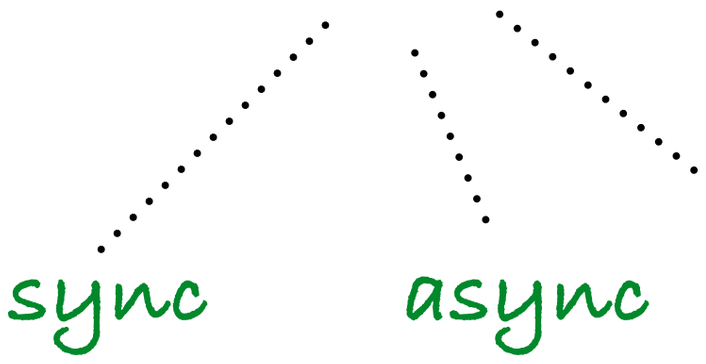
but how?

Chapter III: TaskIt

Convenience

`[ …a task… ] schedule`

`runner schedule: […a task…]`



Explicit

Chapter III: TaskIt

Convenience

Thin convenience layers

on top of explicit layers

syn

Three lessons of Architecture crafting

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separate by levels of abstraction

isolate points of failure

separate stateful from stateless

be explicit, as less magic as possible