

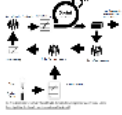


What, in the end, is making software?

Starting with process
computerized documentation

Software (and only software)
have knowledge
but
yet
again

Scrum
a person will always be effective in a process will always be effective in the same process
<http://thisisagile.com>



A conflict of contradicting forces



Individuals and interactions over processes and tools

<http://agilemanifesto.org/>

Software vs India

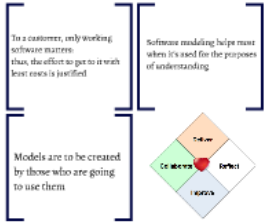
Conway's Law

Any organization that designs a system (defined broadly) will produce a design whose structure is a copy of the organization's communication structure.

There is a need for a system to follow a particular architecture

But its structure is constrained by the structure of the organization that produces the system

Adapt the organizational structure to the needs of the system architecture



Observer
Observing others should be avoided if the change is to the role of the observer of their observations.
But one should be available to be observed without having to watch it

Organizational patterns form process languages

Architect's General Product - controls what an architect role
Architect's Role Implications - observers see that role making a like a profession (disciplined)
Developing to Phase - further process have the architect collaboration with developers may be needed



Generativity of Time
Programs are implemented in an environment. What is a program? It's the rules and process that the machine follows. They evolve over time.
Time is always about what is not first. It's about getting out of the way, not getting in the way. It's about the network, about and about communication in general, about programming.

Where the organizational patterns come from?
Don't we hear them within ourselves?



Where and whether to use modeling as agile and lean software development?

Modeling can help understand the intent

- A user can view information about each job item enabled by a search
- A user can view a job description.
- A user can view a job's salary range.
- A user can view the location of a job.
- User stories

Features



Who's to make models?

The one who just makes models, but does not use them, is involved in development, but not committed to it

Lecture 9:

Agile and Lean Approaches to Software Modeling

Valentino Vranić

Ústav informatiky, informačných systémov a
softvérového inžinierstva



vranic@stuba.sk

fiit.sk/~vranic

MSOFT 2019/20

26. 11. 2019

What, in the end, is
(working) software?

The rest is nonworking
(software) – do we need it?

Working software over
comprehensive documentation

<http://agilemanifesto.org/>

Software (and not only software)
has to be developed

lean

and

agile

Scrum

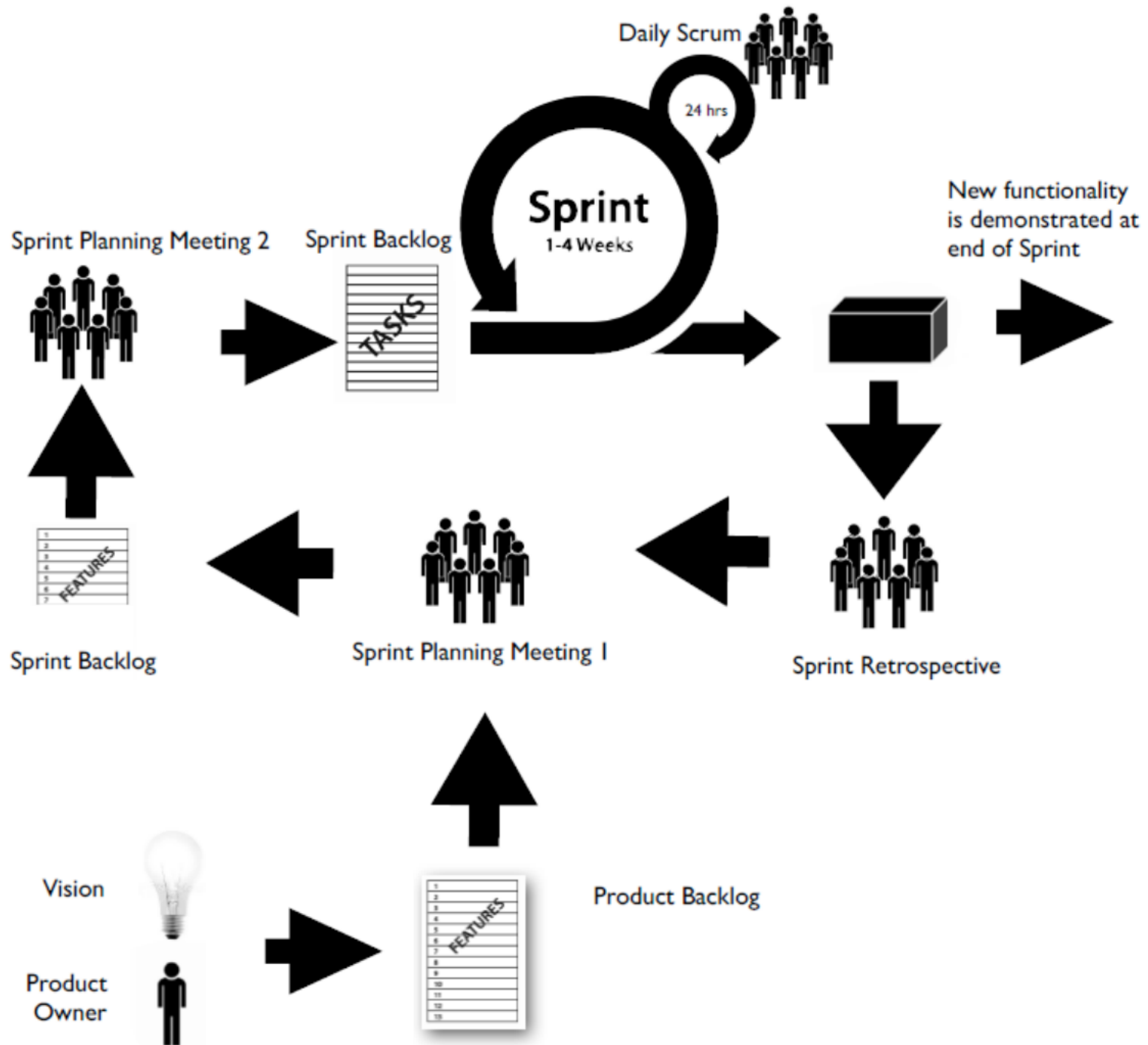


By PierreSelim (Own work) [CC BY-SA 3.0 (<http://creativecommons.org/licenses/by-sa/3.0/>)], via Wikimedia Commons

Scrum:

a project realization framework that guarantees that the effort in a project will always be devoted to the most important thing

<http://scrumguides.org/>



Jeff Sutherland's Scrum Handbook, Scrum Training Institute Press, 2010.
<http://jeffsutherland.com/scrumhandbook.pdf>

The Scrum Team consists of a Product Owner, the Development Team, and a Scrum Master. Scrum Teams are self-organizing and cross-functional. **Self-organizing teams choose how best to accomplish their work, rather than being directed by others outside the team. Cross-functional teams have all competencies needed to accomplish the work without depending on others not part of the team.** The team model in Scrum is designed to optimize flexibility, creativity, and productivity. The Scrum Team has proven itself to be increasingly effective for all the earlier stated uses, and any complex work.

J. Sutherland and K. Schwaber. Scrum Guides. 2017.

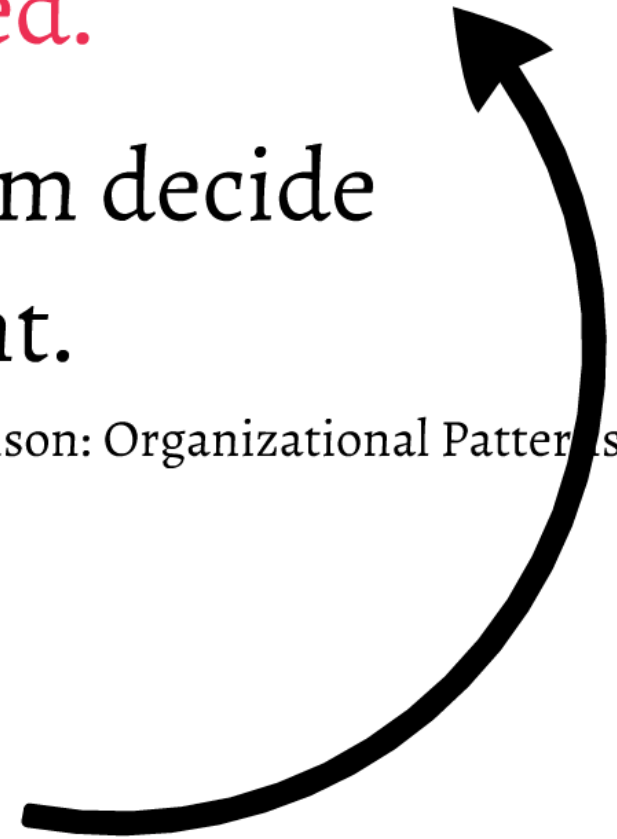
Developer Controls Process

- ▶ People don't like being ordered what to do,
- ▶ *But* the work needs to be organized.

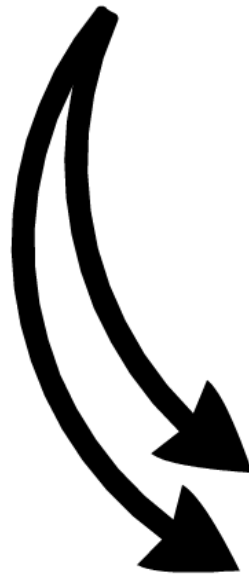
Make the developers as a team decide how to organize development.

Coplien & Harrison: Organizational Patterns

The Scrum Team consists of a Product Owner, the Development Team, and a Scrum Master. Scrum Teams are self-organizing and cross-functional. **Self-organizing teams choose how best to accomplish their work, rather than being directed by others outside the team. Cross-functional teams have all competencies**



A conflict of contradicting forces



Developer Controls Process

**ORGANIZATIONAL
PATTERN**

People don't like being ordered what to do,
But the work needs to be organized.

Make the developers as a team decide
how to organize development.



team. Cross-functional teams have all competencies needed to accomplish the work without depending on others not part of the team. The team model in Scrum is designed to optimize flexibility, creativity, and productivity. The Scrum Team has proven itself to be increasingly effective for all the earlier stated uses, and any complex work.

J. Sutherland and K. Schwaber. Scrum Guides. 2017.

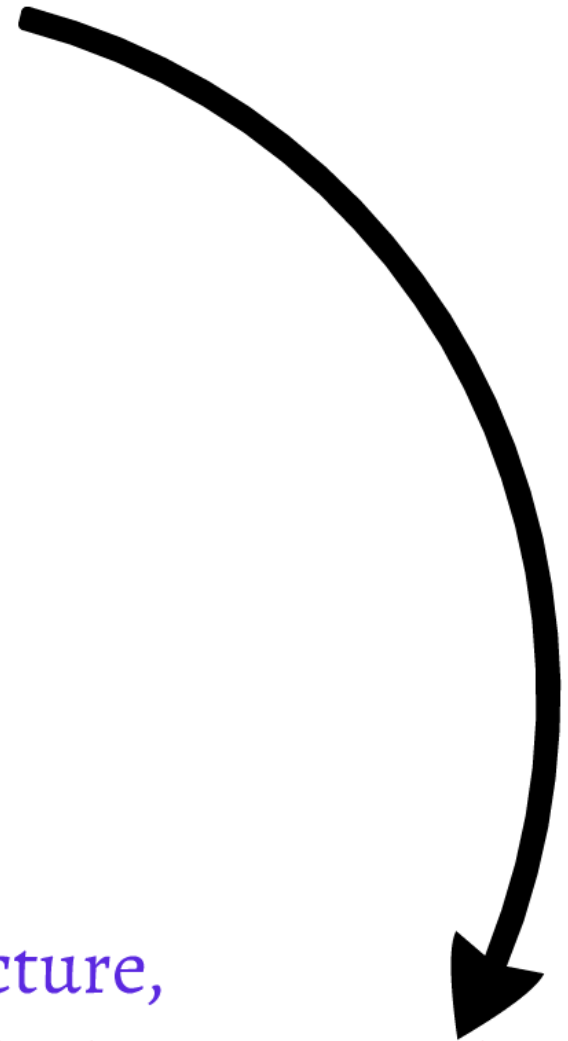
Architect Also Implements

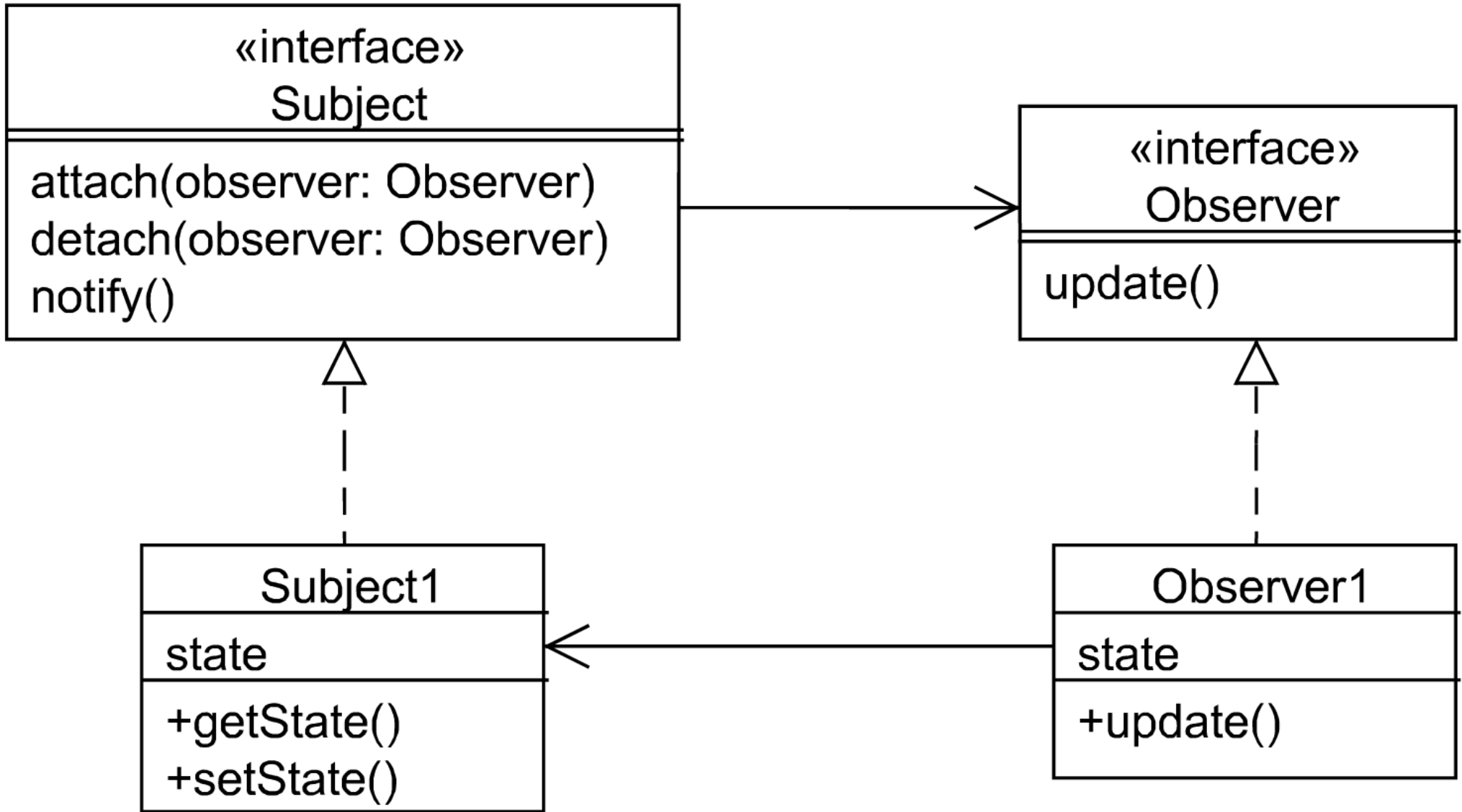
Architects need to focus on the overall structure,

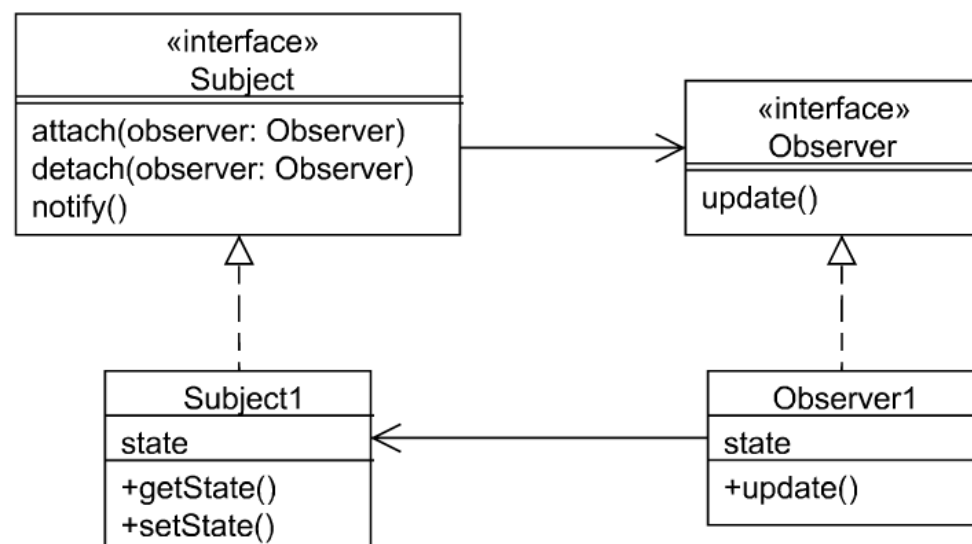
But they should not loose contact with the devlopment reality.

Let the (software) architect participate in actual programming.

Coplien & Harrison: Organizational Patterns







Observer

Observing objects should be notified of the change in the state of the subject of their observation,
But they should be attachable to the subject without having to modify it

Organizational patterns form pattern languages

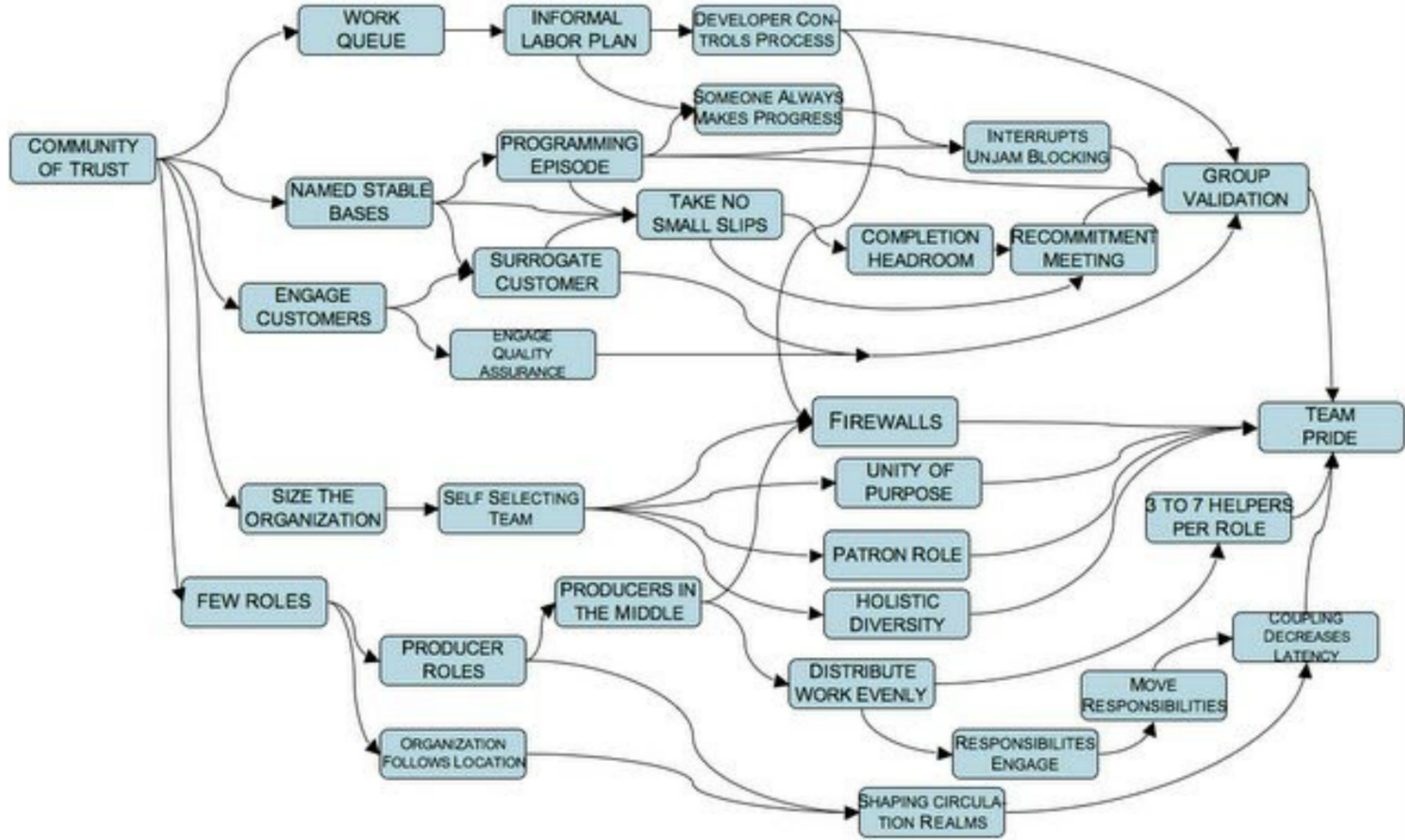
Architect Controls Product – establishes an architect role

Architect Also Implements – elaborates on that role making it also implement (develop)

Developing In Pairs – further precises how the architect collaboration with developers may be realized

Scrum

PATTERN LANGUAGE



Community of Trust

People are naturally cautious and suspicious, which is often enforced by rules and practices, but for to really do the work, they need to trust each other.

Those "in charge" should make obvious they trust others by giving up the watch-over activities and letting people decide about their own work. Good and sincere communication is essential to overcoming fear.

Conway's Law

Any organization that designs a system (defined broadly) will produce a design whose structure is a copy of the organization's communication structure.

Conway's Law

Any organization that designs a system (defined broadly) will produce a design whose structure is a copy of the organization's communication structure.

<http://www.melconway.com/>

There is a need for a system to follow a particular architecture

But its structure is constrained by the structure of the organization that produces the system

Adapt the organizational structure to the needs of the system architecture

The Water Cooler

People need to focus on the work within their projects to get it done,

But to be creative, people need to be relaxed and informal, exchanging ideas over the project borders.



Encourage social structures that are unrelated to workplace structures and which will likely cut across the formal partitioning of the organization.

Cone of Silence



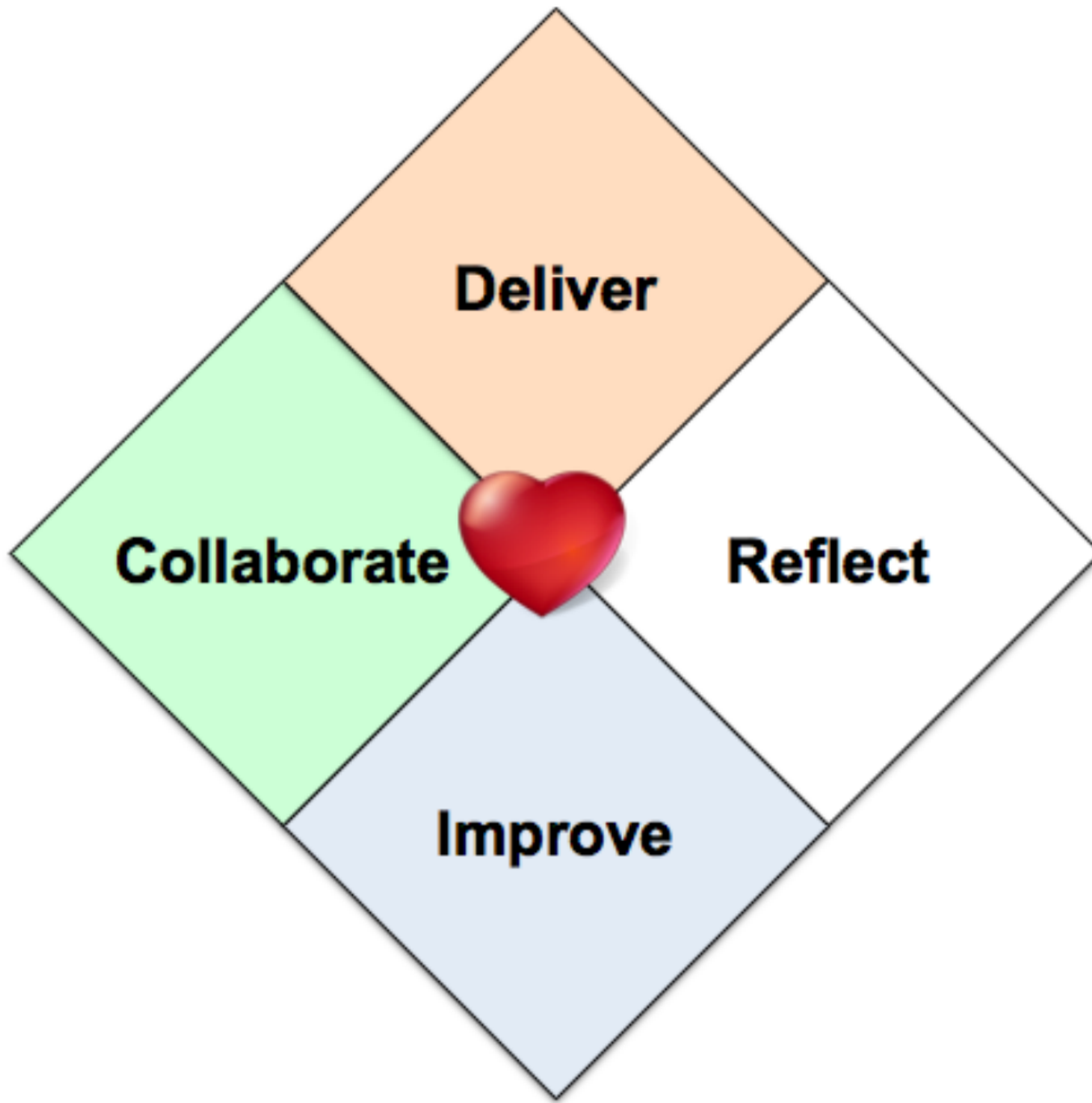
Around

Osmotic Communication

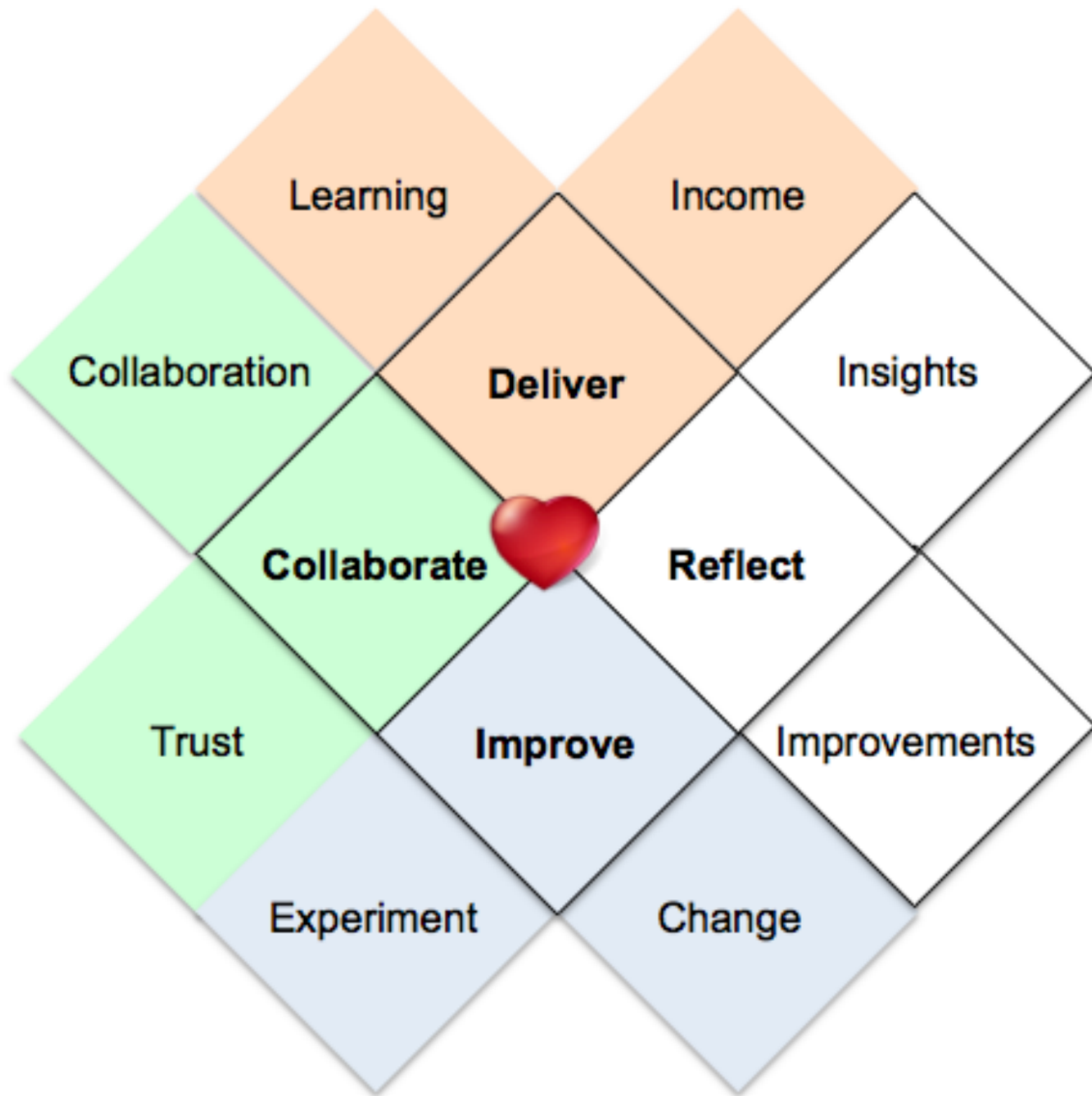
Alistair Cockburn

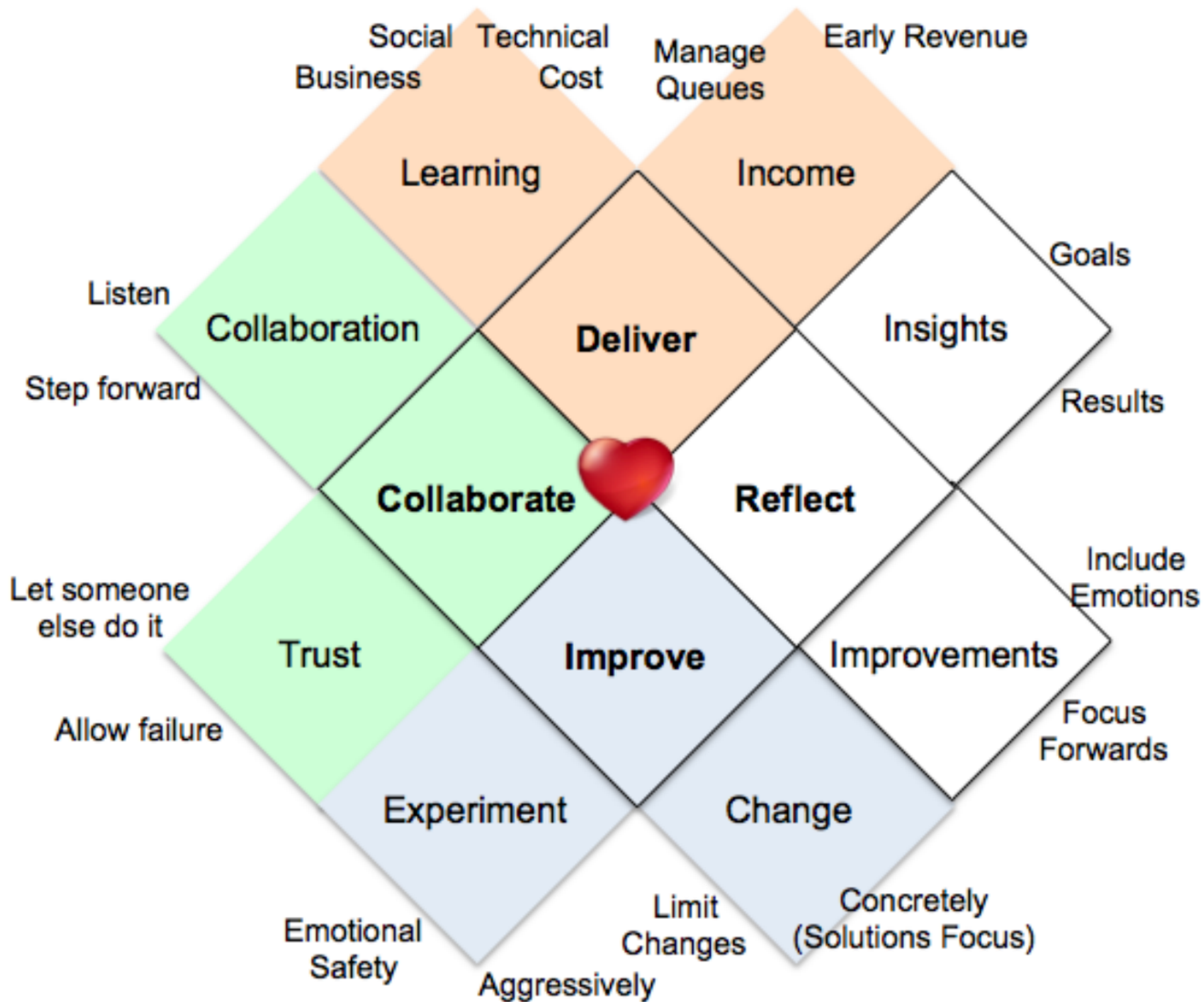
Where the
organizational
patterns come from?

Don't we bear
them within
ourselves?



Heart of Agile – Alistair Cockburn, <http://heartofagile.com/>



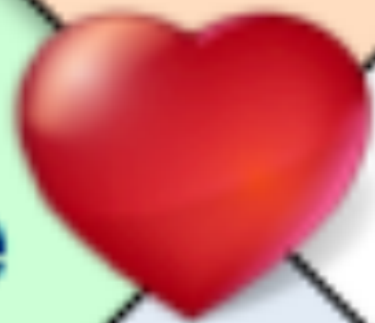


ration

Deliver

In

Collaborate



Reflect

st

Improve

Impr

To a customer, only working
software matters:
thus, the effort to get to it with
least costs is justified

Where and whether
to use modeling in
agile and lean
software
development?

Modeling can
help
understand
the **intent**

What to use out of modeling?

To what details to go in modeling?

Aren't use cases too detailed?

A user can view information about each job that is matched by a search.

A user can view information about each job that is matched by a search.

Epic

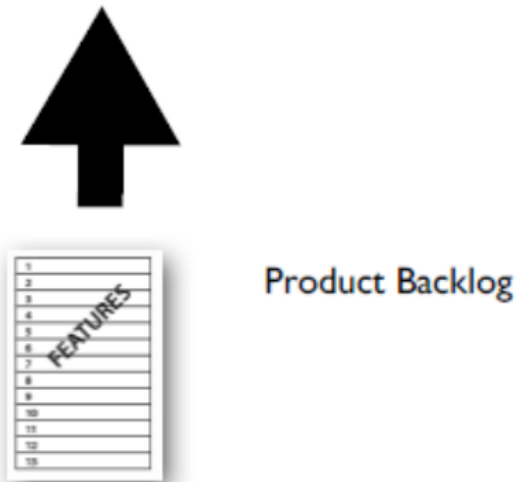
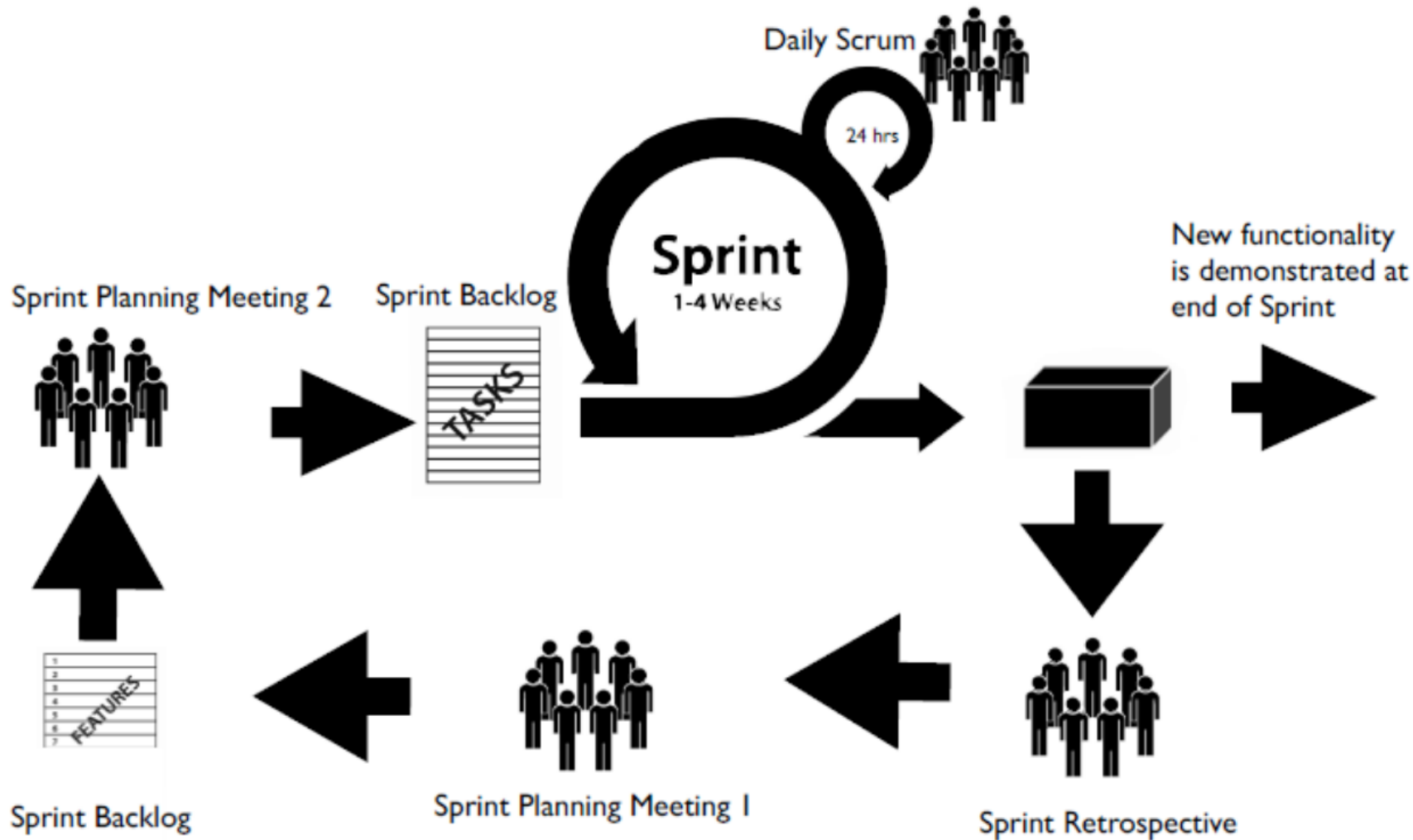
Features

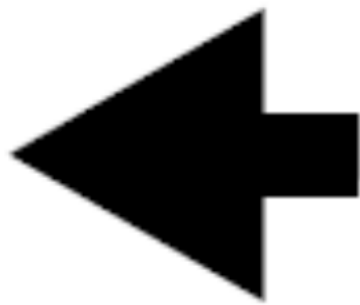
A user can **view a job description**.

A user can **view a job's salary range**.

A user can **view the location of a job**.

User stories





Sprint Backlog

Sprint Planning Meeting I

Vision

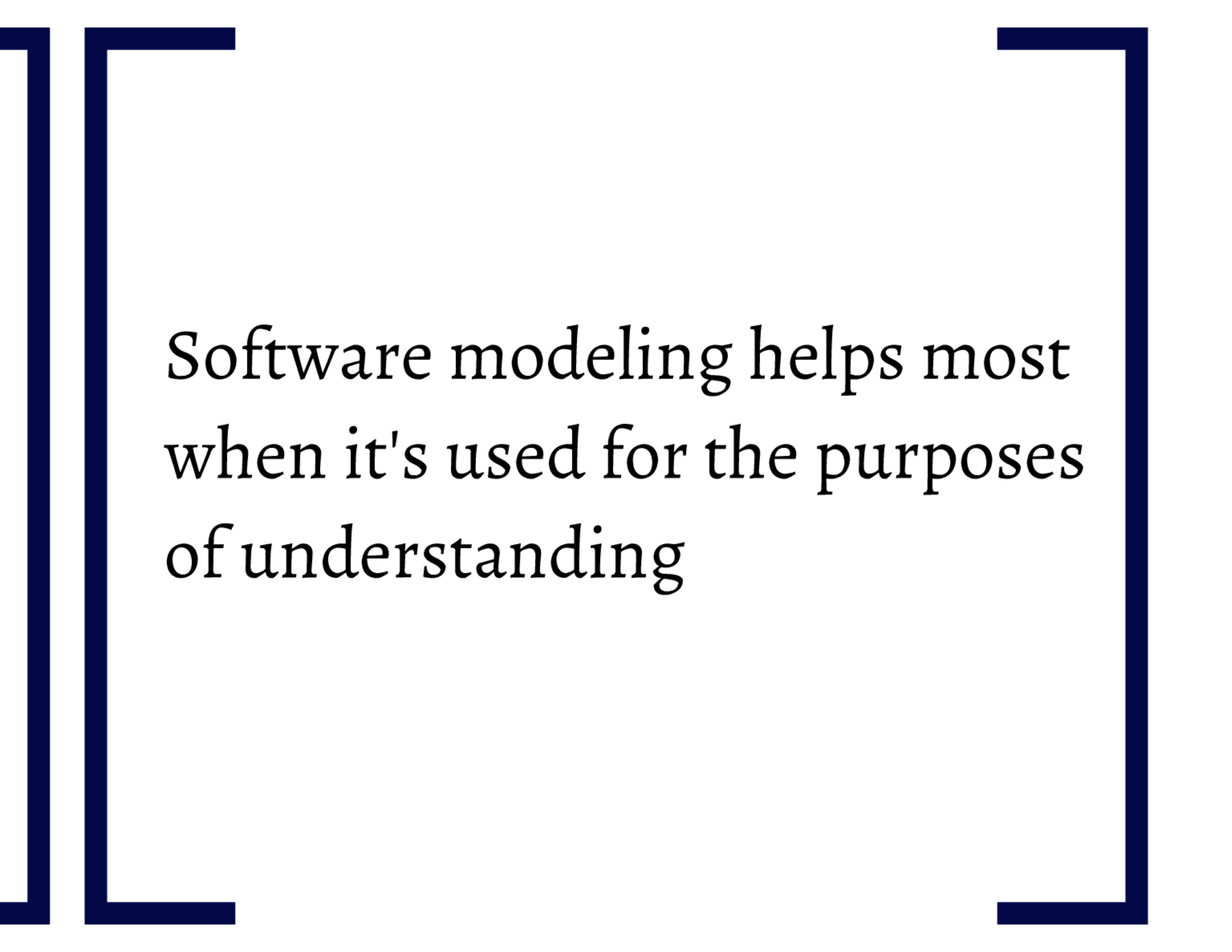


USE CASES

Product
Owner



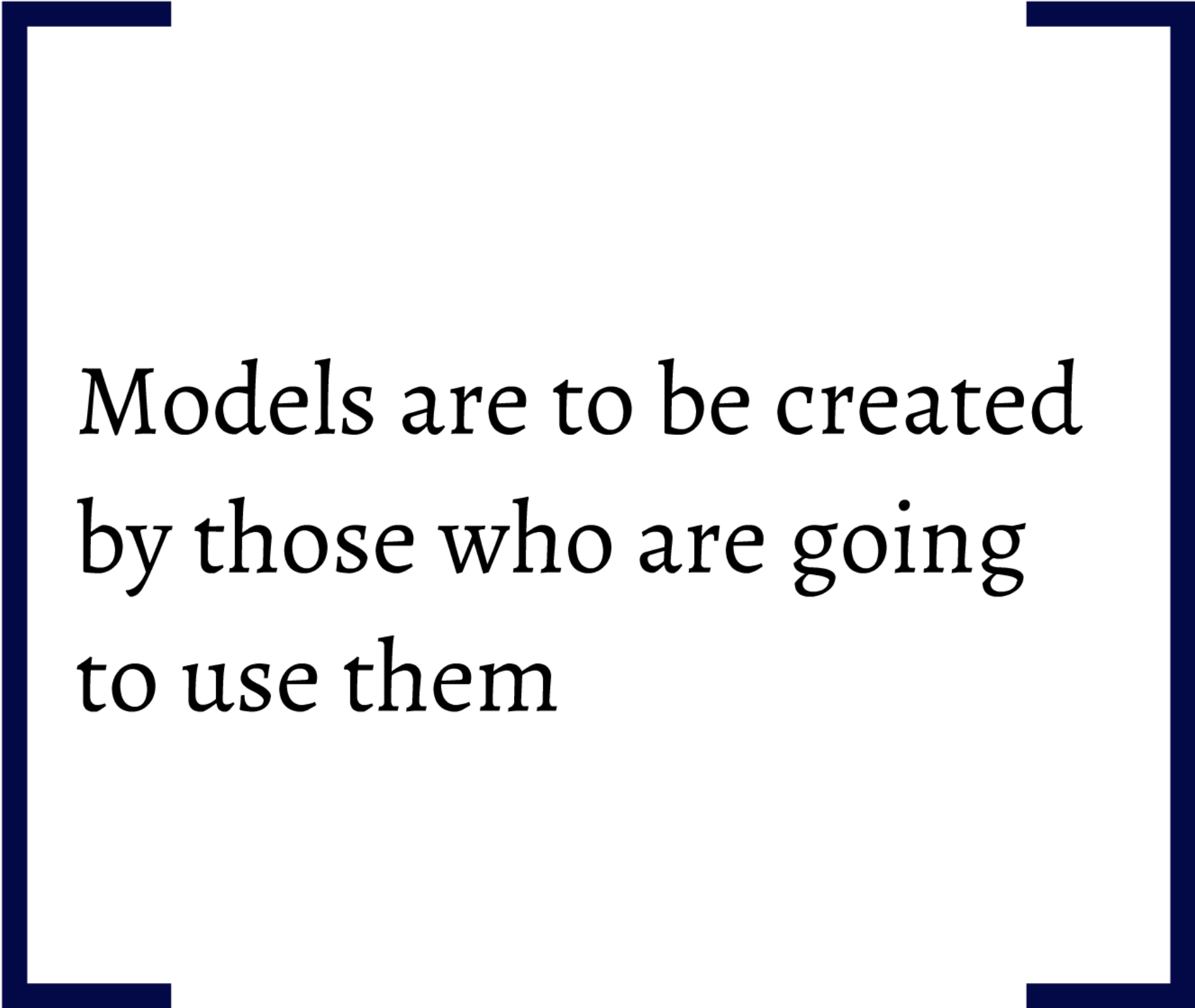
Product Backlog

A dark blue decorative frame consisting of three large, stylized brackets on the left and right sides, enclosing the text.

Software modeling helps most
when it's used for the purposes
of understanding

Who's to make models?

The one who just makes models, but does not use them, is involved in development, but not committed to it



Models are to be created
by those who are going
to use them

To a customer, only working software matters:
thus, the effort to get to it with
least costs is justified

Software modeling helps most
when it's used for the purposes
of understanding

Models are to be created
by those who are going
to use them

